

**COVER SHEET**  
**JDE. WO. : 2258104**  
**Refurbish Campaign (Gaslift line Modification)**  
**ATTAKA - "0" PLATFORM**



DRAWING No.  
ATT-OP-4000-I

DRAWINGS INDEX

ISOMETRIC DRAWINGS  
ATTAKA "O" PLATFORM

| DWG. SERIES   | SHEET NO. | DESCRIPTION             | REV. | REMARKS                   |
|---------------|-----------|-------------------------|------|---------------------------|
| ATT-OP-5500-0 | 2         | ISOMETRIC LINE 227-D-1" | 0    | APPROVED FOR CONSTRUCTION |
| ATT-OP-5500-0 | 2         | ISOMETRIC LINE 228-D-1" | 0    | APPROVED FOR CONSTRUCTION |
| ATT-OP-5500-0 | 2         | ISOMETRIC LINE 229-D-1" | 0    | APPROVED FOR CONSTRUCTION |
| ATT-OP-5500-0 | 2         | ISOMETRIC LINE 230-D-1" | 0    | APPROVED FOR CONSTRUCTION |
| ATT-OP-5500-0 | 2         | ISOMETRIC LINE 231-D-1" | 0    | APPROVED FOR CONSTRUCTION |
| ATT-OP-5500-0 | 2         | ISOMETRIC LINE 232-D-1" | 0    | APPROVED FOR CONSTRUCTION |
| ATT-OP-5500-0 | 2         | ISOMETRIC LINE 233-D-1" | 0    | APPROVED FOR CONSTRUCTION |
|               |           |                         |      |                           |
|               |           |                         |      |                           |
|               |           |                         |      |                           |
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|               |           |                         |      |                           |
|               |           |                         |      |                           |



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Chevron Indonesia Company  
BALIKPAPAN-EAST KALIMANTAN

NOTES :

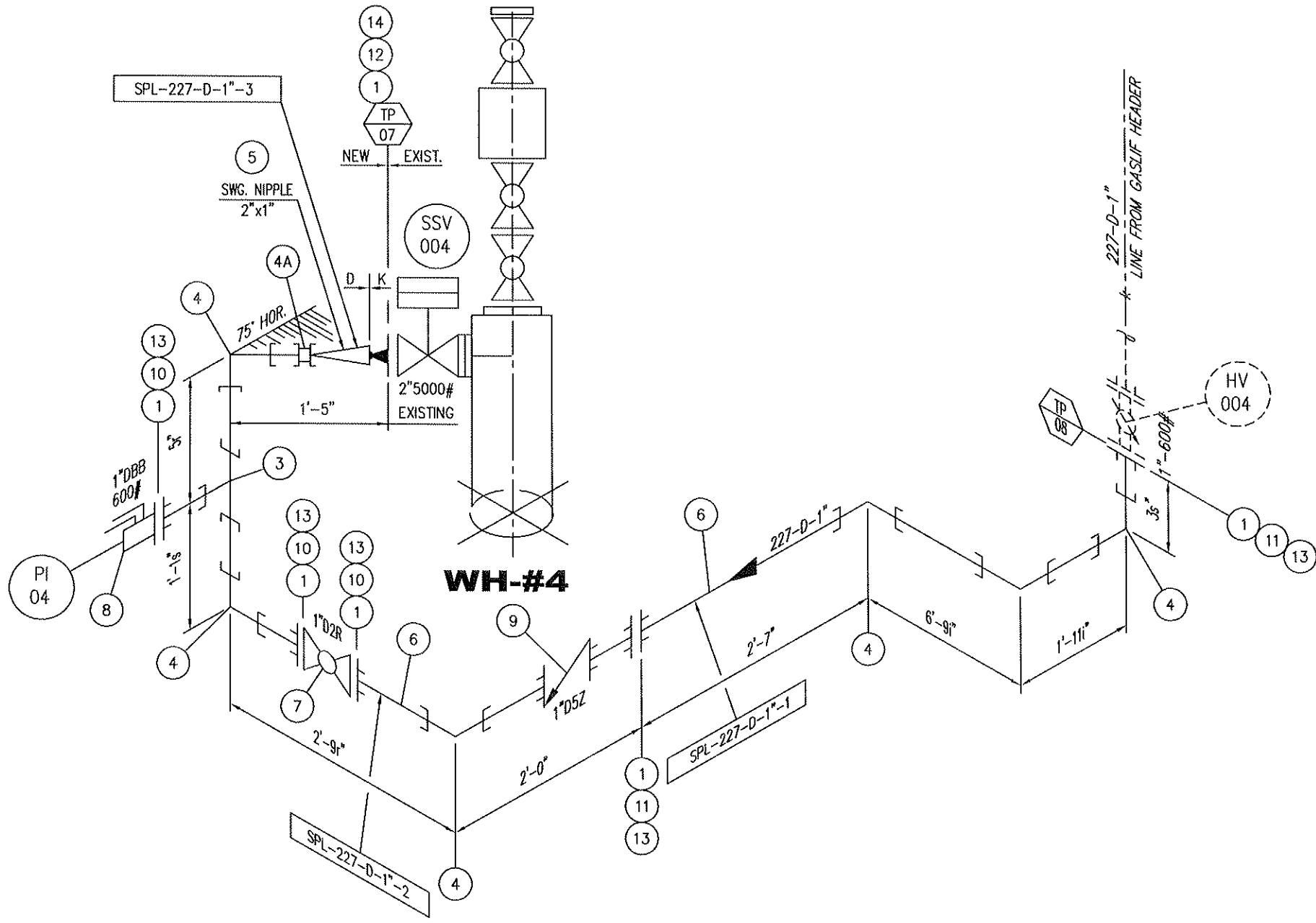
| DRAWING NO. | REFERENCE DRAWINGS | REV | DATE | BY | CHKD | APPD | REVISION | <input checked="" type="checkbox"/> | SIGNED | DATE | TITLE   | SCALE | JOB No. | DRAWING No.   | REV |
|-------------|--------------------|-----|------|----|------|------|----------|-------------------------------------|--------|------|---|-------|---------|---------------|-----|
|             |                    |     |      |    |      |      |          |                                     |        |      | ATTAKA "O" PLATFORM<br>ISOMETRIC DRAWINGS<br>DRAWINGS INDEX | NTS   | 2258104 | ATT-OP-4000-I | 0   |

CAD REF :



MATERIAL LIST

| ITEM                  | QTY   | SIZE      | SCH       | DESCRIPTION   |
|-----------------------|-------|-----------|-----------|---|
| FABRICATION           |       |           |           |   |
| 1                     | 6 EA  | 1"        | 80        | FLANGE SW 600# RF, ASME B16.5 ASTM A-105  |
| 2                     | 1 EA  | 2"        | XXS       | FLANGE WN 5000API RTJ, API 6A, MATERIAL TYPE 6B, TYPE 4.  |
| 3                     | 1 EA  | 1"        | 3000PSI   | EQUAL TEE SW, ASME B16.11 ASTM A-105  |
| 4                     | 6 EA  | 1"        | 3000PSI   | ELBOW 90° SW, ASME B16.11 ASTM A-105  |
| 4A                    | 1 EA  | 1"        | 3000PSI   | FULL COUPLING SW, ASME B16.11 ASTM A-105  |
| 5                     | 1 EA  | 2"x1"     | 80        | SWAGE NIPPLE, (BLEXPSE), ASTM B16.11, ASTM A.106  |
| 6                     | 20 FT | 1"        | 80        | PIPE API-5L-GR.B OR ASTM A.106 GR.B SEAMLESS  |
| INSTALLATION          |       |           |           |   |
| 7                     | 1 EA  | 1"        | ~         | BALL VALVE 600# FLANGE END RF (1"D2RF)  |
| 8                     | 1 EA  | 1"        | ~         | DOUBLE BLOCK AND BLEED 600# RF. FLANGE (MONOFLANGE TYPE)  |
| 9                     | 1 EA  | 1"        | ~         | CHECK VALVE 600# SW, SWING TYPE (1"D5Z)   |
| 10                    | 1 SET | 1"        | 1"600#RF  | INSULATION GASKET   |
| 11                    | 4 EA  | 0.175"THK | 1"600#RF  | GASKET SPIRAL WOUND W/316SS WINDING W/0.125" CENTERING CS CAD PLTD. NON ASBESTOS FILLER FLEXITE SUPER OR EQUAL PER API. 601 |
| 12                    | 1 EA  | R-24      | 2"5000API | OVAL RING, SOFT IRON CAD. PLTD MAX BHN 90 PER ASME B16.20   |
| 13                    | 20 EA | p"x3l"    | 1"600#RF  | STUD BOLTS ASTM A-193 GR B7, NUTS ASTM A-194 GR 2H CAD PLTD.  |
| 14                    | 8 EA  | 1"x5s"    | 2"5000API | STUD BOLTS ASTM A-193 GR B7, NUTS ASTM A-194 GR 2H CAD PLTD.  |
| MATERIAL PIPE SUPPORT |       |           |           |   |
| 15                    | 6 FT  | L3x3      | ~         | STEEL ANGLE ASTM A36  |
| 16                    | 3 EA  | r"φ       | ~         | UBOLT C/W NUTS FOR 1"φ PIPE   |



