

|                                                                                                  |                                                                                                                                                                                               |               |                |            |               |                    |                  |                                                                                                                                                                                                                                                                  |                    |
|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------|------------|---------------|--------------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| <br><b>NISOC</b> | نگهداشت و افزایش تولید میدان نفتی بینک<br>بسته‌های کاری تحت‌الارض<br>احداث خطوط انتقال گاز/مایعات گازی از ایستگاه تقویت فشار گاز بینک تا<br>ایستگاه تزریق گاز سیاه‌مکان/واحد بهره برداری بینک |               |                |            |               |                    |                  | <br><br> |                    |
|                                                                                                  | DATA SHEETS FOR CORROSION COUPON/ PROBE                                                                                                                                                       |               |                |            |               |                    |                  |                                                                                                                                                                                                                                                                  |                    |
| شماره پیمان:<br>053 - 073 - 9184                                                                 | نسخه<br>D03                                                                                                                                                                                   | سریال<br>0009 | نوع مدرک<br>DT | رشته<br>IN | تهیلات<br>320 | صادرکننده<br>PEDCO | بسته کاری<br>PPL | پروژه<br>BK                                                                                                                                                                                                                                                      | شماره صفحه: 1 از 5 |

## طرح نگهداشت و افزایش تولید 27 مخزن

### DATA SHEETS FOR CORROSION COUPON/ PROBE

#### نگهداشت و افزایش تولید میدان نفتی بینک

|      |          |                           |               |             |                |                 |
|------|----------|---------------------------|---------------|-------------|----------------|-----------------|
|      |          |                           |               |             |                |                 |
|      |          |                           |               |             |                |                 |
| D03  | FEB.2025 | AFC                       | P.Hajisadeghi | M.Fakharian | S.Faramarzpour |                 |
| D02  | JUN.2023 | AFC                       | P.Hajisadeghi | M.Fakharian | A.M.Mohseni    |                 |
| D01  | APR.2022 | IFA                       | P.Hajisadeghi | M.Fakharian | M.Mehrshad     |                 |
| D00  | JAN.2022 | IFC                       | P.Hajisadeghi | M.Fakharian | M.Mehrshad     |                 |
| Rev. | Date     | Purpose of Issue / Status | Prepared by:  | Checked by: | Approved by:   | CLIENT Approval |

Class: 1

CLIENT Doc. Number: F9Z-708586

status:

IDC: Inter-Discipline Check

IFC: Issued For Comment

IFA: Issued For Approval

AFD: Approved For Design

AFC: Approved For Construction

AFP: Approved For Purchase

AFQ: Approved For Quotation

IFI: Issued For Information

AB-R: As-Built for CLIENT Review

AB-A: As-Built -Approved



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نگهداشت و افزایش تولید میدان نفتی بینک  
بسته‌های کاری تحت‌الارض

احداث خطوط انتقال گاز/مایعات گازی از ایستگاه تقویت فشار گاز بینک تا  
ایستگاه تزریق گاز سیاه‌مکان/واحد بهره برداری بینک



DATA SHEETS FOR CORROSION COUPON/ PROBE

|                  |       |           |            |         |      |          |       |      |                    |
|------------------|-------|-----------|------------|---------|------|----------|-------|------|--------------------|
| شماره پیمان:     | پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | شماره صفحه: 2 از 5 |
| 053 - 073 - 9184 | BK    | PPL       | PEDCO      | 320     | IN   | DT       | 0009  | D03  |                    |

