



## A15 & B10 DEVELOPMENT

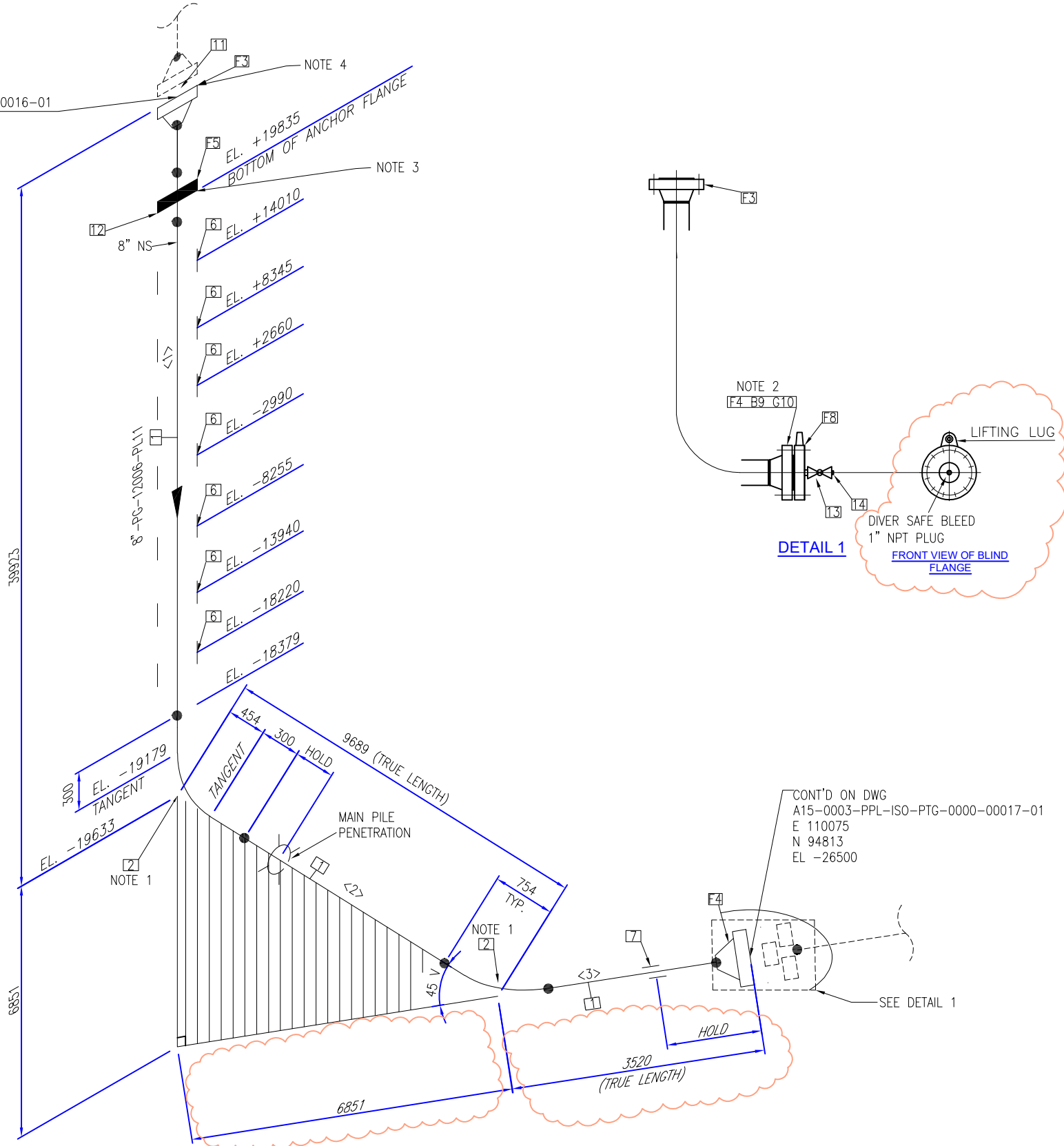
FEED STUDY STAGE 2+

|                                                                                                                                                                                                                                                                                                                                             |                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| <b>Petrogas Doc. Number: A15-0003-PPL-ISO-PTG-0000-00016-02</b>                                                                                                                                                                                                                                                                             | <b>Rev: H02</b><br><br><b>Date: 13-12-2021</b> |
| <p><b>Doc. Title: RISER ISOMETRIC: 8"-PG-12006-PL11: A15 PLATFORM</b></p> <p><b>Asset: A15</b></p> <p><b>Tag Number / Equipment Details: -8"-PG-12006-PL11</b></p> <p><b>Issue Purpose: FOR REVIEW</b></p> <p><b>Petrogas PO/Contract Number : 4100002758</b></p> <p><b>Other Reference: -</b></p> <p><b>Originator: PTG - Petrogas</b></p> |                                                |

