

# **YARMOUTH RESEARCH AND TECHNOLOGY, LLC**

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March 12, 2018

Please find attached summary list of all the Firesafe certificates performed by Yarmouth Research and Technology, LLC from 2006 to 2018. We hereby testify this is a true and correct summary record of all the certification tests performed and passed to the indicated standards.

A handwritten signature in black ink, appearing to read "Matthew J Wasielewski".

**Matthew J Wasielewski, PE**  
President and General Manager  
Yarmouth Research and Technology, LLC

# **FireSafe Test Certification Summary**

*Performed for*

**Australian Pipeline Valve**

[www.australianpipelinevalve.com.au/](http://www.australianpipelinevalve.com.au/)

← *Performed by* →

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**YARMOUTH RESEARCH AND TECHNOLOGY, LLC**

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North Yarmouth, ME 04097 USA  
(207) 829-5359

[info@yarmouthresearch.com](mailto:info@yarmouthresearch.com)  
[www.yarmouthresearch.com](http://www.yarmouthresearch.com)

Yarmouth Research and Technology, LLC

| Ref. Item | Product Description   | Test Date | Size - NPS | Pressure Rating - ANSI Class | Body Material                  | Seat Material | Seal Material       | Other Sizes Qualified                        | Certificate Number   | Firesafe Test Standard             |
|-----------|---|-----------|------------|------------------------------|--------------------------------|---------------|---------------------|--|----------------------|------------------------------------|
| 3.3       | 1.5 INCH CLASS 800 3-PIECE BOLTED BALL VALVE, BV100   | 6/15/2006 | 1.5        | 800                          | A105                           | RPTFE         | GRAPHITE            | 1/2"-3" Class 800-1500 and PN100-PN260       | PN204114-112-800BALL | API 607 5TH EDITION ISO 10497-2004 |
| 3.3       | 1.5 INCH CLASS 800 3-PIECE BOLTED BALL VALVE, BV100   | 6/15/2006 | 1.5        | 800                          | A105                           | RPTFE         | GRAPHITE            | 1.5"-3" Class 800-900 and PN130-PN150        | PN204114-112-800BALL | API 6FA 3RD EDITION 1999           |
| 1.1A      | 2" CLASS 1500 SPLIT BODY SIDE ENTRY FLOATING BALL VALVE API608, API6D, ANSI B16, SOFT SEAT, BV100 | 7-Jul-15  | 2"         | 1500                         | STAINLESS STEEL                | TFM/DEVLON    | PTFE/GRAPHITE/VITON | 4" and below Class 1500-2500 and PN260-PN420 | 215067 - 1.1A        | API 607 6TH EDITION ISO 10497-2010 |
| 1         | 2 inch Class 150 RF Ball Valve, Side Entry, Trunnion Mounted API6D, Model BVF100-FTAC2223AADD     | 2/2/2018  | 2          | 150                          | ASTM A182 F316 Stainless Steel | RPTFE         | Graphite/Viton      | 1/2"-4" Class 150-300 *                      | 217213A              | API 607 7th Edition ISO 10497-2010 |
| 1.5       | 2" CLASS 600 RF BALL VALVE 3 PIECE TRUNNION MOUNTED API16D, BVF100                                | 15-Jan-14 | 2"         | 600                          | LF2 - Carbon Steel             | RPTFE         | Graphite / Viton    | 1/2 -4" Class 600-900                        | 213099 - 1.5         | API 607 6TH EDITION ISO 10497-2010 |
| 3.6       | 3 INCH CLASS 1500 FULL PORT BALL VALVE, BVF100  | 9/28/2005 | 3          | 1500                         | LF2                            | NYLON         | GRAPHITE/VITON      | 3"-6" Class 1500-2500                        | PN204114C            | API 607 5TH EDITION ISO 10497-2004 |

\*As per API 607 7th edition, clause 7.2.2 and ISO 10497-2010, testing a mid range austenitic sample in the same model of ferritic valves covered, also covers austenitic valves in the same coverage range as ferritic as follows: All sizes 1/2" & above Class 150 to 1500 and 1/2" to 6" Class 2500.

