



نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادر کننده | بسته کاری | پروژه |
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| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

شماره صفحه: ۱ از ۵۸

طرح نگهداشت و افزایش تولید ۲۷ مخزن

PIPING MATERIAL SPECIFICATION

نگهداشت و افزایش تولید میدان نفتی بینک

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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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1.0 INTRODUCTION

Binak oilfield in Bushehr province is a part of the southern oilfields of Iran, is located 20 km northwest of Genaveh city.



With the aim of increasing production of oil from Binak oilfield, an EPC/EPD Project has been defined by NIOC/NISOC and awarded to Petro Iran Development Company (PEDCO). Also PEDCO (as General Contractor) has assigned the EPC-packages of the Project to "Hirgan Energy - Design and Inspection" JV.

As a part of the Project, a New Gas Compressor Station (adjacent to existing Binak GCS) shall be constructed to gather of 15 MMSCFD (approx.) associated gases and compress & transfer them to Siahmakan GIS.

GENERAL DEFINITION

The following terms shall be used in this document.

| | |
|------------------------------|--|
| CLIENT: | National Iranian South Oilfields CLIENT (NISOC) |
| PROJECT: | Binak Oilfield Development – Surface Facilities; New Gas Compressor Station |
| EPD/EPC CONTRACTOR (GC): | Petro Iran Development Company (PEDCO) |
| EPC CONTRACTOR: | Joint Venture of : Hirgan Energy – Design & Inspection (D&I) Companies |
| VENDOR: | The firm or person who will fabricate the equipment or material. |
| EXECUTOR: | Executor is the party which carries out all or part of construction and/or commissioning for the project. |
| THIRD PARTY INSPECTOR (TPI): | The firm appointed by EPD/EPC CONTRACTOR (GC) and approved by CLIENT (in writing) for the inspection of goods. |
| SHALL: | Is used where a provision is mandatory. |
| SHOULD: | Is used where a provision is advisory only. |
| WILL: | Is normally used in connection with the action by CLIENT rather than by an EPC/EPD CONTRACTOR, supplier or VENDOR. |
| MAY: | Is used where a provision is completely discretionary. |

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2.0 SCOPE

The purpose of this specification is to supplement the requirements for the materials as specified in the requisition for BINAK Compressor Gas Station.



3.0 NORMATIVE REFERENCES

3.1 LOCAL CODES AND STANDARDS



- IPS-E-TP-350(1) Engineering Standard for Linings
- IPS-M-PI-110(1) Material and Equipment Standard for Valves
- IPS-M-PI-150(2) Material Standard for Flanges and Fittings
- IPS-M-PI-190(3) Material and Equipment Standard for Line Pipe
- IPS-E-PI-140(1) Engineering Standard for Onshore Transportation Pipelines
- IPS-E-PI-221(1) Engineering Standard for Piping Material Selection
- IPS-E-PI-240(2) Engineering Standard for Plant Piping System
- IPS- C-PI-240 Construction Standard for plant piping System
- IPS- C-PI-290 Construction Standard for welding of plant piping Systems
- IPS- G-PI-230 General Standard for Strainers and Filters

3.2 INTERNATIONAL CODES AND STANDARDS

- ASME B1.20.1 Pipe Threads General Purpose (Inch)
- ASME B16.5 Steel Pipe Flanges And Flanged Fittings
- ASME B16.9 Factory-Made Wrought Steel Buttwelding Fittings
- ASME B16.10 Face To Face And End To End Dimension Of Valve
- ASME B16.11 Forged Steel Fittings, Socket Welding And Threaded
- ASME B16.21 Nonmetallic Flat Gaskets For Pipe Flanges
- ASME B16.25 Butt-Welding Ends
- ASME B16.34 Steel Valves, Flanged And Buttwelding Ends
- ASME B16.48 Steel Line Blanks
- ASME B18.2.1 Square And Hex. Bolts And Screws, Inch Series
- ASME B18.2.2 Square And Hex. Nuts
- ASME B31.3 Process Piping
- ASME B31.4 Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids
- ASME B36.10M Welded and Seamless Wrought Steel Pipe
- ASME B36.19M Stainless Steel Pipe
- ASME B31.8 Gas Transmission and Distribution Piping