## REVISION RECORD SHEET

| Page | D00 | D01 | D02 | D03 | D04 | Page | D00 | D01 | D02 | D03 | D04 |
|------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|
| 1    | X   | X   | X   | X   |     | 65   |     |     |     |     |     |
| 2    | X   | X   | X   | X   |     | 66   |     |     |     |     |     |
| 3    | X   | X   |     | X   |     | 67   |     |     |     |     |     |
| 4    | X   | X   |     |     |     | 68   |     |     |     |     |     |
| 5    | X   | X   | X   | X   |     | 69   |     |     |     |     |     |
| 6    | X   | X   | X   |     |     | 70   |     |     |     |     |     |
| 7    |     |     |     |     |     | 71   |     |     |     |     |     |
| 8    |     |     |     |     |     | 72   |     |     |     |     |     |
| 9    |     |     |     |     |     | 73   |     |     |     |     |     |
| 10   |     |     |     |     |     | 74   |     |     |     |     |     |
| 11   |     |     |     |     |     | 75   |     |     |     |     |     |
| 12   |     |     |     |     |     | 76   |     |     |     |     |     |
| 13   |     |     |     |     |     | 77   |     |     |     |     |     |
| 14   |     |     |     |     |     | 78   |     |     |     |     |     |
| 15   |     |     |     |     |     | 79   |     |     |     |     |     |
| 16   |     |     |     |     |     | 80   |     |     |     |     |     |
| 17   |     |     |     |     |     | 81   |     |     |     |     |     |
| 18   |     |     |     |     |     | 82   |     |     |     |     |     |
| 19   |     |     |     |     |     | 83   |     |     |     |     |     |
| 20   |     |     |     |     |     | 84   |     |     |     |     |     |
| 21   |     |     |     |     |     | 85   |     |     |     |     |     |
| 22   |     |     |     |     |     | 86   |     |     |     |     |     |
| 23   |     |     |     |     |     | 87   |     |     |     |     |     |
| 24   |     |     |     |     |     | 88   |     |     |     |     |     |
| 25   |     |     |     |     |     | 89   |     |     |     |     |     |
| 26   |     |     |     |     |     | 90   |     |     |     |     |     |
| 27   |     |     |     |     |     | 91   |     |     |     |     |     |
| 28   |     |     |     |     |     | 92   |     |     |     |     |     |
| 29   |     |     |     |     |     | 93   |     |     |     |     |     |
| 30   |     |     |     |     |     | 94   |     |     |     |     |     |
| 31   |     |     |     |     |     | 95   |     |     |     |     |     |
| 32   |     |     |     |     |     | 96   |     |     |     |     |     |
| 33   |     |     |     |     |     | 97   |     |     |     |     |     |
| 34   |     |     |     |     |     | 98   |     |     |     |     |     |
| 35   |     |     |     |     |     | 99   |     |     |     |     |     |
| 36   |     |     |     |     |     | 100  |     |     |     |     |     |
| 37   |     |     |     |     |     | 101  |     |     |     |     |     |
| 38   |     |     |     |     |     | 102  |     |     |     |     |     |
| 39   |     |     |     |     |     | 103  |     |     |     |     |     |
| 40   |     |     |     |     |     | 104  |     |     |     |     |     |
| 41   |     |     |     |     |     | 105  |     |     |     |     |     |
| 42   |     |     |     |     |     | 106  |     |     |     |     |     |
| 43   |     |     |     |     |     | 107  |     |     |     |     |     |
| 44   |     |     |     |     |     | 108  |     |     |     |     |     |
| 45   |     |     |     |     |     | 109  |     |     |     |     |     |
| 46   |     |     |     |     |     | 110  |     |     |     |     |     |
| 47   |     |     |     |     |     | 111  |     |     |     |     |     |
| 48   |     |     |     |     |     | 112  |     |     |     |     |     |
| 49   |     |     |     |     |     | 113  |     |     |     |     |     |
| 50   |     |     |     |     |     | 114  |     |     |     |     |     |
| 51   |     |     |     |     |     | 115  |     |     |     |     |     |
| 52   |     |     |     |     |     | 116  |     |     |     |     |     |
| 53   |     |     |     |     |     | 117  |     |     |     |     |     |
| 54   |     |     |     |     |     | 118  |     |     |     |     |     |
| 55   |     |     |     |     |     | 119  |     |     |     |     |     |
| 56   |     |     |     |     |     | 120  |     |     |     |     |     |
| 57   |     |     |     |     |     | 121  |     |     |     |     |     |
| 58   |     |     |     |     |     | 122  |     |     |     |     |     |
| 59   |     |     |     |     |     | 123  |     |     |     |     |     |
| 60   |     |     |     |     |     | 124  |     |     |     |     |     |
| 61   |     |     |     |     |     | 125  |     |     |     |     |     |
| 62   |     |     |     |     |     | 126  |     |     |     |     |     |
| 63   |     |     |     |     |     | 127  |     |     |     |     |     |
| 64   |     |     |     |     |     | 128  |     |     |     |     |     |