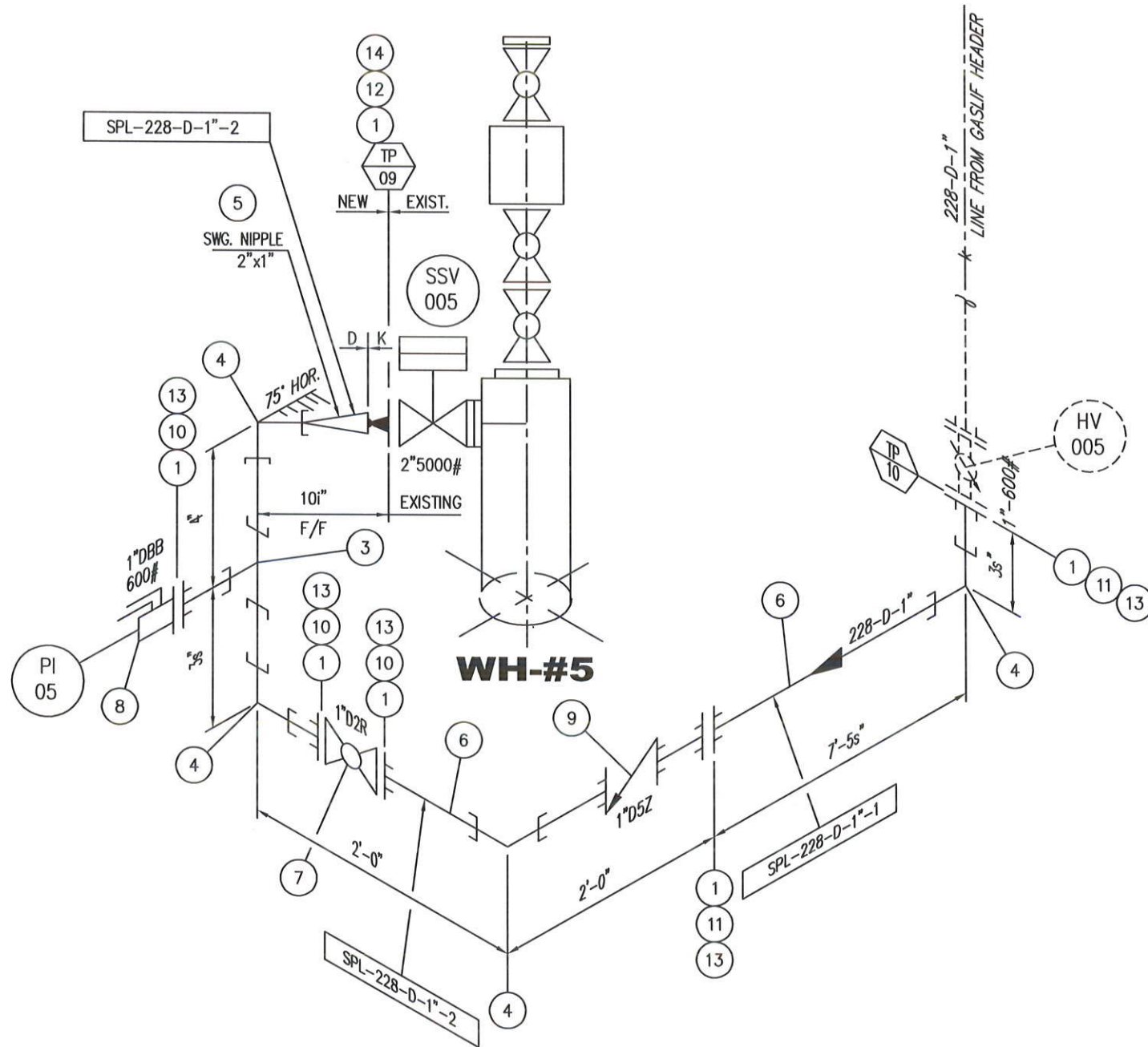
WO.2258104

|                     |             |                 |           |
|---------------------|-------------|-----------------|-----------|
| PIPING CODE         | ASME B.31.3 | INSULATION      | NIL       |
| PIPING SPEC.        | D           | X-RAY           | 100 %     |
| DESIGN PRESS. (PSI) | 2025        | MPI             | 100 %     |
| DESIGN TEMP. (°F)   | -25/200     | HYDROTEST (PSI) | 3080 Psig |
| PAINT SPECIFICATION | UOI-GS-13   | PWHT            | --        |

|   |     |      |          |  |  |             |             |
|---|-----|------|----------|--|--|-------------|-------------|
| Chevron Indonesia Company<br>BALIKPAPAN-EAST KALIMANTAN |     |      |          | TITLE<br>ATTAKA "O" PLATFORM<br>ISOMETRIC GASLIFT LINE WH#-4<br>227-D-1" |  |             |             |
| DRAWN BY  | RIS | DATE | 09/11/01 | APPROVED BY  |  | DRAWING NO. | ATT-OP-5500 |
| CHECKED BY  |     | DATE |          | APPROVED BY  |  | SHEET NO.   | 2 OF 2      |
| CAD REF.: ATT-OP-5500                                   |     |      |          | JOB NO.: 2258104   |  |             |             |

|  |  |   |  |   |  |
|--|--|---|--|---|--|
| NOTES :  |  | REFERENCE DRAWINGS                              |  | REVISIONS                                       |  |
| 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.               |  | ATT-OP-5500 ISOMETRIC DRAWING                   |  | O 21-12-11 MGU MOL RK APPROVED FOR CONSTRUCTION |  |
| 2. WELD JOINTS WITH THICKNESS GREATER THAN 0.75" SHALL BE STRESS RELIEVED. |  | ATT-OP-4123 P & ID WELLHEAD PRO & TEST MANIFOLD |  | C 30-11-11 MGU MOL RK ISSUED FOR APPROVAL       |  |
| 3. PIPE SUPPORT FIELD ADJUSTMENT.  |  | ATT-OP-5003 PIPING PLAN ABOVE CELLAR DECK       |  | B 25-11-11 MGU MOL RK ISSUED FOR COMMENT        |  |
|  |  | DRAWING NO.                                     |  | A 27-10-11 MGU MOL HL ISSUED FOR REVIEW         |  |
|  |  | DRAWINGS  |  | REV DATE BY CHKD APPD                           |  |





