

## DNA PROFILE CERTIFICATE

### General Information:

| Test Animal      |                         |
|------------------|-------------------------|
| ANIMAL ID/NAME   | JS060076                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00679           |

### DNA Profiling Results:

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| TGLA227    | 77           | 79       |
| BM2113     | 133          | 141      |
| TGLA053    | Not Detected |          |
| ETH10      | 213          | 219      |
| ILSTS011   | 263          | 263      |
| SPS113     | 151          | 153      |
| RM067      | 90           | 90       |
| TGLA126    | 109          | 109      |
| TGLA122    | Not Detected |          |
| INRA023    | 198          | 214      |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | Not Detected |          |
| ETH003     | 117          | 125      |
| ETH225     | 160          | 160      |
| BM1824     | 182          | 182      |
| SPS115     | 248          | 248      |
| CSRM060    | 92           | 92       |
| MGTG4B     | 145          | 147      |
| CSSM066    | 181          | 187      |
| ILSTS006   | Not Detected |          |

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.



**Ms Mischra Fraser**  
**ZooOmics™ Manager**

07 May 2020

**Date**



**Dr Christiaan Labuschagne**  
**Genomics Manager**

07 May 2020

**Date**

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ZOBOS20-00679-DC

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## DNA PROFILE CERTIFICATE

### General Information:

| Test Animal      |                         |
|------------------|-------------------------|
| ANIMAL ID/NAME   | JS070017                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00680           |

### DNA Profiling Results:

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| TGLA227    | 79           | 89       |
| BM2113     | 121          | 135      |
| TGLA053    | 178          | 178      |
| ETH10      | 221          | 221      |
| ILSTS011   | 268          | 268      |
| SPS113     | 151          | 153      |
| RM067      | Not Detected |          |
| TGLA126    | Not Detected |          |
| TGLA122    | Not Detected |          |
| INRA023    | Not Detected |          |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | Not Detected |          |
| ETH003     | 117          | 121      |
| ETH225     | 160          | 160      |
| BM1824     | 180          | 182      |
| SPS115     | 248          | 248      |
| CSRM060    | 92           | 92       |
| MGTG4B     | 137          | 137      |
| CSSM066    | 183          | 185      |
| ILSTS006   | Not Detected |          |

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.



**Ms Mischra Fraser**  
**ZooOmics™ Manager**

07 May 2020

**Date**



**Dr Christiaan Labuschagne**  
**Genomics Manager**

07 May 2020

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ZOBOS20-00680-DC

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## DNA PROFILE CERTIFICATE

### General Information:

| Test Animal      |                         |
|------------------|-------------------------|
| ANIMAL ID/NAME   | JS070020                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00681           |

### DNA Profiling Results:

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| TGLA227    | 101          | 101      |
| BM2113     | 121          | 134      |
| TGLA053    | 166          | 166      |
| ETH10      | 211          | 219      |
| ILSTS011   | 261          | 266      |
| SPS113     | 137          | 147      |
| RM067      | Not Detected |          |
| TGLA126    | 117          | 117      |
| TGLA122    | 137          | 144      |
| INRA023    | Not Detected |          |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | 260          | 266      |
| ETH003     | 115          | 115      |
| ETH225     | 159          | 159      |
| BM1824     | 182          | 192      |
| SPS115     | 248          | 248      |
| CSRM060    | 92           | 92       |
| MGTG4B     | 145          | 145      |
| CSSM066    | 179          | 189      |
| ILSTS006   | Not Detected |          |

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.