| Approval Status: |                                     |                                                         | Signature/ Date:     |
|------------------|-------------------------------------|---------------------------------------------------------|----------------------|
| 1                | REVIEWED NO COMMENTS                | NO COMMENTS                                             | WORK MAY PROCEED     |
| 2                | REVIEWED WITH COMMENTS              | FULLY INCORPORATE ALL COMMENTS AND RE-SUBMIT FOR REVIEW | WORK MAY PROCEED     |
| 3                | REVISE AND RESUBMIT                 | FULLY INCORPORATE ALL COMMENTS AND RE-SUBMIT FOR REVIEW | WORK MAY NOT PROCEED |
| 4                | NOT REVIEWED (FOR INFORMATION ONLY) | FOR INFORMATION ONLY                                    | WORK MAY PROCEED     |



CONT'D ON DWG  
A15-0003-PPL-ISO-PTG-0000-00016-01  
E 101100  
N 100000  
EL +20290



- NOTES:
- 300MM STRAIGHT LENGTH INCLUDED AT TANGENT LINE.
  - ISOMETRIC SHALL BE MADE FINAL DURING DETAIL DESIGN DESIGN.
  - ISOLATING GASKET SET UNDER ANCHOR FLANGE: KIT PIKOTEK VCFS
  - ISOLATING GASKET SET BETWEEN RISER AND TOPSIDE PIPING: KIT PIKOTEK VCFS, 900 LB, RTJ

**REFERENCES:**

- A15-0000-STR-DTL-PTG-0000-10007-01
- AB2-0003-PPL-DTL-PTG-0000-00092-01
- A15-0003-PPL-BOM-PTG-0000-00019-00

A15 Platform Substructure Riser & J-Tube  
A15 Platform Substructure Riser Anchor Flange  
Pipeline Material Take-off (MTO)

- NDT REQUIREMENTS ARE AS PER PETROGAS SPEC PL11 AND / OR AS PER NEN-3656 PIPELINE DESIGN CODE.

- ALL TESTING AND INSPECTIONS IN ACCORDANCE WITH THE INSPECTION AND TEST PLAN (ITP)

|                       |          |      |                 |                                    |
|-----------------------|----------|------|-----------------|------------------------------------|
| Design Temperature    | -20 / 50 | °C   | Test Medium     | WATER                              |
| Operating Temperature | 3-25     | °C   | Insulation Spec | N.A.                               |
| Design Pressure       | 135      | barg | Tracing         | N.A.                               |
| Operating Pressure    | 5-26     | barg | P&ID Number     | A15-0000-PRO-PID-PTG-0000-00059-01 |
| Test Pressure         | 202.5    | barg | Pipe Spec       | PL11                               |