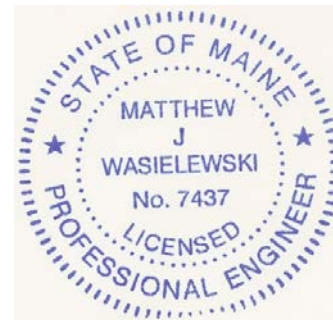
Certified By



Matthew J. Wasielewski, PE

President and Manager

Yarmouth Research and Technology, LLC



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| Ref. Item | Product Description   | Test Date | Size - NPS | Pressure Rating - ANSI Class | Body Material                  | Seat Material | Seal Material      | Other Sizes Qualified                                       | Certificate Number | Firesafe Test Standard             |
|-----------|---|-----------|------------|------------------------------|--------------------------------|---------------|--------------------|---|--------------------|------------------------------------|
| 3.6       | 3 INCH CLASS 1500 FULL PORT BALL VALVE, BVF100  | 9/28/2005 | 3          | 1500                         | LF2                            | NYLON         | GRAPHITE/<br>VITON | 3"-6" Class 1500-2500 and API 6A 3-1/8" to 7-1/16" 5000 psi | PN204114C          | API 6FA 3RD EDITION I999           |
| 3         | 6 inch Class 150 RF Ball Valve, 3 Piece, Trunnion Mounted API 6D, Model BVF100-FTAA2223AAADB  | 2/14/2018 | 6          | 150                          | A105N Carbon Steel             | RPTFE         | Graphite/<br>Viton | 6"-12" Class 150-300  | 217213B            | API 607 7th Edition ISO 10497-2010 |
| 4         | 6 inch Class 600 RF Ball Valve, 3 Piece, Trunnion Mounted, API 6D, Model BVF100-FTCA2223CACEB | 2/14/2018 | 6          | 600                          | A105N Carbon Steel             | Devlon        | Graphite/<br>Viton | 6"-12" Class 600-900  | 217213C            | API 607 7th Edition ISO 10497-2010 |
| 1.8       | 8" CLASS 150 RF BALL VALVE 3 PIECE TRUNNION MOUNTED API6D, SOFT SEAT, BVF100                  | 21-Jul-15 | 8"         | 150                          | CARBON STEEL                   | RPTFE         | GRAPHITE/<br>VITON | 8" and larger Class 150-300 and PN10 to PN40                | 215067 - 1.8       | API 607 6TH EDITION ISO 10497-2010 |
| 5         | 8 inch Class 150 RF Ball Valve, 3 Piece, Trunnion Mounted API6D, Model BVF100-FTAC2223AAAED   | 2/13/2018 | 8          | 150                          | ASTM A182 F316 Stainless Steel | RPTFE         | Graphite/<br>Viton | 8" & above Class 150-300 *                                  | 217213D            | API 607 7th Edition ISO 10497-2010 |
| 1.9       | 8" CLASS 600 RF BALL VALVE 3 PIECE TRUNNION MOUNTED API6D, SOFT SEAT, BV100                   | 23-Jul-15 | 8"         | 600                          | Carbon Steel                   | DEVLON        | GRAPHITE/<br>VITON | 8" and larger Class 600-900                                 | 215067 - 1.9       | API 607 6TH EDITION ISO 10497-2010 |

\*As per API 607 7th edition, clause 7.2.2 and ISO 10497-2010, testing a mid range austenitic sample in the same model of ferritic valves covered, also covers austenitic valves in the same coverage range as ferritic as follows: All sizes 1/2" & above Class 150 to 1500 and 1/2" to 6" Class 2500.