Ms Mischra Fraser  
 ZooOmics™ Manager

07 May 2020

Date



Dr Christiaan Labuschagne  
 Genomics Manager

07 May 2020

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### General Information:

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|------------------|-------------------------|
| ANIMAL ID/NAME   | JS080020                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00682           |

### DNA Profiling Results:

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| TGLA227    | 79           | 95       |
| BM2113     | 121          | 121      |
| TGLA053    | Not Detected |          |
| ETH10      | 213          | 217      |
| ILSTS011   | 268          | 268      |
| SPS113     | 137          | 147      |
| RM067      | Not Detected |          |
| TGLA126    | 109          | 117      |
| TGLA122    | Not Detected |          |
| INRA023    | 198          | 214      |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | 266          | 266      |
| ETH003     | 115          | 117      |
| ETH225     | 157          | 159      |
| BM1824     | 182          | 192      |
| SPS115     | 246          | 246      |
| CSRM060    | 92           | 100      |
| MGTG4B     | 145          | 145      |
| CSSM066    | 185          | 185      |
| ILSTS006   | Not Detected |          |

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.



**Ms Mischra Fraser**  
**ZooOmics™ Manager**

07 May 2020

**Date**



**Dr Christiaan Labuschagne**  
**Genomics Manager**

07 May 2020

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## DNA PROFILE CERTIFICATE

### General Information:

| Test Animal      |                         |
|------------------|-------------------------|
| ANIMAL ID/NAME   | JS080050                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00683           |

### DNA Profiling Results:

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| TGLA227    | 79           | 79       |
| BM2113     | 121          | 121      |
| TGLA053    | Not Detected |          |
| ETH10      | 213          | 221      |
| ILSTS011   | 272          | 272      |
| SPS113     | 141          | 147      |
| RM067      | Not Detected |          |
| TGLA126    | 113          | 117      |
| TGLA122    | Not Detected |          |
| INRA023    | 212          | 214      |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | Not Detected |          |
| ETH003     | 117          | 117      |
| ETH225     | 145          | 151      |
| BM1824     | 180          | 184      |
| SPS115     | 248          | 248      |
| CSRM060    | 92           | 100      |
| MGTG4B     | 137          | 145      |
| CSSM066    | 185          | 185      |
| ILSTS006   | Not Detected |          |

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.



**Ms Mircna Fraser**  
**ZooOmics™ Manager**

07 May 2020

**Date**



**Dr Christiaan Labuschagne**  
**Genomics Manager**

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## DNA PROFILE CERTIFICATE

### General Information:

| Test Animal      |                         |
|------------------|-------------------------|
| ANIMAL ID/NAME   | JS080162                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00684           |

### DNA Profiling Results:

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| TGLA227    | 79           | 81       |
| BM2113     | 139          | 141      |
| TGLA053    | Not Detected |          |
| ETH10      | 211          | 219      |
| ILSTS011   | 264          | 264      |
| SPS113     | 137          | 151      |
| RM067      | Not Detected |          |
| TGLA126    | 115          | 121      |
| TGLA122    | 151          | 151      |
| INRA023    | 198          | 198      |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | 268          | 268      |
| ETH003     | 105          | 117      |
| ETH225     | 155          | 159      |
| BM1824     | 180          | 184      |
| SPS115     | 248          | 248      |
| CSRM060    | 92           | 110      |
| MGTG4B     | 143          | 145      |
| CSSM066    | 181          | 185      |
| ILSTS006   | Not Detected |          |

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.



Ms Mischra Fraser  
 ZooOmics™ Manager

07 May 2020

Date



Dr Christiaan Labuschagne  
 Genomics Manager

07 May 2020

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### General Information:

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|------------------|-------------------------|
| ANIMAL ID/NAME   | JS090024                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00685           |

### DNA Profiling Results:

| STR Marker | Allele 1 | Allele 2 |
|------------|----------|----------|
| TGLA227    | 79       | 81       |
| BM2113     | 133      | 139      |
| TGLA053    | 166      | 168      |
| ETH10      | 211      | 213      |
| ILSTS011   | 268      | 268      |
| SPS113     | 147      | 153      |
| RM067      | 98       | 98       |
| TGLA126    | 117      | 127      |
| TGLA122    | 143      | 143      |
| INRA023    | 198      | 198      |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | 260          | 260      |
| ETH003     | 107          | 117      |
| ETH225     | 155          | 159      |
| BM1824     | 182          | 192      |
| SPS115     | 248          | 248      |
| CSRM060    | 92           | 94       |
| MGTG4B     | 145          | 145      |
| CSSM066    | 187          | 189      |
| ILSTS006   | Not Detected |          |