## MATERIAL LIST



| ITEM                  | QTY   | SIZE      | SCH       | DESCRIPTION   |
|-----------------------|-------|-----------|-----------|---|
| FABRICATION           |       |           |           |   |
| 1                     | 6 EA  | 1"        | 80        | FLANGE SW 600# RF, ASME B16.5 ASTM A-105  |
| 2                     | 1 EA  | 2"        | XXS       | FLANGE WN 5000API RTJ, API 6A, MATERIAL TYPE 6B, TYPE 4.  |
| 3                     | 1 EA  | 1"        | 3000PSI   | EQUAL TEE SW, ASME B16.11 ASTM A-105  |
| 4                     | 4 EA  | 1"        | 3000PSI   | ELBOW 90° SW, ASME B16.11 ASTM A-105  |
| 5                     | 1 EA  | 2"x1"     | 80        | SWAGE NIPPLE, (BLEXPSE), ASTM B16.11, ASTM A.106  |
| 6                     | 20 FT | 1"        | 80        | PIPE API-5L-GR.B OR ASTM A.106 GR.B SEAMLESS  |
| INSTALLATION          |       |           |           |   |
| 7                     | 1 EA  | 1"        | ~         | BALL VALVE 600# FLANGE END RF (1"D2RF)  |
| 8                     | 1 EA  | 1"        | ~         | DOUBLE BLOCK AND BLEED 600# RF. FLANGE (MONOFLANGE TYPE)  |
| 9                     | 1 EA  | 1"        | ~         | CHECK VALVE 600# SW, SWING TYPE (1"D5Z)   |
| 10                    | 1 SET | 1"        | 1"600#RF  | INSULATION GASKET   |
| 11                    | 4 EA  | 0.175"THK | 1"600#RF  | GASKET SPIRAL WOUND W/316SS WINDING W/0.125" CENTERING CS CAD PLTD. NON ASBESTOS FILLER FLEXITE SUPER OR EQUAL PER API. 601 |
| 12                    | 1 EA  | R-24      | 2"5000API | OVAL RING, SOFT IRON CAD. PLTD MAX BHN 90 PER ASME B16.20   |
| 13                    | 20 EA | p"x3i"    | 1"600#RF  | STUD BOLTS ASTM A-193 GR B7, NUTS ASTM A-194 GR 2H CAD PLTD.  |
| 14                    | 8 EA  | f"x5s"    | 2"5000API | STUD BOLTS ASTM A-193 GR B7, NUTS ASTM A-194 GR 2H CAD PLTD.  |
| MATERIAL PIPE SUPPORT |       |           |           |   |
| 15                    | 6 FT  | L3x3      | ~         | STEEL ANGLE ASTM A36  |
| 16                    | 3 EA  | r"ø       | ~         | UBOLT C/W NUTS FOR 1"ø PIPE   |



WO.2258104

|                     |             |                 |           |
|---------------------|-------------|-----------------|-----------|
| PIPING CODE         | ASME B.31.3 | INSULATION      | NIL       |
| PIPING SPEC.        | D           | X-RAY           | 100 %     |
| DESIGN PRESS. (PSI) | 2025        | MPI             | 100 %     |
| DESIGN TEMP. (°F)   | -25/200     | HYDROTEST (PSI) | 3080 Psig |
| PAINT SPECIFICATION | UOI-GS-13   | PWHT            | -         |

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|   |        |          |   |        |      |
|---|--------|----------|---|--------|------|
|  | SIGNED | DATE     |  | SIGNED | DATE |
| DRAWN BY  | RIS    | 09/11/01 | APPROVED BY   |        |      |
| CHECKED BY  |        |          | APPROVED BY   |        |      |
| CAD REF. : ATT-OP-5500  |        |          | JOB NO. : 2258104   |        |      |

CAD REF.: ATT-OP-5500

JOB NO.: 2258104

TITLE  
ATTAKA "O" PLATFORM  
ISOMETRIC GASLIFT LINE WH#-5  
228-D-1"DRAWING NO.  
ATT-OP-5500SHEET NO.  
2 OF 2REV  
0

## NOTES :

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
- WELD JOINTS WITH THICKNESS GREATER THAN 0.75" SHALL BE STRESS RELIEVED.
- PIPE SUPPORT FIELD ADJUSTMENT.

## REFERENCE DRAWINGS

| DRAWING NO. | DRAWINGS                            | REV | DATE     | BY  | CHKD | APPD |
|-------------|-------------------------------------|-----|----------|-----|------|------|
| ATT-OP-5500 | ISOMETRIC DRAWING                   | 0   | 21-12-11 | MGU | MOL  | RK   |
| ATT-OP-4123 | P & ID WELLHEAD PRO & TEST MANIFOLD | C   | 30-11-11 | MGU | MOL  | RK   |
| ATT-OP-5003 | PIPING PLAN ABOVE CELLAR DECK       | B   | 25-11-11 | MGU | MOL  | RK   |
|             |                                     | A   | 27-10-11 | MGU | MOL  | HL   |

|   |          |     |     |    |                           |
|---|----------|-----|-----|----|---------------------------|
| 0 | 21-12-11 | MGU | MOL | RK | APPROVED FOR CONSTRUCTION |
| C | 30-11-11 | MGU | MOL | RK | ISSUED FOR APPROVAL       |
| B | 25-11-11 | MGU | MOL | RK | ISSUED FOR COMMENT        |
| A | 27-10-11 | MGU | MOL | HL | ISSUED FOR REVIEW         |

## REVISIONS





## MATERIAL LIST

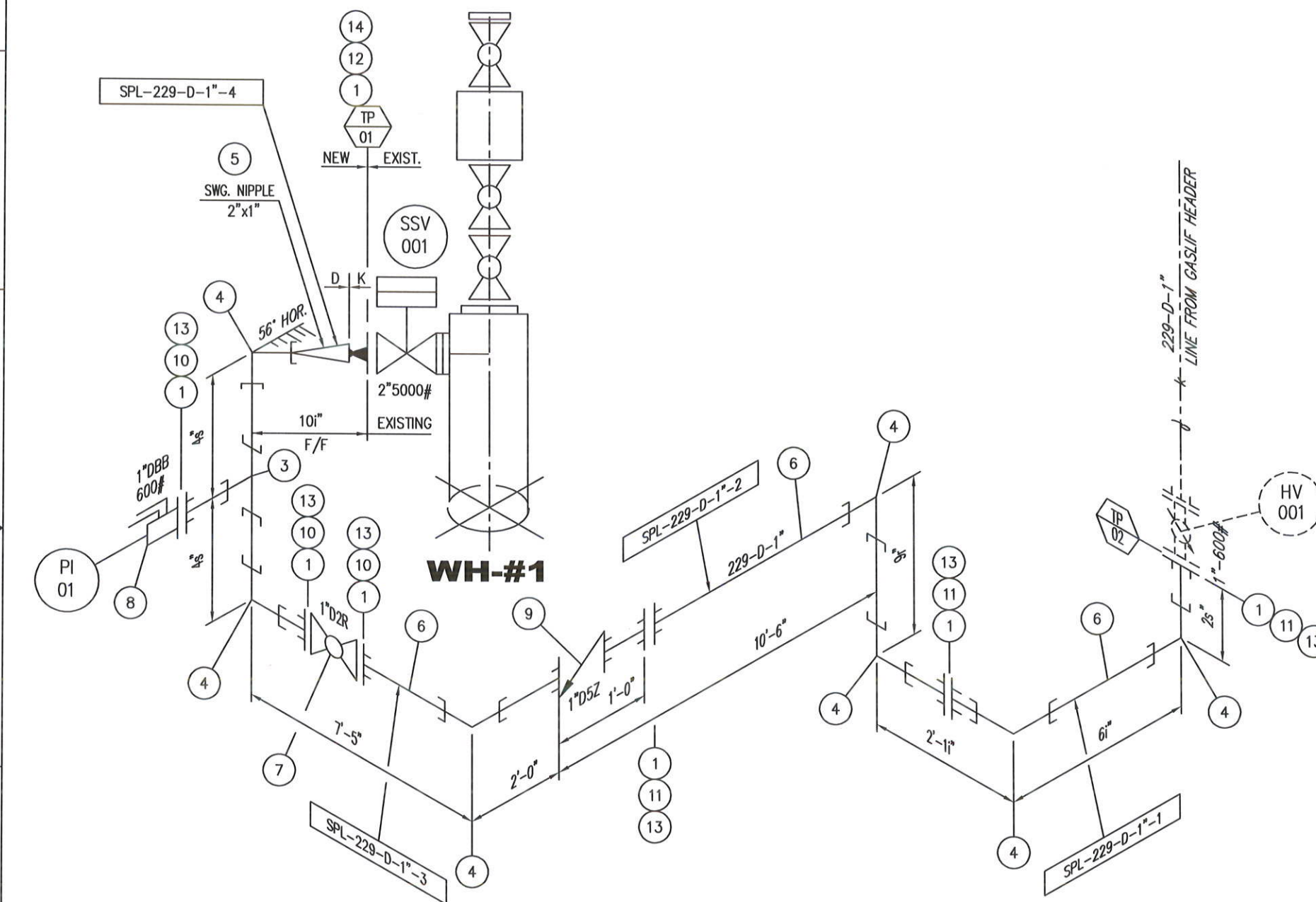
| ITEM                  | QTY   | SIZE      | SCH       | DESCRIPTION   |
|-----------------------|-------|-----------|-----------|---|
| FABRICATION           |       |           |           |   |
| 1                     | 8 EA  | 1"        | 80        | FLANGE SW 600# RF, ASME B16.5 ASTM A-105  |
| 2                     | 1 EA  | 2"        | XXS       | FLANGE WN 5000API RTJ, API 6A, MATERIAL TYPE 6B, TYPE 4.  |
| 3                     | 1 EA  | 1"        | 3000PSI   | EQUAL TEE SW, ASME B16.11 ASTM A-105  |
| 4                     | 5 EA  | 1"        | 3000PSI   | ELBOW 90° SW, ASME B16.11 ASTM A-105  |
| 5                     | 1 EA  | 2"x1"     | 80        | SWAGE NIPPLE, (BLEXPSE), ASTM B16.11, ASTM A.106  |
| 6                     | 20 FT | 1"        | 80        | PIPE API-5L-GR.B OR ASTM A.106 GR.B SEAMLESS  |
| INSTALLATION          |       |           |           |   |
| 7                     | 1 EA  | 1"        | ~         | BALL VALVE 600# FLANGE END RF (1"D2RF)  |
| 8                     | 1 EA  | 1"        | ~         | DOUBLE BLOCK AND BLEED 600# RF. FLANGE (MONOFLANGE TYPE)  |
| 9                     | 1 EA  | 1"        | ~         | CHECK VALVE 600# SW, SWING TYPE (1"D5Z)   |
| 10                    | 1 SET | 1"        | 1"600#RF  | INSULATION GASKET   |
| 11                    | 5 EA  | 0.175"THK | 1"600#RF  | GASKET SPIRAL WOUND W/316SS WINDING W/0.125" CENTERING CS CAD PLTD. NON ASBESTOS FILLER FLEXITE SUPER OR EQUAL PER API. 601 |
| 12                    | 1 EA  | R-24      | 2"5000API | OVAL RING, SOFT IRON CAD. PLTD MAX BHN 90 PER ASME B16.20   |
| 13                    | 24 EA | p"x3i"    | 1"600#RF  | STUD BOLTS ASTM A-193 GR B7, NUTS ASTM A-194 GR 2H CAD PLTD.  |
| 14                    | 8 EA  | f"x5s"    | 2"5000API | STUD BOLTS ASTM A-193 GR B7, NUTS ASTM A-194 GR 2H CAD PLTD.  |
| MATERIAL PIPE SUPPORT |       |           |           |   |
| 15                    | 6 FT  | L3x3      | ~         | STEEL ANGLE ASTM A36  |
| 16                    | 3 EA  | r"ø       | ~         | UBOLT C/W NUTS FOR 1"ø PIPE   |