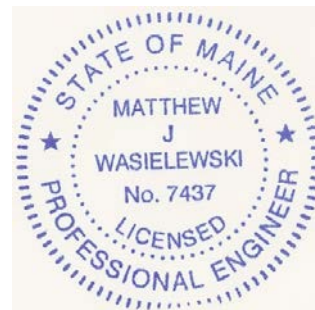
*Certified By*



Matthew J. Wasielewski, PE

President and Manager

Yarmouth Research and Technology, LLC



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| Ref. Item | Product Description  | Test Date | Size - NPS | Pressure Rating - ANSI Class | Body Material                  | Seat Material | Seal Material   | Other Valves Qualified                     | Certificate Number | Firesafe Test Standard                |
|-----------|--|-----------|------------|------------------------------|--------------------------------|---------------|-----------------|--|--------------------|---------------------------------------|
| 6         | 8 inch Class 600 RF Ball Valve, 3 Piece, Trunnion Mounted, API 6D, Model BVF100-FTCC2523AAAEDC | 2/15/2018 | 8          | 600                          | ASTM A182 F316 Stainless Steel | Devlon        | Graphite/ Viton | 8" & above Class 600-900 *                 | 217213E            | API 607 7th Edition<br>ISO 10497-2010 |
| 7         | 8 inch Class 900 RF Ball Valve, 3 Piece, Trunnion Mounted, API 6D, Model BVF100-FTEA2523AAAED  | 2/13/2018 | 8          | 900                          | A105N Carbon Steel             | Devlon        | Graphite/ Viton | 8" & above Class 900 - 1500                | 217213F            | API 607 7th Edition<br>ISO 10497-2010 |
| 3.2       | 1 INCH CLASS 1500 REDUCED PORT BALL VALVE, FS660   | 9/28/2005 | 1          | 1500                         | A105                           | NYLON         | GRAPHITE/ VITON | 1/2"-2" Class 1500-2500 and PN260 to PN420 | PN204114A          | API 607 5TH EDITION<br>ISO 10497-2004 |
| 3.2       | 1 INCH CLASS 1500 REDUCED PORT BALL VALVE, FS660   | 9/28/2005 | 1          | 1500                         | A105                           | NYLON         | GRAPHITE/ VITON | 1"-2" Class 1500-2500 and PN260 to PN420   | PN204114A          | API 6FA 3RD EDITION 1999              |
| 3.4       | 2 INCH CLASS 800 2-PIECE FLOATING BALL VALVE, FS660  | 6/15/2006 | 2          | 800                          | A216-WCB                       | RPTFE         | GRAPHITE        | 1/2"-4" Class 800-1500 and PN100 to PN260  | PN204114-2-800BALL | API 607 5TH EDITION<br>ISO 10497-2004 |
| 3.4       | 2 INCH CLASS 800 2-PIECE FLOATING BALL VALVE, FS660  | 6/15/2006 | 2          | 800                          | A216-WCB                       | RPTFE         | GRAPHITE        | 2"-4" Class 800-900 and PN130 to PN150     | PN204114-2-800BALL | API 6FA 3RD EDITION 1999              |

\*As per API 607 7th edition, clause 7.2.2 and ISO 10497-2010, testing a mid range austenitic sample in the same model of ferritic valves covered, also covers austenitic valves in the same coverage range as ferritic as follows: All sizes 1/2" & above Class 150 to 1500 and 1/2" to 6" Class 2500.

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| Ref. Item | Product Description  | Test Date | Size - NPS | Pressure Rating - ANSI Class | Body Material | Seat Material    | Seal Material    | Other Valves Qualified  | Certificate Number | Firesafe Test Standard             |
|-----------|--|-----------|------------|------------------------------|---------------|------------------|------------------|---|--------------------|------------------------------------|
| 3.1       | 1 INCH CLASS 800 1-PIECE FLOATING BALL VALVE, FS900                          | 6/14/2006 | 1          | 800                          | A216-WCB      | RPTFE            | GRAPHITE         | 1/2" - 2" Class 800-1500 and PN100-PN260                        | PN204114-1-800Ball | API 607 5TH EDITION ISO 10497-2004 |
| 3.1       | 1 INCH CLASS 800 1-PIECE FLOATING BALL VALVE, FS900                          | 6/14/2006 | 1          | 800                          | A216-WCB      | RPTFE            | GRAPHITE         | 1"-2" Class 800-900 and PN130 to PN150                          | PN204114-1-800Ball | API 6FA 3RD EDITION I999           |
| 1.6.1     | 2" CLASS 600 RF BALL VALVE 2 PIECE TRUNNION MOUNTED API6D, SOFT SEAT, FS9000 | 6-Jul-15  | 2"         | 600                          | CARBON STEEL  | A182 F316/ RPTFE | GRAPHITE/ VITON  | 4" and below Class 600-900                                      | 215067 - 1.6.1     | API 607 6TH EDITION ISO 10497-2010 |
| 1.6       | 3" CLASS 150 RF BALL VALVE 2 PIECE TRUNNION MOUNTED API16D, FS9000           | 9-Jan-14  | 3"         | 150                          | A216 WCB      | RPTFE            | Graphite / Viton | 3 - 6" Class 150-300 and PN10 to PN40                           | 213099 - 1.6       | API 607 6TH EDITION ISO 10497-2010 |
| 3.7       | 6 INCH CLASS 600 REDUCED PORT BALL VALVE, FS9000                             | 9/28/2005 | 6          | 600                          | A216-WCB      | NYLON            | GRAPHITE/ VITON  | 6"-12" Class 600-900  | PN204114B          | API 607 5TH EDITION ISO 10497-2004 |
| 3.7       | 6 INCH CLASS 600 REDUCED PORT BALL VALVE, FS9000                             | 9/28/2005 | 6          | 600                          | A216-WCB      | NYLON            | GRAPHITE/ VITON  | 6"-12" Class 600-900 and API 6A 7-1/16" to 11" 2000 to 3000 psi | PN204114B          | API 6FA 3RD EDITION I999           |
| 1.7       | 8" Class 150 RF BALL VALVE 2 PIECE TRUNNION MOUNTED API6D, SOFT SEAT, FS9000 | 21-Jul-15 | 8"         | 150                          | CARBON STEEL  | A182 F316/ RPTFE | GRAPHITE/ VITON  | 8" and larger Class 150-300 and PN10 to PN40                    | 215067 - 1.7       | API 607 6TH EDITION ISO 10497-2010 |