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بسته‌های کاری تحت‌الارض

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DATA SHEETS FOR CORROSION COUPON/ PROBE

شماره پیمان:

053 - 073 - 9184

پروژه

بسته کاری

صادر کننده

تسهیلات

رشته

نوع مدرک

سریال

نسخه

BK

PPL

PEDCO

320

IN

DT

0009

D03

شماره صفحه: 3 از 5

#### REFERENCE DOCUMENTS :

D03

- |                                                    |                                   |
|----------------------------------------------------|-----------------------------------|
| 1) Instrument & Control System Design Criteria     | BK-PPL-PEDCO-320-IN-DC-0001_D02   |
| 2) P&ID - Gas Pipeline (to Siahmakan G.I. Station) | BK-PPL-PEDCO-320-PR-PI-0001_D05   |
| 3) P&ID - Condensate Pipeline (to Binak PU)        | BK-PPL-PEDCO-320-PR-PI-0002_D05   |
| 4) Piping Material Specification                   | BK-PPL-PEDCO-320-PI-SP-0001_D03   |
| 5) Pipeline Material Specification                 | BK-PPL-PEDCO-320-PL-SP-0001-D05   |
| 6) Specification For Instrumentation               | BK-GNRAL-PEDCO-000-IN-SP-0001_D03 |
| 7) Instrument Hook-Up Diagram                      | BK-PPL-PEDCO-320-IN-DG-0002_D01   |

#### FLUID COMPOSITION :

|                                   | SUMMER    | WINTER   |
|-----------------------------------|-----------|----------|
| Master Comp Mole Frac (H2S)       | 0.0539731 | 0.046603 |
| Master Comp Mole Frac (Nitrogen)  | 0.0030171 | 0.003115 |
| Master Comp Mole Frac (CO2)       | 0.0318983 | 0.025261 |
| Master Comp Mole Frac (Methane)   | 0.6460603 | 0.742925 |
| Master Comp Mole Frac (Ethane)    | 0.1390393 | 0.114718 |
| Master Comp Mole Frac (Propane)   | 0.0781347 | 0.047542 |
| Master Comp Mole Frac (i-Butane)  | 0.0084541 | 0.003941 |
| Master Comp Mole Frac (n-Butane)  | 0.0187871 | 0.008157 |
| Master Comp Mole Frac (i-Pentane) | 0.0069993 | 0.003056 |
| Master Comp Mole Frac (n-Pentane) | 0.0038095 | 0.001453 |
| Master Comp Mole Frac (n-Hexane)  | 0.0066232 | 0.002234 |
| Master Comp Mole Frac (n-Heptane) | 0.0019785 | 0.000545 |
| Master Comp Mole Frac (n-Octane)  | 0.0006027 | 0.000150 |
| Master Comp Mole Frac (n-Nonane)  | 0.0003003 | 0.000071 |
| Master Comp Mole Frac (n-Decane)  | 0.0001001 | 0.000000 |
| Master Comp Mole Frac (n-C11)     | 0.0000000 | 0.000000 |
| Master Comp Mole Frac (H2O)       | 0.0002224 | 0.000230 |
| Master Comp Mole Frac (TEGlycol)  | 0.0000000 | 0.000000 |



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ایستگاه تزریق گاز سیاه‌مکان/واحد بهره برداری بینک



DATA SHEETS FOR CORROSION COUPON/ PROBE

شماره پیمان:

053 - 073 - 9184

پروژه

BK

بسته کاری

PPL

صادرکننده

PEDCO

تسهیلات

320

رشته

IN

نوع مدرک

DT

سریال

0009

نسخه

D03

شماره صفحه: 4 از 5

## GENERAL NOTE

- Licensed software for probes and training Courses for End User engineering department shall be considered by vendor.
- One set of retriever tool kit and service valve and also other part necessary for mounting of all corrosion coupon and probes shall be provided by vendor. This set of retriever and service valve is common to all CC's fittings. Also any calibration set or special tools for test and installation shall be provided by vendor, as minimum on set portable corrosion meter for local monitoring of probes to be considered.
- According to "Process Basic of Design" Document, Environmental Condition For Field Instrumentation of BINAK Complex Shall Be Considered As Per The Following:
  - Maximum ambient temperature: 50 (°C)
  - Minimum ambient temperature: 5 (°C)
  - Maximum steel surface exposed to sun: 85 (°C)
  - Maximum summer dry bulb: 50 (°C)
  - Maximum Design relative humidity (%): 100
  - Minimum Design relative humidity (%): 0
  - Maximum Design relative humidity (%): 100
  - Minimum Design relative humidity (%): 0
- Training Courses for Installation, Calibration, ... of corrosion transmitters shall be considered by vendor.
- Considering the fluid corrosibility, the Element material shall be in accordance with pipe material.
- All recommendations of IPS-I-TP-802 and NACE RP0775 for corrosion monitoring devices and accessories installation shall be followed by vendor.
- Service valve & retriever system to be have below specification:
  - Suitable connection for 2" Access fitting
  - Isolating Valve
  - Drain Plug
  - Pressure Gauge
  - Retriever/Service Valve Seal Kit
  - Retriever/Service valve Repair Kit
  - Diverter Hose Assembly, Retainer Clamp, Safety Hammer, Head Bar, Back Pressure Pump
  - To be suitable for 40 barg design pressure B38 (suitable for high pressure) and 85° C design temperature.
- Mounting Position for Gas services should be at 12 O'clock Position for easy maintenance.
- Wetted part material shall be according to NACE MR 01-175 where required as per piping material standard.
- Regarding protection of pipeline transportation system, ISO 15589 standards to be followed.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                          |                                                                                                                                                                                               |           |           |         |                                                      |          |                                                                                    |      |                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|---------|------------------------------------------------------|----------|------------------------------------------------------------------------------------|------|--------------------|
| <br><b>NISOC</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                          | نگهداشت و افزایش تولید میدان نفتی بینک<br>بسته‌های کاری تحت‌الارض<br>احداث خطوط انتقال گاز/لایعات گازی از ایستگاه تقویت فشار گاز بینک تا ایستگاه تزریقی گاز<br>سیاهمکان/واحد بهره برداری بینک |           |           |         |                                                      |          |  |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                          | DATA SHEETS FOR CORROSION COUPON/ PROBE                                                                                                                                                       |           |           |         |                                                      |          |                                                                                    |      |                    |
| شماره پیمان:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                          | پروژه                                                                                                                                                                                         | بسته کاری | صادرکننده | تجهیزات | رشته                                                 | نوع مدرک | سریال                                                                              | نسخه | شماره صفحه: 5 از 5 |
| 053 - 073 - 9184                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                          | BK                                                                                                                                                                                            | PPL       | PEDCO     | 320     | IN                                                   | DT       | 0009                                                                               | D03  |                    |
| GENERAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1                        | TAG NO                                                                                                                                                                                        |           |           |         | CC-3202                                              |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2                        | P&ID NO.                                                                                                                                                                                      |           |           |         | BK-PPL-PEDCO-320-PR-PI-0001 (3/3)                    |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3                        | SERVICE                                                                                                                                                                                       |           |           |         | BEFOR PIG LAUNCHER ON DRAIN LINE                     |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4                        | LINE NO.                                                                                                                                                                                      |           |           |         | GAS-113-0022-FN05-2"-PT                              |          | D03                                                                                |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 5                        | LINE SIZE / SCHEDULE                                                                                                                                                                          |           |           |         | 2" . SCH.160 (Note 4)                                |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 6                        | LINE/EQUIPMENT MATERIAL                                                                                                                                                                       |           |           |         | ASTM A106 Gr.B (Note 4)                              |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 7                        | PIPING CLASS                                                                                                                                                                                  |           |           |         | FN05 (Note 4)                                        |          | D03                                                                                |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 8                        | AREA CLASSIFICATION                                                                                                                                                                           |           |           |         | Zone 2,IIB T4                                        |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 9                        | NACE COMPLIANCE (as per NACE MR0175/ISO 15156)                                                                                                                                                |           |           |         | Required                                             |          |                                                                                    |      |                    |