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| <ul style="list-style-type: none"> • ASME B16.20 • ASME B16.36 • ASME B1.1 • ASME B16.47 • ASME B46.1 • ASTM A105 • ASTM A106 • ASTM A234 • ASTM A193 • ASTM A194 • ASTM A216 • ASTM A516 • ASTM A312 • ASTM A182 • ASTM A403 • ASTM A240 • ASTM A351 • ASTM A153 • ASTM B148 | <p>Systems</p> <p>Metallic Gaskets for Pipe Flanges</p> <p>Orifice Flanges</p> <p>Unified Inch Screw Threads</p> <p>Large Diameter Steel Flanges,NPS 26 through NPS 60</p> <p>Surface Texture (surface roughness, waviness and lay)</p> <p>Standard Specification for Carbon Steel Forgings for Piping Applications</p> <p>Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service</p> <p>Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service</p> <p>Standard Specification for Alloy-Steel and Stainless Steel Bolting for High Temperature or High Pressure Service and Other Special Purpose Applications</p> <p>Standard Specification for Carbon and Alloy Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both</p> <p>Standard Specification for Steel Castings, Carbon, Suitable for Fusion Welding, for High-Temperature Service</p> <p>Standard Specification for Pressure Vessel Plates, Carbon Steel, for Moderate- and Lower-Temperature Service</p> <p>Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes</p> <p>Standard Specification for Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service</p> <p>Standard Specification for Wrought Austenitic Stainless Steel Piping Fittings</p> <p>Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications</p> <p>Standard Specification for Castings, Austenitic, for Pressure-Containing Parts</p> <p>Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware</p> <p>Standard Specification for Copper-Zinc-Lead</p> |
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(Red Brass or Hardware Bronze) Rod, Bar, and Shapes

Metallic products. Types of inspection documents

Plastic piping systems – Polyethylene (PE) pipes and fittings for water supply

Specification For Line Pipe

Pipeline Valves

Check valves; Wafer, Wafer-Lug, and double Flanged Type

Steel Plug Valves, Flanged Or Buttwelding Ends

Steel Gate Valves, Flanged And Buttwelding Ends

Metallic Gaskets For Piping, Double-Jacketed, Corrugated And Spiral Wound

Gate, Globe and Check Valves for Sizes DN100(NPS4) and smaller for the Petroleum and Natural

Gas Industries.

Specification for Fire Test For Valves

Metal Ball Valves-Flanged, Threaded, and Welding End

Steel Globe Valves- Flanged and Butt-welding Ends, Bolted Bonnets

Metal Ball Valves-Flanged, Threaded, and welding Ends

Class 300 and 6000 pipe unions, socket welding and threaded

Bronze Gate, globe angle and check valves

Swage Nipples And Ball Plugs

Forged Carbon Steel Branch Olet Fittings

Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends

Petroleum And Natural Gas Industries - Materials For Use In H2S Containing Environments In Oil And Gas Production

Standard Test Method - Evaluation Of Pipeline And Pressure Vessel Steels For Resistance To Hydrogen-Induced Cracking

Laboratory Testing Of Metals For Resistance To Sulfide Stress Cracking And Stress Corrosion Cracking In H2s Environments

• BS EN 10204

• ISO 4427

• API 5L

• API 6D

• API 594

• API 599

• API 600

• API 601

• API 602

• API 6FA

• API 608

• API 623

• API 608

• MSS SP-83

• MSS SP-80

• MSS SP-95

• MSS SP-97

• MSS SP-120

• ANSI/NACE MR0175/ ISO 15156



• NACE TM-0284

• NACE TM-0177



3.3 THE PROJECT DOCUMENTS

- BK-GCS-PEDCO-120-PI-RT-0001 Piping Corrosion Study & Material

|  <p>NISOC</p> | <p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |  | | | | | | | | | | | | | | | | |
|--|--|---|-------|----------|------------|-----------|------------|-----------|-------|-----|------|----|----|-----|-------|-----|----|-----------------------------|
| <p>شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴</p> | <p>PIPING MATERIAL SPECIFICATION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>نسخه</th> <th>سریال</th> <th>نوع مدرک</th> <th>رشته</th> <th>تسهیلات</th> <th>صادر کننده</th> <th>بسته کاری</th> <th>پروژه</th> </tr> </thead> <tbody> <tr> <td>D05</td> <td>0001</td> <td>SP</td> <td>PI</td> <td>120</td> <td>PEDCO</td> <td>GCS</td> <td>BK</td> </tr> </tbody> </table> | نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادر کننده | بسته کاری | پروژه | D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | <p>شماره صفحه : ۸ از ۵۸</p> |
| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادر کننده | بسته کاری | پروژه | | | | | | | | | | | |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | | | | | | | | | | | |

Selection Report

- BK-GCS-PEDCO-120-PI-RT-0006 Wall Thickness Calculation Report
- BK-GNRAL-PEDCO-000-PI-SP-0008 Specification For Material Requirements in Sour service

3.4 ENVIRONMENTAL DATA

Refer to "Process Basis of Design; Doc. No. BK-GNRAL-PEDCO-000-PR-DB-0001"

3.5 ORDER OF PRECEDENCE

In case of any conflict between requirements specified herein & the requirements of any other referenced document, this subject shall be reflected to CLIENT and the final decision will be made by CLIENT..