WO.2258104

|                     |             |                 |           |
|---------------------|-------------|-----------------|-----------|
| PIPING CODE         | ASME B.31.3 | INSULATION      | NIL       |
| PIPING SPEC.        | D           | X-RAY           | 100 %     |
| DESIGN PRESS. (PSI) | 2025        | MPI             | 100 %     |
| DESIGN TEMP. (°F)   | -25/200     | HYDROTEST (PSI) | 3080 Psig |
| PAINT SPECIFICATION | UOI-CS-13   | PWHT            | -         |

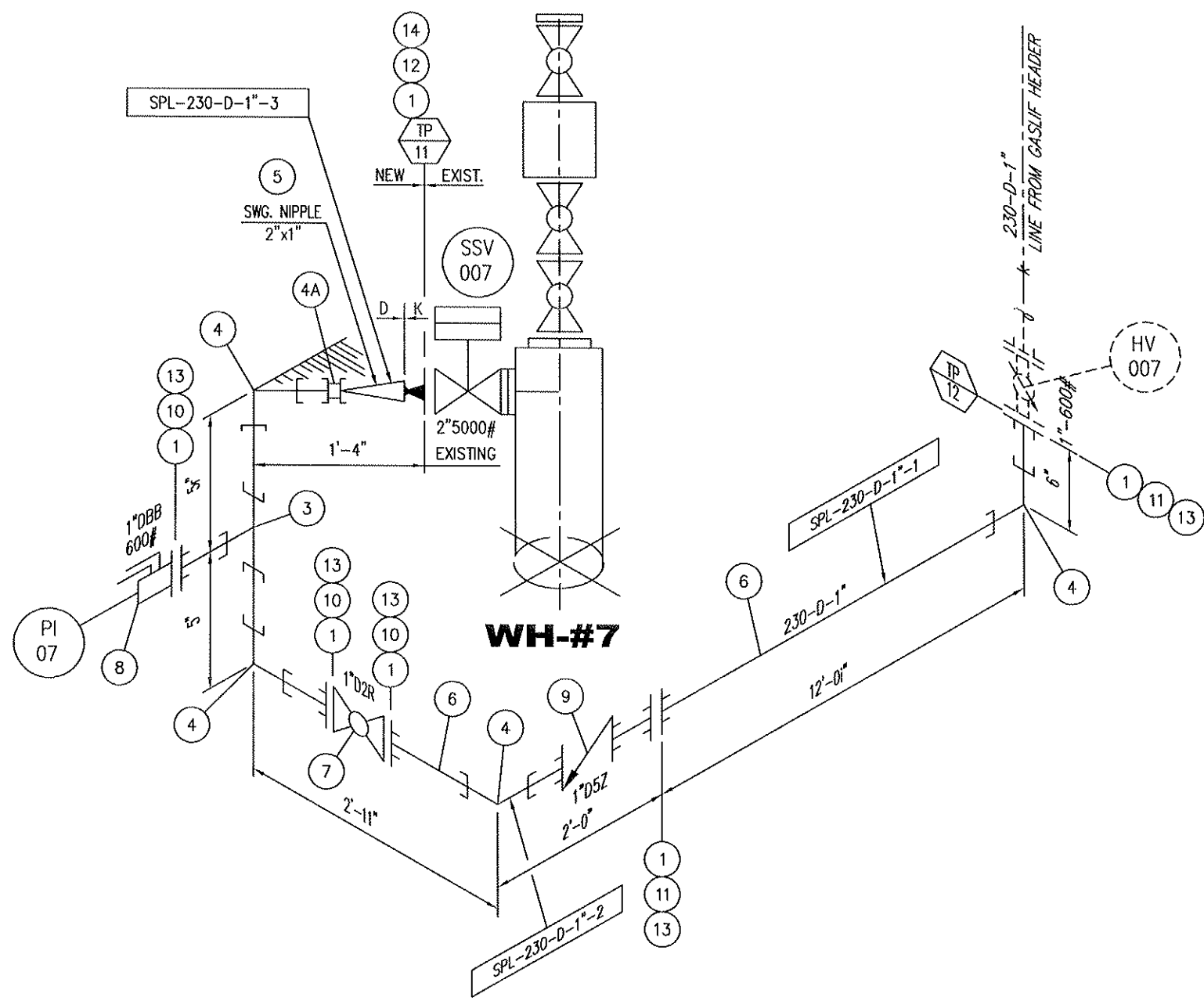
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|---|------------------|--|----------|
| Chevron Indonesia Company<br>BALIKPAPAN-EAST KALIMANTAN |                  | TITLE<br>ATTAKA "O" PLATFORM<br>ISOMETRIC GASLIFT LINE WH#-1<br>229-D-1" |          |
| DRAWN BY<br>RIS   | DATE<br>09/11/01 | APPROVED BY  | DATE     |
| CHECKED BY  | APPROVED BY      | DRAWING NO.<br>ATT-OP-5500   |          |
| CAD REF.: ATT-OP-5500                                   | JOB NO.: 2258104 | SHEET NO.<br>2 OF 2  | REV<br>0 |