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| Ref. Item | Product Description  | Test Date | Size - NPS | Pressure Rating - ANSI Class | Body Material | Seat Material | Seal Material      | Other Valves Qualified                                | Certificate Number     | Firesafe Test Standard                |
|-----------|--|-----------|------------|------------------------------|---------------|---------------|--------------------|---|------------------------|---------------------------------------|
| 1.17      | 8" CLASS 600 BALL VALVE<br>2 PIECE TRUNNION MOUNTED  | 20-May-16 | 8"         | 600                          | CARBON STEEL  | DEVLON        | VITON/<br>GRAPHITE | 8" and larger<br>Class 600-900                        | 216067 - 1.17          | API 607 6TH EDITION<br>ISO 10497-2010 |
| 1.18      | 2" CLASS 150 WCB FLOATING<br>BALL VALVE SLFSBV01   | 6-Apr-17  | 2"         | 150                          | A216 -WCB     | PTFE          | Graphite           | 1/2"-4" Class<br>150-300                              | 217131A                | API 607 7TH EDITION<br>ISO 10497-2010 |
| 1.2       | 2" CLASS 300 RF BALL VALVE 2<br>PIECE FLOATING BALL API608,<br>API6D, ANSI B16, SLFSBV01           | 11-Jan-14 | 2"         | 300                          | A216 WCB      | PTFE          | GRAPHITE           | 1/2 - 4" Class<br>300-600 and<br>PN10 to PN40         | 213099 - 1.2           | API 607 6TH EDITION<br>ISO 10497-2010 |
| 3.5       | 4 INCH CLASS 150 FULL PORT<br>BALL VALVE, SLFSBV01   | 6/16/2006 | 4          | 150                          | A216-WCB      | PTFE          | GRAPHITE           | 4"-8" Class 150-<br>300 and PN10 to<br>PN40           | PN204114-4-<br>150BALL | API 607 5TH EDITION<br>ISO 10497-2004 |
| 3.5       | 4 INCH CLASS 150 FULL PORT<br>BALL VALVE, SLFSBV01   | 6/16/2006 | 4          | 150                          | A216-WCB      | PTFE          | GRAPHITE           | 4"-8" Class 150-<br>300 and PN10 to<br>PN40           | PN204114-4-<br>150BALL | API 6FA 3RD<br>EDITION 1999           |
| 1.4       | 8" CLASS 150 RF BALL VALVE 2<br>PIECE FLOATING BALL API608,<br>API6D, ANSI B16, SLFSBV01           | 20-Jan-14 | 8"         | 150                          | A216 WCB      | PTFE          | Graphite           | 8" and larger<br>Class 150-300<br>and PN10 to<br>PN40 | 213099- 1.4            | API 607 6TH EDITION<br>ISO 10497-2010 |
| 1.1       | 2" CLASS 150 BALL VALVE 1<br>PIECE END ENTRY FLOATING<br>BALL API608, API6D, ANSI B16,<br>SLFSBV01 | 8-Jan-14  | 2"         | 150                          | A216 WCB      | PTFE          | GRAPHITE           | 1/2 - 4" Class<br>150-300 and<br>PN10 to PN40         | 213099 - 1.1           | API 607 6TH EDITION<br>ISO 10497-2010 |