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Ms Mischra Fraser  
ZooOmics™ Manager

07 May 2020

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Genomics Manager

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## DNA PROFILE CERTIFICATE

### General Information:

| Test Animal      |                         |
|------------------|-------------------------|
| ANIMAL ID/NAME   | JS090092                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00686           |

### DNA Profiling Results:

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| TGLA227    | 79           | 79       |
| BM2113     | 133          | 133      |
| TGLA053    | Not Detected |          |
| ETH10      | Not Detected |          |
| ILSTS011   | 268          | 272      |
| SPS113     | 141          | 141      |
| RM067      | Not Detected |          |
| TGLA126    | Not Detected |          |
| TGLA122    | Not Detected |          |
| INRA023    | 208          | 208      |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | Not Detected |          |
| ETH003     | 103          | 117      |
| ETH225     | 142          | 153      |
| BM1824     | 180          | 182      |
| SPS115     | 246          | 248      |
| CSRM060    | 100          | 102      |
| MGTG4B     | 137          | 137      |
| CSSM066    | 185          | 185      |
| ILSTS006   | Not Detected |          |

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Ms Mischra Fraser  
 ZooOmics™ Manager

07 May 2020

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Dr Christiaan Labuschagne  
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## DNA PROFILE CERTIFICATE

### General Information:

| Test Animal      |                         |
|------------------|-------------------------|
| ANIMAL ID/NAME   | JS090123                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00687           |

### DNA Profiling Results:

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| TGLA227    | 79           | 87       |
| BM2113     | 121          | 121      |
| TGLA053    | Not Detected |          |
| ETH10      | 213          | 219      |
| ILSTS011   | 264          | 264      |
| SPS113     | 141          | 153      |
| RM067      | Not Detected |          |
| TGLA126    | Not Detected |          |
| TGLA122    | Not Detected |          |
| INRA023    | Not Detected |          |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | Not Detected |          |
| ETH003     | 105          | 117      |
| ETH225     | 148          | 159      |
| BM1824     | 176          | 180      |
| SPS115     | 248          | 248      |
| CSRM060    | 92           | 102      |
| MGTG4B     | 143          | 145      |
| CSSM066    | 183          | 183      |
| ILSTS006   | Not Detected |          |

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.



**Ms Mischra Fraser**  
**ZooOmics™ Manager**

07 May 2020

**Date**



**Dr Christiaan Labuschagne**  
**Genomics Manager**

07 May 2020

**Date**

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ZOBOS20-00687-DC

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## DNA PROFILE CERTIFICATE

### General Information:

| Test Animal      |                         |
|------------------|-------------------------|
| ANIMAL ID/NAME   | JS100007                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00688           |

### DNA Profiling Results:

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| TGLA227    | 87           | 95       |
| BM2113     | 135          | 137      |
| TGLA053    | Not Detected |          |
| ETH10      | 209          | 213      |
| ILSTS011   | 264          | 264      |
| SPS113     | 141          | 153      |
| RM067      | Not Detected |          |
| TGLA126    | Not Detected |          |
| TGLA122    | Not Detected |          |
| INRA023    | Not Detected |          |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | Not Detected |          |
| ETH003     | 117          | 117      |
| ETH225     | 150          | 157      |
| BM1824     | 180          | 182      |
| SPS115     | 248          | 248      |
| CSRM060    | 96           | 110      |
| MGTG4B     | 139          | 139      |
| CSSM066    | 185          | 187      |
| ILSTS006   | Not Detected |          |

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.