## NOTES :

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
- WELD JOINTS WITH THICKNESS GREATER THAN 0.75" SHALL BE STRESS RELIEVED.
- PIPE SUPPORT FIELD ADJUSTMENT.

| REFERENCE DRAWINGS | REV | DATE     | BY  | CHKD | APPD | REVISIONS                 |
|--------------------|-----|----------|-----|------|------|---------------------------|
| ATT-OP-5500        | 0   | 21-12-11 | MGU | MOL  | RK   | APPROVED FOR CONSTRUCTION |
| ATT-OP-4123        | C   | 30-11-11 | MGU | MOL  | RK   | ISSUED FOR APPROVAL       |
| ATT-OP-5003        | B   | 25-11-11 | MGU | MOL  | RK   | ISSUED FOR COMMENT        |
| ATT-OP-5003        | A   | 27-10-11 | MGU | MOL  | HL   | ISSUED FOR REVIEW         |



### MATERIAL LIST

| ITEM                  | QTY   | SIZE      | SCH       | DESCRIPTION   |
|-----------------------|-------|-----------|-----------|---|
| FABRICATION           |       |           |           |   |
| 1                     | 6 EA  | 1"        | 80        | FLANGE SW 600# RF, ASME B16.5 ASTM A-105  |
| 2                     | 1 EA  | 2"        | XXS       | FLANGE WN 5000API RTJ, API 6A, MATERIAL TYPE 6B, TYPE 4.  |
| 3                     | 1 EA  | 1"        | 3000PSI   | EQUAL TEE SW, ASME B16.11 ASTM A-105  |
| 4                     | 4 EA  | 1"        | 3000PSI   | ELBOW 90° SW, ASME B16.11 ASTM A-105  |
| 4A                    | 1 EA  | 1"        | 3000PSI   | FULL COUPLING SW, ASME B16.11 ASTM A-105  |
| 5                     | 1 EA  | 2"x1"     | 80        | SWAGE NIPPLE, (BLEXPSE), ASTM B16.11, ASTM A.106  |
| 6                     | 20 FT | 1"        | 80        | PIPE API-5L-GR.B OR ASTM A.106 GR.B SEAMLESS  |
| INSTALLATION          |       |           |           |   |
| 7                     | 1 EA  | 1"        | ~         | BALL VALVE 600# FLANGE END RF (1"D2RF)  |
| 8                     | 1 EA  | 1"        | ~         | DOUBLE BLOCK AND BLEED 600# RF. FLANGE (MONOFLANGE TYPE)  |
| 9                     | 1 EA  | 1"        | ~         | CHECK VALVE 600# SW, SWING TYPE (1"D5Z)   |
| 10                    | 1 SET | 1"        | 1"600#RF  | INSULATION GASKET   |
| 11                    | 4 EA  | 0.175"THK | 1"600#RF  | GASKET SPIRAL WOUND W/316SS WINDING W/0.125" CENTERING CS CAD PLTD. NON ASBESTOS FILLER FLEXITE SUPER OR EQUAL PER API. 601 |
| 12                    | 1 EA  | R-24      | 2"5000API | OVAL RING, SOFT IRON CAD. PLTD MAX BHN 90 PER ASME B16.20   |
| 13                    | 20 EA | p"x3l"    | 1"600#RF  | STUD BOLTS ASTM A-193 GR B7, NUTS ASTM A-194 GR 2H CAD PLTD.  |
| 14                    | 8 EA  | 1"x5s"    | 2"5000API | STUD BOLTS ASTM A-193 GR B7, NUTS ASTM A-194 GR 2H CAD PLTD.  |
| MATERIAL PIPE SUPPORT |       |           |           |   |
| 15                    | 6 FT  | L3x3      | ~         | STEEL ANGLE ASTM A36  |
| 16                    | 3 EA  | r"Ø       | ~         | UBOLT C/W NUTS FOR 1"Ø PIPE   |



WO.2258104

|                     |             |                 |           |
|---------------------|-------------|-----------------|-----------|
| PIPING CODE         | ASME B.31.3 | INSULATION      | NIL       |
| PIPING SPEC.        | D           | X-RAY           | 100 %     |
| DESIGN PRESS. (PSI) | 2025        | MPI             | 100 %     |
| DESIGN TEMP. (°F)   | -25/200     | HYDROTEST (PSI) | 3080 Psig |
| PAINT SPECIFICATION | UOI-CS-13   | PWHT            | -         |

|   |     |      |          |  |  |             |             |
|---|-----|------|----------|--|--|-------------|-------------|
| Chevron Indonesia Company<br>BALIKPAPAN-EAST KALIMANTAN |     |      |          | TITLE<br>ATTAKA "O" PLATFORM<br>ISOMETRIC GASLIFT LINE WH#-7<br>230-D-1" |  |             |             |
| DRAWN BY  | RIS | DATE | 09/11/01 | APPROVED BY  |  | DRAWING NO. | ATT-OP-5500 |
| CHECKED BY  |     | DATE |          | APPROVED BY  |  | SHEET NO.   | 2 OF 2      |
| CAD REF. : ATT-OP-5500                                  |     |      |          | JOB NO. : 2258104  |  |             |             |

- NOTES :
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
  - WELD JOINTS WITH THICKNESS GREATER THAN 0.75" SHALL BE STRESS RELIEVED.
  - PIPE SUPPORT FIELD ADJUSTMENT.

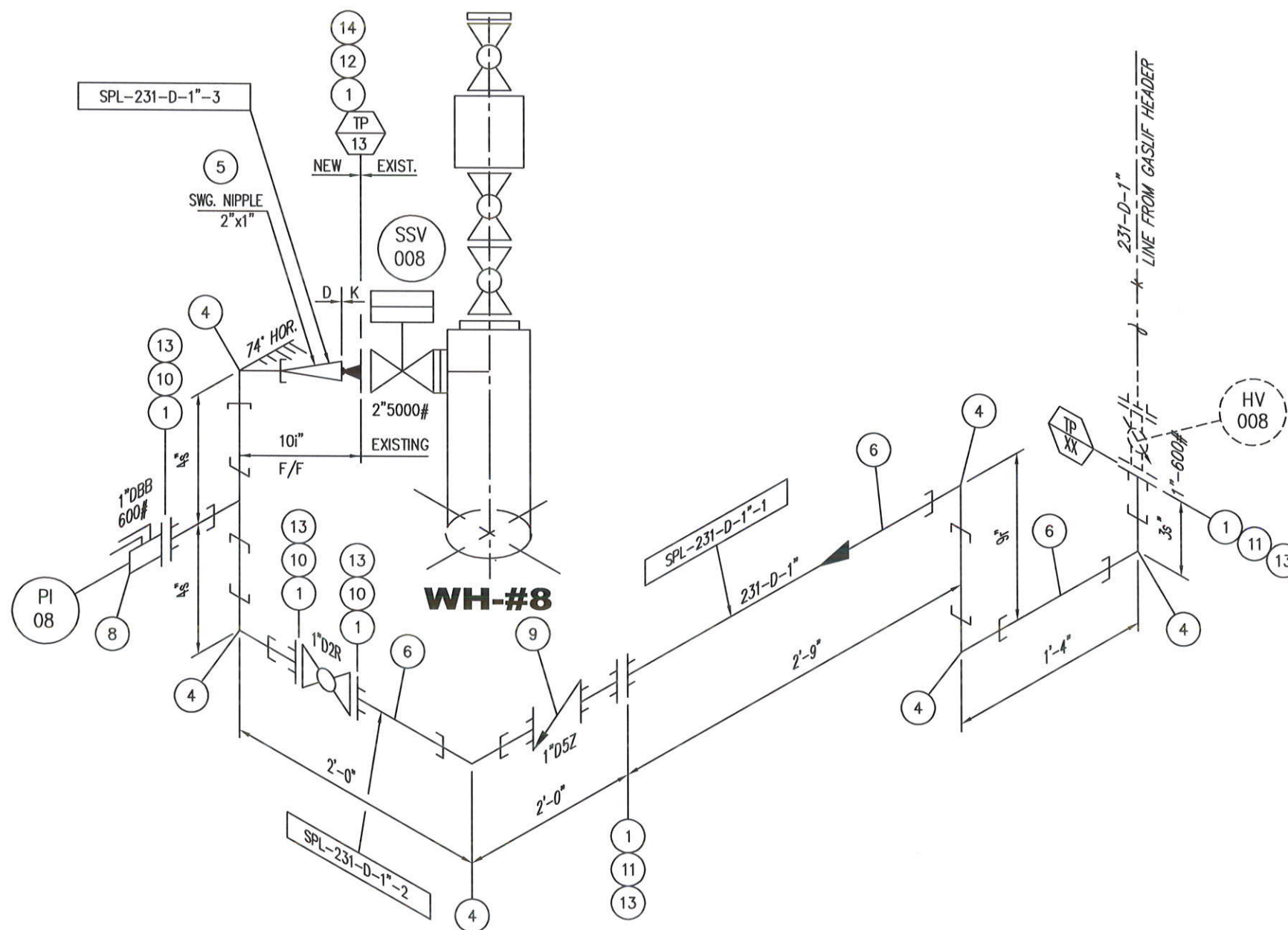
| REV | DATE     | BY  | CHKD | APPD | REVISIONS                 |
|-----|----------|-----|------|------|---------------------------|
| 0   | 21-12-11 | MGU | MOL  | RK   | APPROVED FOR CONSTRUCTION |
| C   | 30-11-11 | MGU | MOL  | RK   | ISSUED FOR APPROVAL       |
| B   | 25-11-11 | MGU | MOL  | RK   | ISSUED FOR COMMENT        |
| A   | 27-10-11 | MGU | MOL  | HL   | ISSUED FOR REVIEW         |