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| Ref. Item | Product Description  | Test Date | Size - NPS | Pressure Rating - ANSI Class | Body Material            | Seat Material    | Seal Material | Other Sizes Qualified                        | Certificate Number | Firesafe Test Standard                |
|-----------|--|-----------|------------|------------------------------|--------------------------|------------------|---------------|--|--------------------|---------------------------------------|
| 1.3       | 6" CLASS 150 BALL VALVE 1 PIECE END ENTRY FLOATING BALL API608, API6D, ANSI B16, SLFSBV02                | 15-May-17 | 6"         | 150                          | A216 -WCB                | RPTFE            | Graphite      | 6" to 12" Class 150-300                      | 217131B            | API 607 7TH EDITION<br>ISO 10497-2010 |
| 1.10      | 2" CLASS 300 RF HIGH PERFORMANCE BUTTERFLY VALVE DOUBLE OFFSET DISC API609, MSS-SP68, SOFT SEAT, SLHBFFS | 9-Jul-15  | 2"         | 300                          | Stainless Steel          | RPTFE            | GRAPHITE      | 4" and below Class 300-600 and PN40 to PN100 | 215067 - 1.10      | API 607 6TH EDITION<br>ISO 10497-2010 |
| 1.11      | 6" Class 150 RF HIGH PERFORMANCE BUTTERFLY VALVE DOUBLE OFFSET DISC API609, MSS-SP68, SOFT SEAT, SLHBFFS | 21-Jul-15 | 6"         | 150                          | Carbon Steel             | PTFE             | GRAPHITE      | 6" to 12" Class 150-300 and PN10 to PN40     | 215067 - 1.11      | API 607 6TH EDITION<br>ISO 10497-2010 |
| 8         | 3 inch Class 300 Gate Valve, API 600, Model AP33XUF  | 2/2/2018  | 3          | 300                          | A216 WCB<br>Carbon Steel | A105+ST#6        | Graphite      | 3"-6" Class 300-600                          | 217313A            | API 6FA 3rd Edition<br>1999           |
| 1.12      | 8" CLASS 150 RF FLANGED GATE VALVE BBOSY API600, P47XUF-2B   | 22-Jan-14 | 8"         | 150                          | A216 WCB                 | A105+ST#6        | GRAPHITE      | 8 - 16" Class 150-300 and PN10 to PN40       | 213099 - 1.12      | API 6FA 3RD<br>EDITION 1999           |
| 1.14      | 2" CLASS 150 LUBRICATED PLUG VALVE API6D PRESSURE BALANCED INVERTED PLUG VALVE, MODEL SSCR               | 6-Jul-16  | 2"         | 150                          | Carbon Steel             | Lubricated-Metal | GRAPHITE      | 4" and below Class 150-300 and PN10 to PN40  | 215067-1.14        | API 607 6TH EDITION<br>ISO 10497-2010 |