Ms Mischra Fraser  
 ZooOmics™ Manager

07 May 2020

Date



Dr Christiaan Labuschagne  
 Genomics Manager

07 May 2020

Date

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## DNA PROFILE CERTIFICATE

### General Information:

| Test Animal      |                         |
|------------------|-------------------------|
| ANIMAL ID/NAME   | JS100122                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00689           |

### DNA Profiling Results:

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| TGLA227    | 79           | 91       |
| BM2113     | 135          | 137      |
| TGLA053    | Not Detected |          |
| ETH10      | 213          | 219      |
| ILSTS011   | 272          | 272      |
| SPS113     | 141          | 141      |
| RM067      | 90           | 98       |
| TGLA126    | Not Detected |          |
| TGLA122    | 143          | 143      |
| INRA023    | 198          | 208      |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | 262          | 268      |
| ETH003     | 117          | 125      |
| ETH225     | 140          | 148      |
| BM1824     | 180          | 180      |
| SPS115     | 248          | 256      |
| CSRM060    | 92           | 102      |
| MGTG4B     | 141          | 145      |
| CSSM066    | 187          | 189      |
| ILSTS006   | Not Detected |          |

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.



**Ms Mischra Fraser**  
**ZooOmics™ Manager**

07 May 2020

**Date**



**Dr Christiaan Labuschagne**  
**Genomics Manager**

07 May 2020

**Date**

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## DNA PROFILE CERTIFICATE

### General Information:

| Test Animal      |                         |
|------------------|-------------------------|
| ANIMAL ID/NAME   | JS110020                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00690           |

### DNA Profiling Results:

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| TGLA227    | 81           | 81       |
| BM2113     | 121          | 129      |
| TGLA053    | Not Detected |          |
| ETH10      | 213          | 219      |
| ILSTS011   | 268          | 268      |
| SPS113     | 141          | 151      |
| RM067      | Not Detected |          |
| TGLA126    | Not Detected |          |
| TGLA122    | Not Detected |          |
| INRA023    | Not Detected |          |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | Not Detected |          |
| ETH003     | 117          | 121      |
| ETH225     | 157          | 159      |
| BM1824     | 182          | 184      |
| SPS115     | 248          | 248      |
| CSRM060    | 92           | 92       |
| MGTG4B     | 135          | 147      |
| CSSM066    | 187          | 189      |
| ILSTS006   | Not Detected |          |

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.



Ms Mischia Fraser  
 ZooOmics™ Manager

07 May 2020

Date



Dr Christiaan Labuschagne  
 Genomics Manager

07 May 2020

Date

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## DNA PROFILE CERTIFICATE

### General Information:

| Test Animal      |                         |
|------------------|-------------------------|
| ANIMAL ID/NAME   | JS110030                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00691           |

### DNA Profiling Results:

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| TGLA227    | Not Detected |          |
| BM2113     | 133          | 133      |
| TGLA053    | Not Detected |          |
| ETH10      | 211          | 213      |
| ILSTS011   | 272          | 272      |
| SPS113     | 139          | 141      |
| RM067      | 90           | 92       |
| TGLA126    | 117          | 121      |
| TGLA122    | 137          | 137      |
| INRA023    | 208          | 214      |

| STR Marker | Allele 1 | Allele 2 |
|------------|----------|----------|
| BM1818     | 262      | 264      |
| ETH003     | 117      | 125      |
| ETH225     | 148      | 150      |
| BM1824     | 180      | 192      |
| SPS115     | 248      | 248      |
| CSRM060    | 92       | 102      |
| MGTG4B     | 139      | 145      |
| CSSM066    | 185      | 187      |
| ILSTS006   | 284      | 292      |

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.