## MATERIAL LIST

| ITEM                  | QTY   | SIZE      | SCH       | DESCRIPTION   |
|-----------------------|-------|-----------|-----------|---|
| FABRICATION           |       |           |           |   |
| 1                     | 6 EA  | 1"        | 80        | FLANGE SW 600# RF, ASME B16.5 ASTM A-105  |
| 2                     | 1 EA  | 2"        | XXS       | FLANGE WN 5000API RTJ, API 6A, MATERIAL TYPE 6B, TYPE 4.  |
| 3                     | 1 EA  | 1"        | 3000PSI   | EQUAL TEE SW, ASME B16.11 ASTM A-105  |
| 4                     | 6 EA  | 1"        | 3000PSI   | ELBOW 90° SW, ASME B16.11 ASTM A-105  |
| 5                     | 1 EA  | 2"x1"     | 80        | SWAGE NIPPLE, (BLEXPSE), ASTM B16.11, ASTM A.106  |
| 6                     | 20 FT | 1"        | 80        | PIPE API-5L-GR.B OR ASTM A.106 GR.B SEAMLESS  |
| INSTALLATION          |       |           |           |   |
| 7                     | 1 EA  | 1"        | ~         | BALL VALVE 600# FLANGE END RF (1"D2RF)  |
| 8                     | 1 EA  | 1"        | ~         | DOUBLE BLOCK AND BLEED 600# RF. FLANGE (MONOFLANGE TYPE)  |
| 9                     | 1 EA  | 1"        | ~         | CHECK VALVE 600# SW, SWING TYPE (1"D5Z)   |
| 10                    | 1 SET | 1"        | 1"600#RF  | INSULATION GASKET   |
| 11                    | 4 EA  | 0.175"THK | 1"600#RF  | GASKET SPIRAL WOUND W/316SS WINDING W/0.125" CENTERING CS CAD PLTD. NON ASBESTOS FILLER FLEXITE SUPER OR EQUAL PER API. 601 |
| 12                    | 1 EA  | R-24      | 2"5000API | OVAL RING, SOFT IRON CAD. PLTD MAX BHN 90 PER ASME B16.20   |
| 13                    | 20 EA | p"x3i"    | 1"600#RF  | STUD BOLTS ASTM A-193 GR B7, NUTS ASTM A-194 GR 2H CAD PLTD.  |
| 14                    | 8 EA  | f"x5s"    | 2"5000API | STUD BOLTS ASTM A-193 GR B7, NUTS ASTM A-194 GR 2H CAD PLTD.  |
| MATERIAL PIPE SUPPORT |       |           |           |   |
| 15                    | 6 FT  | L3x3      | ~         | STEEL ANGLE ASTM A36  |
| 16                    | 3 EA  | r"φ       | ~         | UBOLT C/W NUTS FOR 1"φ PIPE   |



WO.2258104

|                     |             |                 |           |
|---------------------|-------------|-----------------|-----------|
| PIPING CODE         | ASME B.31.3 | INSULATION      | NIL       |
| PIPING SPEC.        | D           | X-RAY           | 100 %     |
| DESIGN PRESS. (PSI) | 2025        | MPI             | 100 %     |
| DESIGN TEMP. (°F)   | -25/200     | HYDROTEST (PSI) | 3080 Psig |
| PAINT SPECIFICATION | UOI-GS-13   | PWHT            | -         |

|   |        |      |             |  |           |     |  |
|---|--------|------|-------------|--|-----------|-----|--|
| Chevron Indonesia Company<br>BALIKPAPAN-EAST KALIMANTAN |        |      |             | TITLE<br>ATTAKA "O" PLATFORM<br>ISOMETRIC GASLIFT LINE WH#-8<br>231-D-1" |           |     |  |
| DRAWN BY  | SIGNED | DATE | APPROVED BY | DRAWING NO.  | SHEET NO. | REV |  |
| CHECKED BY  | SIGNED | DATE | APPROVED BY | ATT-OP-5500  | 2 OF 2    | 0   |  |
| CAD REF. : ATT-OP-5500                                  |        |      |             | JOB NO. : 2258104  |           |     |  |

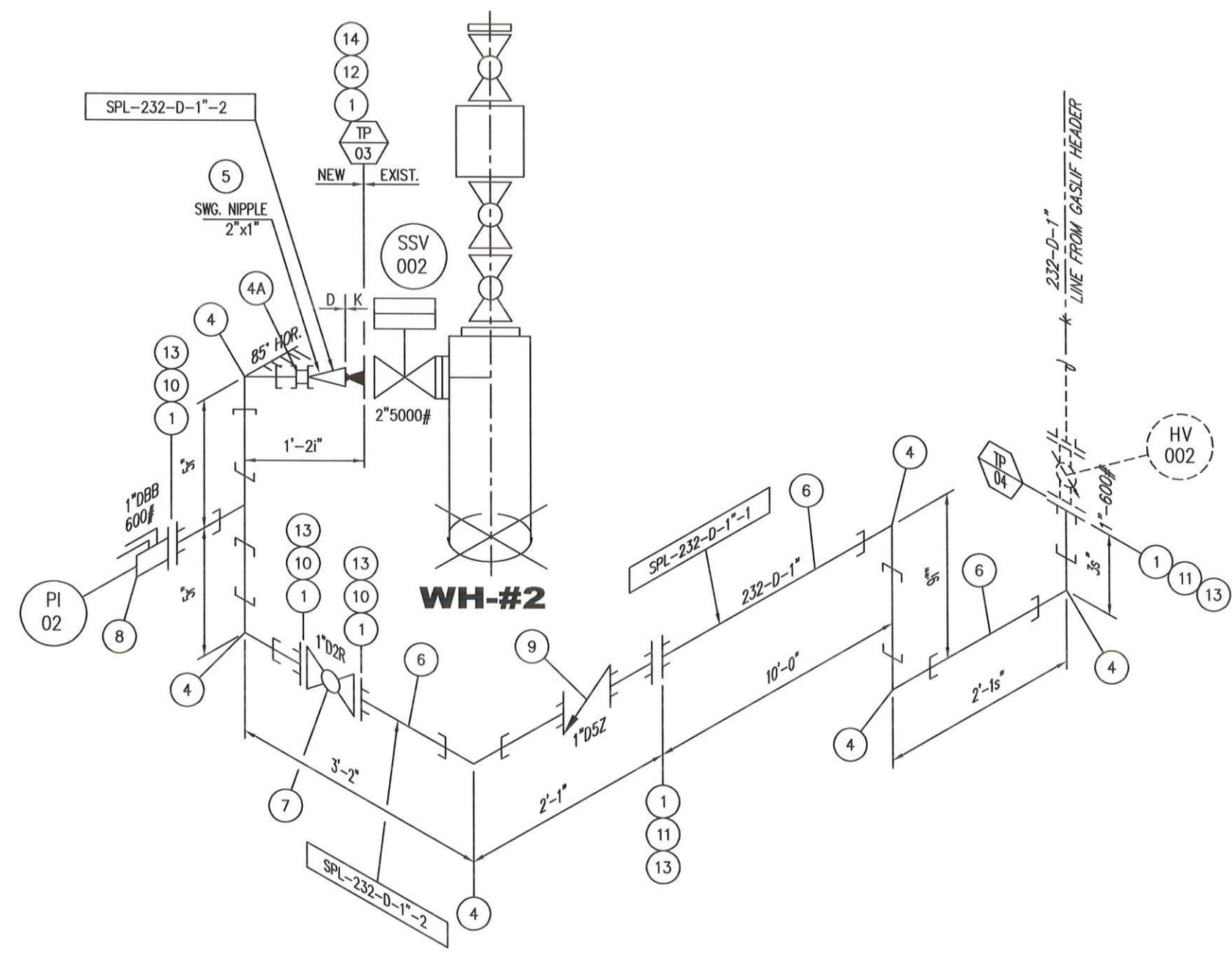
## NOTES :