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| Ref. Item | Product Description   | Test Date | Size - NPS | Pressure Rating - ANSI Class | Body Material | Seat Material    | Seal Material | Other Sizes Qualified  | Certificate Number | Firesafe Test Standard             |
|-----------|---|-----------|------------|------------------------------|---------------|------------------|---------------|--|--------------------|------------------------------------|
| 3.8       | 2 INCH CLASS 600 CAST LUBRICATED PLUG VALVE, MODEL SSCR                                 | 6/14/2006 | 2          | 600                          | A216-WCB      | Metal-Lubricated | GRAPHITE      | 2"-4" Class 600-900  | 204114-2-600PLUG   | API 607 5TH EDITION ISO 10497-2004 |
| 3.8       | APV 2 INCH CLASS 600 CAST LUBRICATED PLUG VALVE, MODEL SSCR                             | 6/14/2006 | 2          | 600                          | A216-WCB      | Lubricated-Metal | GRAPHITE      | 2"-4" Class 600-900 and API 6A 1-13/16" to 4-1/16" 2000-3000 psi | 204114-2-600PLUG   | API 6FA 3RD EDITION 1999           |
| 1.16      | APV 2 inch CLASS 1500 LUBRICATED PLUG VALVE API6D PRESSURE BALANCED INVERTED PLUG       | 10-Jul-15 | 2"         | 1500                         | CARBON STEEL  | Lubricated-Metal | GRAPHITE      | 4" and below Class 1500-2500                                     | 215067 - 1.16      | API 607 6TH EDITION ISO 10497-2010 |
| 1.15      | APV 6 inch CLASS 600 LUBRICATED PLUG VALVE API6D PRESSURE BALANCED INVERTED PLUG        | 22-Jul-15 | 6"         | 600                          | CARBON STEEL  | Lubricated-Metal | GRAPHITE      | 6" to 12" Class 600-900  | 215067 - 1.15      | API 607 6TH EDITION ISO 10497-2010 |
| 1.13      | 8" CLASS 150 RF LUBRICATED PLUG VALVE API6D PRESSURE BALANCED INVERTED PLUG, MODEL SSCR | 20-Mar-14 | 8"         | 150                          | A216 WCB      | Metal/Lubricated | Graphite      | 8" and larger Class 150-300 and PN10 to PN40                     | 213099 - 1.13      | API 607 6TH EDITION ISO 10497-2010 |

*Certified By*



Matthew J. Wasielewski, PE

President and Manager

Yarmouth Research and Technology, LLC



# CERTIFICATE OF CONFORMITY

Certificate No.: SHA/873979/1604-1570, 1571, 1572, 1573

Initial date:  
Feb 05, 2015

This is to certify that the fire test of

## AUSTRALIAN PIPELINE VALVE

69-71 Barndioota Road, Salisbury Plain (Adelaide) South Australia 5109

has been carried out at the laboratory designated by the manufacturer and witnessed by DNV GL-BA inspector. The test results of valve meet the requirement of

## API STD 607, SIXTH EDITION, SEPTEMBER 2010

Type of Test **Fire test**

Product Name **Valve**

Further details are given overleaf

Place and date:  
**Shanghai**

**DNV GL Business Assurance (China)  
Co., Ltd.**

*Winston Wang*

**Feng Wang**  
Inspector



*Chung Yuan Lee*

**Chung Yuan Lee**  
Technical Reviewer

## Annex I. FIRESAFE TESTS-001

| ITEM | MANUFACTURER                    | VALVE TYPE      | MODEL RANGE TESTED | SEAT/SEALS            | PRODUCT DESCRIPTION                                      | STANDARD                           | YARMOUTH CERTIFICATE NUMBER | DATE OF TEST/ WITNESS | COVERAGE RANGE   |
|------|---------------------------------|-----------------|--------------------|-----------------------|--|------------------------------------|-----------------------------|-----------------------|--|
| 4.2  | AUSTRALIAN PIPELINE VALVE (APV) | BALL - FLOATING | MODEL SLFSBV01     | PTFE/ GRAPHITE        | BALL VALVE 2 PIECE FLOATING BALL API608, API6D, ANSI B16 | API 607 6TH EDITION ISO 10497-2010 | SHA/873979/1604-1570, 1572  | 5/2/15                | 1/2"-2" 600 CLASS AND 1/2" - 4" 150-300 CLASS † Covers Ferritic & Austenitic † 6" to 12" 150 & 300 CLASS |
| 4.1  | AUSTRALIAN PIPELINE VALVE (APV) | BALL - FLOATING | MODEL SLFSBV01     | PTFE/ GRAPHITE/ VITON | BALL VALVE 2 PIECE FLOATING BALL API608, API6D, ANSI B16 | API 607 6TH EDITION ISO 10497-2010 | SHA/873979/1604-1573, 1571  | 5/2/15                | 6" TO 12" 150 & 300 CLASS  |

† API607 paragraph 7.2.2 states that if a range of valves is covered by testing ferritic valves then the same entire size and class range will be covered for duplex and austenitic material by testing one mid range valve in austenitic material

WE HEREBY CERTIFY THAT DNV WITNESSED ALL CERTIFICATES AND VALVES PASSED TEST IN ACCORDANCE WITH TEST STANDARDS SHOWN