**Ms Mischra Fraser**  
**ZooOmics™ Manager**

07 May 2020

**Date**



**Dr Christiaan Labuschagne**  
**Genomics Manager**

07 May 2020

**Date**

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## DNA PROFILE CERTIFICATE

### General Information:

| Test Animal      |                         |
|------------------|-------------------------|
| ANIMAL ID/NAME   | JS110056                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00692           |

### DNA Profiling Results:

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| TGLA227    | 77           | 79       |
| BM2113     | 135          | 141      |
| TGLA053    | 164          | 164      |
| ETH10      | 209          | 211      |
| ILSTS011   | 261          | 264      |
| SPS113     | 141          | 145      |
| RM067      | 90           | 90       |
| TGLA126    | 117          | 121      |
| TGLA122    | Not Detected |          |
| INRA023    | Not Detected |          |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | Not Detected |          |
| ETH003     | 103          | 115      |
| ETH225     | 148          | 159      |
| BM1824     | 178          | 192      |
| SPS115     | 248          | 248      |
| CSRM060    | 92           | 92       |
| MGTG4B     | 135          | 141      |
| CSSM066    | 181          | 189      |
| ILSTS006   | Not Detected |          |

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.



**Ms Mischra Fraser**  
**ZooOmics™ Manager**

07 May 2020

**Date**



**Dr Christiaan Labuschagne**  
**Genomics Manager**

07 May 2020

**Date**

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## DNA PROFILE CERTIFICATE

### General Information:

| Test Animal      |                         |
|------------------|-------------------------|
| ANIMAL ID/NAME   | JS110090                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00693           |

### DNA Profiling Results:

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| TGLA227    | 97           | 97       |
| BM2113     | 121          | 121      |
| TGLA053    | 178          | 178      |
| ETH10      | 219          | 219      |
| ILSTS011   | 261          | 261      |
| SPS113     | 135          | 143      |
| RM067      | 90           | 90       |
| TGLA126    | 115          | 123      |
| TGLA122    | Not Detected |          |
| INRA023    | 208          | 208      |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | 266          | 266      |
| ETH003     | Not Detected |          |
| ETH225     | 153          | 159      |
| BM1824     | 182          | 182      |
| SPS115     | 248          | 256      |
| CSRM060    | 92           | 100      |
| MGTG4B     | 133          | 137      |
| CSSM066    | 187          | 189      |
| ILSTS006   | Not Detected |          |

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.



Ms Mircna Fraser  
 ZooOmics™ Manager

07 May 2020

Date



Dr Christiaan Labuschagne  
 Genomics Manager

07 May 2020

Date

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## DNA PROFILE CERTIFICATE

### General Information:

| Test Animal      |                         |
|------------------|-------------------------|
| ANIMAL ID/NAME   | JS120020                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00694           |

### DNA Profiling Results:

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| TGLA227    | 79           | 79       |
| BM2113     | 133          | 141      |
| TGLA053    | 174          | 174      |
| ETH10      | 213          | 221      |
| ILSTS011   | Not Detected |          |
| SPS113     | 141          | 141      |
| RM067      | 96           | 96       |
| TGLA126    | 117          | 117      |
| TGLA122    | 157          | 157      |
| INRA023    | 214          | 214      |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | Not Detected |          |
| ETH003     | 111          | 119      |
| ETH225     | 155          | 159      |
| BM1824     | 178          | 182      |
| SPS115     | 248          | 254      |
| CSRM060    | 92           | 102      |
| MGTG4B     | 139          | 143      |
| CSSM066    | 185          | 185      |
| ILSTS006   | Not Detected |          |

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.



**Ms Mircna Fraser**  
**ZooOmics™ Manager**

07 May 2020

**Date**



**Dr Christiaan Labuschagne**  
**Genomics Manager**

07 May 2020

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## DNA PROFILE CERTIFICATE

### General Information:

| Test Animal      |                         |
|------------------|-------------------------|
| ANIMAL ID/NAME   | JS120039                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00695           |

### DNA Profiling Results:

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| TGLA227    | 77           | 83       |
| BM2113     | 131          | 133      |
| TGLA053    | Not Detected |          |
| ETH10      | 211          | 221      |
| ILSTS011   | 268          | 268      |
| SPS113     | Not Detected |          |
| RM067      | Not Detected |          |
| TGLA126    | 115          | 125      |
| TGLA122    | 143          | 143      |
| INRA023    | 196          | 206      |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | Not Detected |          |
| ETH003     | 113          | 127      |
| ETH225     | 153          | 155      |
| BM1824     | 178          | 180      |
| SPS115     | 248          | 248      |
| CSRM060    | 92           | 102      |
| MGTG4B     | 137          | 137      |
| CSSM066    | 185          | 189      |
| ILSTS006   | Not Detected |          |

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.