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
- WELD JOINTS WITH THICKNESS GREATER THAN 0.75" SHALL BE STRESS RELIEVED.
- PIPE SUPPORT FIELD ADJUSTMENT.

## REFERENCE DRAWINGS

| REV | DATE     | BY  | CHKD | APPD | REVISIONS                 |
|-----|----------|-----|------|------|---------------------------|
| 0   | 21-12-11 | MGU | MOL  | RK   | APPROVED FOR CONSTRUCTION |
| C   | 30-11-11 | MGU | MOL  | RK   | ISSUED FOR APPROVAL       |
| B   | 25-11-11 | MGU | MOL  | RK   | ISSUED FOR COMMENT        |
| A   | 27-10-11 | MGU | MOL  | HL   | ISSUED FOR COMMENT        |





MATERIAL LIST

| ITEM                  | QTY   | SIZE      | SCH       | DESCRIPTION   |
|-----------------------|-------|-----------|-----------|---|
| FABRICATION           |       |           |           |   |
| 1                     | 6 EA  | 1"        | 80        | FLANGE SW 600# RF, ASME B16.5 ASTM A-105  |
| 2                     | 1 EA  | 2"        | XXS       | FLANGE WN 5000API RTJ, API 6A, MATERIAL TYPE 6B, TYPE 4.  |
| 3                     | 1 EA  | 1"        | 3000PSI   | EQUAL TEE SW, ASME B16.11 ASTM A-105  |
| 4                     | 6 EA  | 1"        | 3000PSI   | ELBOW 90° SW, ASME B16.11 ASTM A-105  |
| 4A                    | 1 EA  | 1"        | 3000PSI   | FULL COUPLING SW, ASME B16.11 ASTM A-105  |
| 5                     | 1 EA  | 2"x1"     | 80        | SWAGE NIPPLE, (BLEXPSE), ASTM B16.11, ASTM A.106  |
| 6                     | 20 FT | 1"        | 80        | PIPE API-5L-GR.B OR ASTM A.106 GR.B SEAMLESS  |
| INSTALLATION          |       |           |           |   |
| 7                     | 1 EA  | 1"        | ~         | BALL VALVE 600# FLANGE END RF (1"D2RF)  |
| 8                     | 1 EA  | 1"        | ~         | DOUBLE BLOCK AND BLEED 600# RF. FLANGE (MONOFLANGE TYPE)  |
| 9                     | 1 EA  | 1"        | ~         | CHECK VALVE 600# SW, SWING TYPE (1"D5Z)   |
| 10                    | 1 SET | 1"        | 1"600#RF  | INSULATION GASKET   |
| 11                    | 4 EA  | 0.175"THK | 1"600#RF  | GASKET SPIRAL WOUND W/316SS WINDING W/0.125" CENTERING CS CAD PLTD. NON ASBESTOS FILLER FLEXITE SUPER OR EQUAL PER API. 601 |
| 12                    | 1 EA  | R-24      | 2"5000API | OVAL RING, SOFT IRON CAD. PLTD MAX BHN 90 PER ASME B16.20   |
| 13                    | 20 EA | p"x3"     | 1"600#RF  | STUD BOLTS ASTM A-193 GR B7, NUTS ASTM A-194 GR 2H CAD PLTD.  |
| 14                    | 8 EA  | f"x5s"    | 2"5000API | STUD BOLTS ASTM A-193 GR B7, NUTS ASTM A-194 GR 2H CAD PLTD.  |
| MATERIAL PIPE SUPPORT |       |           |           |   |
| 15                    | 6 FT  | L3x3      | ~         | STEEL ANGLE ASTM A36  |
| 16                    | 3 EA  | r"φ       | ~         | UBOLT C/W NUTS FOR 1"φ PIPE   |

**APPROVED  
FOR CONSTRUCTION**  
RACHMAT KURNIAWAN  
BY : DATE : \_\_\_\_\_

**WO.2258104**

|                     |             |                 |           |
|---------------------|-------------|-----------------|-----------|
| PIPING CODE         | ASME B.31.3 | INSULATION      | NIL       |
| PIPING SPEC.        | D           | X-RAY           | 100 %     |
| DESIGN PRESS. (PSI) | 2025        | MPI             | 100 %     |
| DESIGN TEMP. (°F)   | -25/200     | HYDROTEST (PSI) | 3080 Psig |
| PAINT SPECIFICATION | UOI-GS-13   | PWHT            | -         |

**Chevron Indonesia Company**  
BALIKPAPAN-EAST KALIMANTAN

|            |      |             |             |  |
|------------|------|-------------|-------------|--|
| SIGNED     | DATE | SIGNED      | DATE        |  |
| DRAWN BY   | RIS  | 09/11/01    | APPROVED BY |  |
| CHECKED BY |      | APPROVED BY |             |  |

CAD REF. : ATT-OP-5500      JOB NO. : 2258104

TITLE

ATTAKA "O" PLATFORM  
ISOMETRIC GASLIFT LINE WH#-2  
232-D-1"