| BILL OF MATERIALS                                                                                                                                                                                                                  |            |                             |                                                                                        |                               |               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------------|----------------------------------------------------------------------------------------|-------------------------------|---------------|
| ID                                                                                                                                                                                                                                 | QTY        | ND                          | DESCRIPTION                                                                            | MATERIAL                      |               |
| PIPE                                                                                                                                                                                                                               |            |                             |                                                                                        |                               |               |
| 1                                                                                                                                                                                                                                  | 50M        | 8"                          | LINEPIPE, HFIW, WT = 12.7 MM, 12 MM NEOPRENE                                           | ISO 3183 L415NE, PSL2         |               |
| FITTINGS                                                                                                                                                                                                                           |            |                             |                                                                                        |                               |               |
| 2                                                                                                                                                                                                                                  | 2          | 8"                          | BEND, 45 DEG, R=1096MM (5D), HFIW, INDUCTION, WT=12.7MM, 6 MM NEOPRENE                 | ISO 3183 L415NE, PSL2         |               |
| FLANGES                                                                                                                                                                                                                            |            |                             |                                                                                        |                               |               |
| 3                                                                                                                                                                                                                                  | 1          | 8"                          | FLANGE WN, 900 LB, RTJ, WT=12.7 MM                                                     | ASTM A694-F60, PSL2           |               |
| 4                                                                                                                                                                                                                                  | 1          | 8"                          | FLANGE WN, 1500 LB, RTJ, WT=12.7 MM                                                    | ASTM A694-F60, PSL2           |               |
| 5                                                                                                                                                                                                                                  | 1          | 8"                          | RISER ANCHOR FLANGE, SEE DRAWING: AB2-0003-PPL-DTL-PTG-0000-00092-01                   | ASTM A694-F60, PSL2           |               |
| PIPE SUPPORTS                                                                                                                                                                                                                      |            |                             |                                                                                        |                               |               |
| 6                                                                                                                                                                                                                                  | 7          | 8"                          | RISER GUIDE INSIDE COLUMN                                                              |                               |               |
| 7                                                                                                                                                                                                                                  | 1          | 8"                          | RISER GUIDE AT MUDLINE                                                                 |                               |               |
| TESTING MATERIALS                                                                                                                                                                                                                  |            |                             |                                                                                        |                               |               |
| FLANGES                                                                                                                                                                                                                            |            |                             |                                                                                        |                               |               |
| 8                                                                                                                                                                                                                                  | 1          | 8"                          | FLANGE BLIND, INCL. LIFTING LUG. 1500 LB, RTJ.                                         | ASTM A694-F60, PSL2           |               |
| FASTENERS                                                                                                                                                                                                                          |            |                             |                                                                                        |                               |               |
| 9                                                                                                                                                                                                                                  | 12         | 1 5/8"x625                  | ALLOY STEEL STUDBOLTS C/W HEX. NUTS (INCL TOMMY BAR HOLES) XYLAN, COATED OR EQUIVALENT | ASTM A193 B7 / ASTM A194 GR2H |               |
| 10                                                                                                                                                                                                                                 | 1          | 8"                          | KAMOS GASKET, OCTAGONAL RING, 1500 LB, R50                                             | SOFT IRON                     |               |
| 11                                                                                                                                                                                                                                 | 1          | 8"                          | ISOLATING SET GASKET / KIT, PIKOTEK VCFS,900 LB, RTJ                                   | -                             |               |
| 12                                                                                                                                                                                                                                 | 1          | 8"                          | ISOLATING SET GASKET / KIT, PIKOTEK VCFS                                               | -                             |               |
| VALVES AND PLUGS                                                                                                                                                                                                                   |            |                             |                                                                                        |                               |               |
| 13                                                                                                                                                                                                                                 | 1          | 1"                          | BLOCK VALVE, 1500 LB, NPT, 1/4 TURN                                                    | SS                            |               |
| 14                                                                                                                                                                                                                                 | 1          | 1                           | DIVER SAFE BLEED, PLUG, NPT                                                            | SS                            |               |
| CUT PIECE LIST                                                                                                                                                                                                                     |            |                             |                                                                                        |                               |               |
| ID                                                                                                                                                                                                                                 | LENGTH     |                             | ND                                                                                     | END1                          | END2          |
| 1                                                                                                                                                                                                                                  | 38999MM    |                             | 8"                                                                                     | BEVEL                         | BEVEL         |
| 2                                                                                                                                                                                                                                  | 8181MM     |                             | 8"                                                                                     | BEVEL                         | BEVEL         |
| 3                                                                                                                                                                                                                                  | 2596MM     |                             | 8"                                                                                     | BEVEL                         | BEVEL         |
|                                                                                                                                                                                                                                    |            |                             |                                                                                        |                               |               |
|                                                                                                                                                                                                                                    |            |                             |                                                                                        |                               |               |
| H02                                                                                                                                                                                                                                | 13/12/2021 | CLIENT COMMENTS INCOPERATED |                                                                                        |                               |               |
| H01                                                                                                                                                                                                                                | 10/11/2021 | APPROVED FOR DESIGN ( FEED) |                                                                                        |                               |               |
| E01                                                                                                                                                                                                                                | 15/10/2021 | FOR COMMENTS (FEED)         |                                                                                        |                               |               |
| Rev                                                                                                                                                                                                                                | Date       | Description                 | Drawn                                                                                  | Eng.                          | Check         |
|                                                                                                                                                                                                                                    |            |                             |                                                                                        | Appr.                         | Client        |
| <div><div>enersea®</div><div>Jan Evertsenweg 12<br/>3115 JA Schiedam<br/>The Netherlands<br/>+31(0) 103132100<br/>info@enersea.nl</div></div> |            |                             | CLIENT: PETROGAS E&P NL BV                                                             |                               |               |
|                                                                                                                                                                                                                                    |            |                             | PROJECT: Stage 2+ Project - A15 & B10 Development                                      |                               |               |
|                                                                                                                                                                                                                                    |            |                             | TITLE: Phase 3 - Pipeline<br>A15 - PL11 - PIPELINE ISOMETRIC                           |                               |               |
|                                                                                                                                                                                                                                    |            |                             | LINE NO: 8"-PG-12006-PL11 (A15 RISER)                                                  |                               |               |
|                                                                                                                                                                                                                                    |            |                             | DRAWING NUMBER: A15-0003-PPL-ISO-PTG-0000-00016-02                                     |                               |               |
| JOB NUMBER: 19025                                                                                                                                                                                                                  |            | AREA:                       | UNIT:                                                                                  | SCALE: N.T.S.                 | SHEET: 2 OF 2 |
|                                                                                                                                                                                                                                    |            |                             |                                                                                        |                               | REV: H02      |