Ms Mischra Fraser  
 ZooOmics™ Manager

07 May 2020

Date



Dr Christiaan Labuschagne  
 Genomics Manager

07 May 2020

Date

**\*\*See disclaimer on reverse side**

ZOBOS20-00695-DC

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## DNA PROFILE CERTIFICATE

### General Information:

| Test Animal      |                         |
|------------------|-------------------------|
| ANIMAL ID/NAME   | JS120065                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00696           |

### DNA Profiling Results:

| STR Marker | Allele 1 | Allele 2 |
|------------|----------|----------|
| TGLA227    | 78       | 79       |
| BM2113     | 135      | 139      |
| TGLA053    | 194      | 194      |
| ETH10      | 213      | 213      |
| ILSTS011   | 261      | 268      |
| SPS113     | 141      | 141      |
| RM067      | 98       | 98       |
| TGLA126    | 117      | 123      |
| TGLA122    | 137      | 157      |
| INRA023    | 208      | 216      |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | Not Detected |          |
| ETH003     | 117          | 125      |
| ETH225     | 159          | 159      |
| BM1824     | 180          | 180      |
| SPS115     | 248          | 250      |
| CSRM060    | 102          | 102      |
| MGTG4B     | 145          | 145      |
| CSSM066    | 189          | 189      |
| ILSTS006   | Not Detected |          |

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.



Ms Mischra Fraser  
 ZooOmics™ Manager

07 May 2020

Date



Dr Christiaan Labuschagne  
 Genomics Manager

07 May 2020

Date

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ZOBOS20-00696-DC

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## DNA PROFILE CERTIFICATE

### General Information:

| Test Animal      |                         |
|------------------|-------------------------|
| ANIMAL ID/NAME   | JS130005                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00697           |

### DNA Profiling Results:

| STR Marker | Allele 1 | Allele 2 |
|------------|----------|----------|
| TGLA227    | 79       | 91       |
| BM2113     | 139      | 139      |
| TGLA053    | 178      | 178      |
| ETH10      | 213      | 221      |
| ILSTS011   | 261      | 264      |
| SPS113     | 139      | 145      |
| RM067      | 90       | 92       |
| TGLA126    | 115      | 117      |
| TGLA122    | 143      | 151      |
| INRA023    | 198      | 214      |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | Not Detected |          |
| ETH003     | 117          | 117      |
| ETH225     | 148          | 150      |
| BM1824     | 192          | 192      |
| SPS115     | 248          | 248      |
| CSRM060    | 96           | 102      |
| MGTG4B     | 139          | 145      |
| CSSM066    | 187          | 187      |
| ILSTS006   | Not Detected |          |

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.



**Ms Mischra Fraser**  
**ZooOmics™ Manager**

07 May 2020

**Date**



**Dr Christiaan Labuschagne**  
**Genomics Manager**

07 May 2020

**Date**

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ZOBOS20-00697-DC

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## DNA PROFILE CERTIFICATE

### General Information:

| Test Animal      |                         |
|------------------|-------------------------|
| ANIMAL ID/NAME   | JS130007                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00698           |

### DNA Profiling Results:

| STR Marker | Allele 1 | Allele 2 |
|------------|----------|----------|
| TGLA227    | 79       | 101      |
| BM2113     | 135      | 139      |
| TGLA053    | 164      | 172      |
| ETH10      | 211      | 211      |
| ILSTS011   | 264      | 264      |
| SPS113     | 137      | 139      |
| RM067      | 90       | 94       |
| TGLA126    | 117      | 121      |
| TGLA122    | 137      | 143      |
| INRA023    | 214      | 214      |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | 260          | 266      |
| ETH003     | 109          | 115      |
| ETH225     | 159          | 159      |
| BM1824     | 182          | 192      |
| SPS115     | 248          | 248      |
| CSRM060    | 92           | 96       |
| MGTG4B     | 139          | 147      |
| CSSM066    | 185          | 187      |
| ILSTS006   | Not Detected |          |

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.