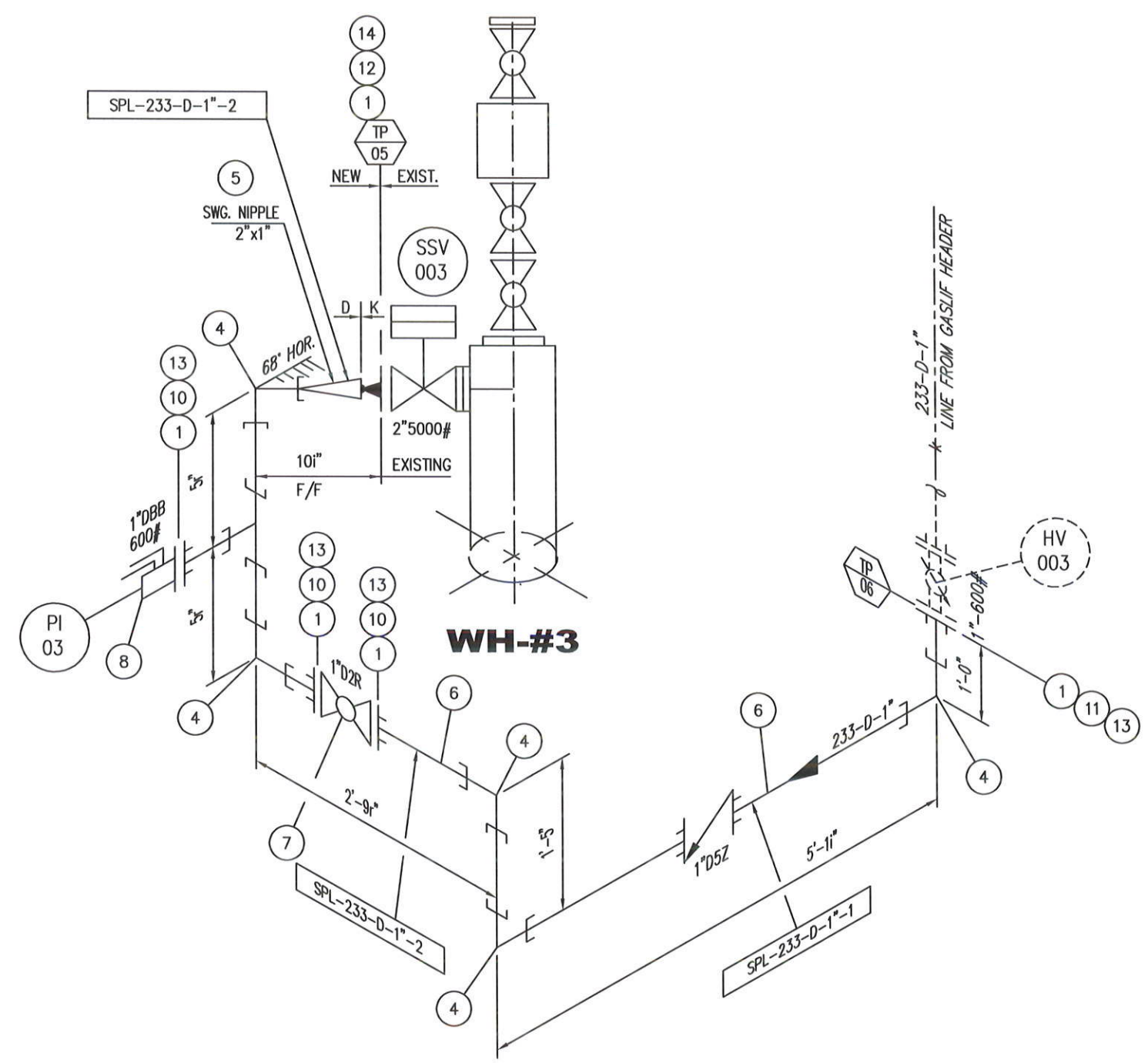
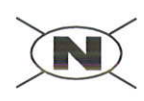
DRAWING NO.  
ATT-OP-5500

SHEET NO.  
2 OF 2

REV  
0

|  |  |   |  |   |  |
|--|--|---|--|---|--|
| NOTES :  |  | REFERENCE DRAWINGS                              |  | REVISIONS                                       |  |
| 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.               |  | ATT-OP-5500 ISOMETRIC DRAWING                   |  | O 21-12-11 MGU MOL RK APPROVED FOR CONSTRUCTION |  |
| 2. WELD JOINTS WITH THICKNESS GREATER THAN 0.75" SHALL BE STRESS RELIEVED. |  | ATT-OP-4123 P & ID WELLHEAD PRO & TEST MANIFOLD |  | C 30-11-11 MGU MOL RK ISSUED FOR APPROVAL       |  |
| 3. PIPE SUPPORT FIELD ADJUSTMENT.  |  | ATT-OP-5003 PIPING PLAN ABOVE CELLAR DECK       |  | B 25-11-11 MGU MOL RK ISSUED FOR COMMENT        |  |
|  |  | DRAWING NO.                                     |  | REV DATE BY CHKD APPD                           |  |
|  |  |   |  | A 27-10-11 MGU MOL HL ISSUED FOR REVIEW         |  |





### MATERIAL LIST

| ITEM                  | QTY   | SIZE      | SCH       | DESCRIPTION   |
|-----------------------|-------|-----------|-----------|---|
| FABRICATION           |       |           |           |   |
| 1                     | 4 EA  | 1"        | 80        | FLANGE SW 600# RF, ASME B16.5 ASTM A-105  |
| 2                     | 1 EA  | 2"        | XXS       | FLANGE WN 5000API RTJ, API 6A, MATERIAL TYPE 6B, TYPE 4.  |
| 3                     | 1 EA  | 1"        | 3000PSI   | EQUAL TEE SW, ASME B16.11 ASTM A-105  |
| 4                     | 5 EA  | 1"        | 3000PSI   | ELBOW 90° SW, ASME B16.11 ASTM A-105  |
| 5                     | 1 EA  | 2"x1"     | 80        | SWAGE NIPPLE, (BLEXPSE), ASTM B16.11, ASTM A.106  |
| 6                     | 20 FT | 1"        | 80        | PIPE API-5L-GR.B OR ASTM A.106 GR.B SEAMLESS  |
| INSTALLATION          |       |           |           |   |
| 7                     | 1 EA  | 1"        | ~         | BALL VALVE 600# FLANGE END RF (1"D2RF)  |
| 8                     | 1 EA  | 1"        | ~         | DOUBLE BLOCK AND BLEED 600# RF. FLANGE (MONOFLANGE TYPE)  |
| 9                     | 1 EA  | 1"        | ~         | CHECK VALVE 600# SW, SWING TYPE (1"D5Z)   |
| 10                    | 1 SET | 1"        | 1"600#RF  | INSULATION GASKET   |
| 11                    | 3 EA  | 0.175"THK | 1"600#RF  | GASKET SPIRAL WOUND W/316SS WINDING W/0.125" CENTERING CS CAD PLTD. NON ASBESTOS FILLER FLEXITE SUPER OR EQUAL PER API. 601 |
| 12                    | 1 EA  | R-24      | 2"5000API | OVAL RING, SOFT IRON CAD. PLTD MAX BHN 90 PER ASME B16.20   |
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| 14                    | 8 EA  | f"x5s"    | 2"5000API | STUD BOLTS ASTM A-193 GR B7, NUTS ASTM A-194 GR 2H CAD PLTD.  |
| MATERIAL PIPE SUPPORT |       |           |           |   |
| 15                    | 6 FT  | L3x3      | ~         | STEEL ANGLE ASTM A36  |
| 16                    | 3 EA  | r"φ       | ~         | UBOLT C/W NUTS FOR 1"φ PIPE   |



**WO.2258104**

|                     |             |                 |           |
|---------------------|-------------|-----------------|-----------|
| PIPING CODE         | ASME B.31.3 | INSULATION      | NIL       |
| PIPING SPEC.        | D           | X-RAY           | 100 %     |
| DESIGN PRESS. (PSI) | 2025        | MPI             | 100 %     |
| DESIGN TEMP. (°F)   | -25/200     | HYDROTEST (PSI) | 3080 Psig |
| PAINT SPECIFICATION | UOI-GS-13   | PWHT            | -         |

|   |                  |  |                     |
|---|------------------|--|---------------------|
| Chevron Indonesia Company<br>BALIKPAPAN-EAST KALIMANTAN |                  | TITLE<br>ATTAKA "O" PLATFORM<br>ISOMETRIC GASLIFT LINE WH#-3<br>233-D-1" |                     |
| DRAWN BY<br>RIS   | DATE<br>09/11/01 | APPROVED BY  | DATE                |
| CHECKED BY  |                  | APPROVED BY  |                     |
| CAD REF.: ATT-OP-5500                                   | JOB NO.: 2258104 | DRAWING NO.<br>ATT-OP-5500   | SHEET NO.<br>2 OF 2 |

|  |  |   |  |   |  |
|--|--|---|--|---|--|
| NOTES :  |  | REFERENCE DRAWINGS                              |  | REVISIONS                                       |  |
| 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.               |  | ATT-OP-5500 ISOMETRIC DRAWING                   |  | O 21-12-11 MGU MOL RK APPROVED FOR CONSTRUCTION |  |
| 2. WELD JOINTS WITH THICKNESS GREATER THAN 0.75" SHALL BE STRESS RELIEVED. |  | ATT-OP-4123 P & ID WELLHEAD PRO & TEST MANIFOLD |  | C 30-11-11 MGU MOL RK ISSUED FOR APPROVAL       |  |
| 3. PIPE SUPPORT FIELD ADJUSTMENT.  |  | ATT-OP-5003 PIPING PLAN ABOVE CELLAR DECK       |  | B 25-11-11 MGU MOL RK ISSUED FOR COMMENT        |  |
|  |  | DRAWING NO.                                     |  | REV DATE BY CHKD APPD                           |  |
|  |  |   |  | A 27-10-11 MGU MOL HL ISSUED FOR REVIEW         |  |