| PROCESS DATA (NOTE 1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 10                       | FLUID                                                                                                                                                                                         |           |           |         | HC                                                   |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 11                       | PHASE                                                                                                                                                                                         |           |           |         | GAS                                                  |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 12                       | DESIGN PRESSURE (barg)                                                                                                                                                                        |           |           |         | 62                                                   |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 13                       | OPERATING PRESSURE (barg)                                                                                                                                                                     |           |           |         | 40                                                   |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 14                       | DESIGN TEMPERATURE (°C)                                                                                                                                                                       |           |           |         | 85                                                   |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 15                       | MIN DESIGN METAL TEMPERATURE (°C)                                                                                                                                                             |           |           |         | 5                                                    |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 16                       | OPERATING TEMPERATURE (°C)                                                                                                                                                                    |           |           |         | 15-31.3                                              |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 17                       | MAX FLOW (Kg/hr)                                                                                                                                                                              |           |           |         | 18887.891                                            |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 18                       | NORMAL FLOW (Kg/hr)                                                                                                                                                                           |           |           |         | 17170.81                                             |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 19                       | MEAN VELOCITY (m/s)                                                                                                                                                                           |           |           |         | 3.2-3.94                                             |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 20                       | VISCOSITY (cP)                                                                                                                                                                                |           |           |         | 0.01                                                 |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 21                       | DENSITY (kg/m3)                                                                                                                                                                               |           |           |         | 49.09                                                |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 22                       | PIPING CORROSION ALLOWANCE (mm)                                                                                                                                                               |           |           |         | 6                                                    |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 23                       | WATER CUT                                                                                                                                                                                     |           |           |         | -                                                    |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 24                       | RATE OF CO2 CONTENT                                                                                                                                                                           |           |           |         | 0.0319 mole fraction in gas phase                    |          |                                                                                    |      |                    |
| 25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | RATE OF CHLORIDE CONTENT |                                                                                                                                                                                               |           |           | -       |                                                      |          |                                                                                    |      |                    |
| PROBE & TRANSMITTER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 26                       |                                                                                                                                                                                               |           |           |         |                                                      |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 27                       | PROBE TYPE                                                                                                                                                                                    |           |           |         | N/A                                                  |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 28                       | PROBE INSERTION LENGTH                                                                                                                                                                        |           |           |         | N/A                                                  |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 29                       | PROBE HOLDER                                                                                                                                                                                  |           |           |         | N/A                                                  |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 30                       | MATERIAL                                                                                                                                                                                      |           |           |         | N/A                                                  |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 31                       | MOUNTING POSITION                                                                                                                                                                             |           |           |         | N/A                                                  |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 32                       | ENCLOSURE MATERIAL                                                                                                                                                                            |           |           |         | N/A                                                  |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 33                       | MEASURING RANGE                                                                                                                                                                               |           |           |         | N/A                                                  |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 34                       | OUTPUT SIGNAL                                                                                                                                                                                 |           |           |         | N/A                                                  |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 35                       | COMMUNICATION PROTOCOL                                                                                                                                                                        |           |           |         | N/A                                                  |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 36                       | POWER SUPPLY                                                                                                                                                                                  |           |           |         | N/A                                                  |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 37                       | ACCURACY                                                                                                                                                                                      |           |           |         | N/A                                                  |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 38                       | INTEGRAL INDICATOR                                                                                                                                                                            |           |           |         | N/A                                                  |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 39                       | Ex PROTECTION                                                                                                                                                                                 |           |           |         | N/A                                                  |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 40                       | INGRESS PROTECTION                                                                                                                                                                            |           |           |         | N/A                                                  |          |                                                                                    |      |                    |