**Ms Mischra Fraser**  
**ZooOmics™ Manager**

07 May 2020

**Date**



**Dr Christiaan Labuschagne**  
**Genomics Manager**

07 May 2020

**Date**

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## DNA PROFILE CERTIFICATE

### General Information:

| Test Animal      |                         |
|------------------|-------------------------|
| ANIMAL ID/NAME   | JS130051                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00699           |

### DNA Profiling Results:

| STR Marker | Allele 1 | Allele 2 |
|------------|----------|----------|
| TGLA227    | 77       | 83       |
| BM2113     | 121      | 121      |
| TGLA053    | 162      | 178      |
| ETH10      | 211      | 221      |
| ILSTS011   | 268      | 268      |
| SPS113     | 141      | 141      |
| RM067      | 92       | 98       |
| TGLA126    | 113      | 117      |
| TGLA122    | 137      | 145      |
| INRA023    | 198      | 214      |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | Not Detected |          |
| ETH003     | 109          | 125      |
| ETH225     | 146          | 159      |
| BM1824     | 178          | 192      |
| SPS115     | 248          | 248      |
| CSRM060    | 92           | 102      |
| MGTG4B     | 143          | 145      |
| CSSM066    | 185          | 189      |
| ILSTS006   | Not Detected |          |

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.



Ms Mischra Fraser  
 ZooOmics™ Manager

07 May 2020

Date



Dr Christiaan Labuschagne  
 Genomics Manager

07 May 2020

Date

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## DNA PROFILE CERTIFICATE

### General Information:

| Test Animal      |                         |
|------------------|-------------------------|
| ANIMAL ID/NAME   | JS130052                |
| MICROCHIP NUMBER | Not Provided            |
| SPECIES          | CATTLE                  |
| GENDER           | FEMALE                  |
| OWNER            | BERTIE VAN ZYL EDMS BPK |
| LAB. NO          | ZOBOS20-00700           |

### DNA Profiling Results:

| STR Marker | Allele 1 | Allele 2 |
|------------|----------|----------|
| TGLA227    | 78       | 78       |
| BM2113     | 135      | 135      |
| TGLA053    | 180      | 180      |
| ETH10      | 211      | 213      |
| ILSTS011   | 268      | 268      |
| SPS113     | 137      | 139      |
| RM067      | 92       | 98       |
| TGLA126    | 115      | 125      |
| TGLA122    | 153      | 153      |
| INRA023    | 208      | 214      |

| STR Marker | Allele 1     | Allele 2 |
|------------|--------------|----------|
| BM1818     | 258          | 262      |
| ETH003     | 107          | 125      |
| ETH225     | 148          | 148      |
| BM1824     | 180          | 182      |
| SPS115     | 248          | 248      |
| CSRM060    | 92           | 102      |
| MGTG4B     | 145          | 145      |
| CSSM066    | 187          | 187      |
| ILSTS006   | Not Detected |          |

The DNA profile represents the standardised alleles for the 12 International Society for Animal Genetics (ISAG, 2016) recommended markers. These alleles were obtained from STR analysis by capillary electrophoresis. The DNA profile includes additional markers as recommended by the Food and Agriculture Organization of the United Nations (FAO) for routine bovine parentage testing and identification.



Ms Mischra Fraser  
 ZooOmics™ Manager

07 May 2020

Date



Dr Christiaan Labuschagne  
 Genomics Manager

07 May 2020

Date

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