| COUPON                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 41                       | CABLE ENTRY                                                                                                                                                                                   |           |           |         | N/A                                                  |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 42                       |                                                                                                                                                                                               |           |           |         |                                                      |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 43                       | COUPON TYPE                                                                                                                                                                                   |           |           |         | Strip (VTC)                                          |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 44                       | COUPON MATERIAL                                                                                                                                                                               |           |           |         | ASTM A106 Gr.B (Note 4)                              |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 45                       | COUPON HOLDER (Note 6)                                                                                                                                                                        |           |           |         | Yes                                                  |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 46                       | HOLDER MATERIAL                                                                                                                                                                               |           |           |         | SS 316L, NACE MR01-75 (Note 9 in General Note) (VTC) |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 47                       | HOLDER LENGTH                                                                                                                                                                                 |           |           |         | VTA                                                  |          |                                                                                    |      |                    |
| ACCESS FITTING (Note 5)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 48                       | COUPON INSERTION LENGTH                                                                                                                                                                       |           |           |         | VTA                                                  |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 49                       | STYLE                                                                                                                                                                                         |           |           |         | Retrievable (VTC)                                    |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 50                       | PROCESS CONNECTION                                                                                                                                                                            |           |           |         | 2", Flare Weld Type                                  |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 51                       | MOUNTING POSITION                                                                                                                                                                             |           |           |         | Vertical (Top), 12 O'clock (Note 8 in General Note)  |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 52                       | BRANCH STANDOUT LENGTH                                                                                                                                                                        |           |           |         | (Note 2)                                             |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 53                       | FITTING PLUG                                                                                                                                                                                  |           |           |         | Solid Plug                                           |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 54                       | MATERIAL                                                                                                                                                                                      |           |           |         | ASTM A 234 WPB (Note 4)                              |          |                                                                                    |      |                    |
| OTHER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 55                       | PROTECTIVE COVER                                                                                                                                                                              |           |           |         | Required                                             |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 56                       | RETRACTABLE TOOL                                                                                                                                                                              |           |           |         | Required (Note 3)                                    |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 57                       | SERVICE VALVE                                                                                                                                                                                 |           |           |         | Required (Note 3) & (Note 7 in General Note)         |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 58                       | MANUFACTURE                                                                                                                                                                                   |           |           |         | Shall be Finalized Latter                            |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 59                       | MODEL NO.                                                                                                                                                                                     |           |           |         | Shall be Finalized Latter                            |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 60                       | TAG PLATE                                                                                                                                                                                     |           |           |         | Required                                             |          |                                                                                    |      |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 61                       | WAKE FREQUENCY STANDARD (NOTE 2)                                                                                                                                                              |           |           |         | Required as per ASME PTC 19.3                        |          |                                                                                    |      |                    |
| NOTES : VTA : VENDOR TO ADVISE VTC : VENDOR TO CONFIRM N/A : NOT APPLICABLE<br>(1) All process data will be finalized later<br>(2) Wake frequency analysis (stress calculation) according to ASME Power Test Code 19.3 shall be done & submitted by vendor.<br>(3) One set of retriever and service valve is common to all CC's fittings.<br>(4) Piping class, pipe schedule and materials related to Piping Material Specification, will be finalized after confirmation of this document.<br>(5) High pressure access fitting to be supplied by vendor.<br>(6) Length of stem holder for installation in 12O'clock due to liquid service, to be the way that measure the corrosion at the bottom of line. |                          |                                                                                                                                                                                               |           |           |         |                                                      |          |                                                                                    |      |                    |

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