4.0 ABBREVIATIONS

| | |
|--------|---------------------------|
| AFC: | Approved for Construction |
| AFD: | Approved for Design |
| # : | CLASS |
| A/G: | ABOVE GROUND |
| ASB : | ASBESTOS |
| BB : | BOLTED BONNET |
| BC : | BOLTED COVER |
| BE : | BEVEL ENDS |
| BLE : | BEVELED LARGE END |
| BW : | BUTT WELDING |
| C.A: | CORROSION ALLOWANCE |
| CONC : | CONCENTRIC |
| CS : | CARBON STEEL |



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سطح الارض

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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادر کننده | بسته کاری | پروژه |
|------|-------|----------|------|---------|------------|-----------|-------|
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

شماره صفحه : ۹ از ۵۸

| | |
|----------|-------------------------|
| ECC : | ECCENTRIC |
| FB: | FULL BORE |
| FLGD: | FLANGED |
| FR : | FLAT RING |
| GJ. : | GASKET JOINT |
| GO: | GEAR OPERATED |
| GR. : | GRADE |
| HEX : | HEXAGONAL |
| HO: | HANDWHEEL OPERATED |
| LR : | LONG RADIUS |
| MFR STD: | MANUFACTURE STANDARD |
| MO: | MOTOR OPERATED |
| NB : | NOMINAL BORE |
| NPS : | NOMINAL PIPE SIZE |
| NPT: | NOMINAL PIPE THREAD |
| OS&Y : | OUTSIDE SCREW & YOKE |
| PBE: | PLAIN BOTH END |
| PLE: | PLAIN LARGE END |
| PSE : | PLAIN SMALL END |
| PTFE: | POLYTETRAFLUOROETHYLENE |
| RB : | REDUCED BORE |
| RED : | REDUCER/REDUCING |
| RF : | RAISED FACE |
| S.S.: | STAINLESS STEEL |
| SB : | SCREWED BONNET |
| SCH : | SCHEDULE |
| SCR'D : | SCREWED |
| SF : | SERRATED FINISH |
| SG : | SCREWED GLAND |
| SMLS : | SEAMLESS |



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PIPING MATERIAL SPECIFICATION

| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادر کننده | بسته کاری | پروژه |
|------|-------|----------|------|---------|------------|-----------|-------|
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

شماره صفحه : ۱۰ از ۵۸

| | |
|-------|---------------------|
| SPW : | SPIRAL WOUND |
| STD : | STANDARD |
| SW : | SOCKET WELDING |
| TBE : | THREADED BOTH ENDS |
| THK : | THICKNESS |
| THRD: | THREADED |
| TLE : | THEREADED LARGE END |
| TR : | TRIM |
| TSE : | THEREADED SMALL END |
| UB : | UNION BONNET |
| W.T : | WALL THICKNESS |
| WB : | WELDED BONNET |
| WN : | WELDING NECK |
| XS : | EXTRA STRONG |
| XXS : | DOUBLE EXTRA STRONG |

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|--|--|--|-------|----------|------------|-----------|------------|-----------|-------|-----|------|----|----|-----|-------|-----|----|------------------------------|
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| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادر کننده | بسته کاری | پروژه | | | | | | | | | | | |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | | | | | | | | | | | |



5.0 PIPING COMPONENTS

5.1 PIPE

- 5.1.1 For carbon steel pipes, dimensions shall conform to ASME B36.10M or API 5L where applicable. Tolerances of pipes shall meet the requirements of IPS-M-PI-190(3). The nominal thickness for "Stainless Steel Pipe" shall be selected in accordance with ASME B36.19M.
- 5.1.2 End pipe for sizes 1/2" to 1 1/2" shall be plain end, for size 2" and above shall be beveled end. End of galvanized pipe shall be threaded.
- 5.1.3 For all Materials Carbon Content and $CE=C+(Mn/6)+(Cu+Ni)/15+(Cr+Mo+V)/5$ shall meet the requirements of IPS-M-PI-190(3). In addition, all the main piping and related materials shall be according to the requirements of NACE MR 0175 / ISO 15156 and IPS-M-PI-190(3) for sour services.
- 5.1.4 Pipes with sizes 1/4", 3/8", 1 1/4", 2 1/2", 3 1/2", 4 1/2", 5", 7", 9", 11", 14", 18", 22", shall not be used, except as may be required by equipment connections.
- 5.1.5 The production of pipes shall be fully killed and fine grain practiced.
- 5.1.6 The pipe wall thicknesses and grades that are specified in this document are adequate for the pressure/temperature combination mentioned for each piping class.
- 5.1.7 Butt welding ends shall be in accordance to ASME B16.25.
- 5.1.8 Process pipes in a corrosive environment up to 20 inches shall be made by seamless and LSAW for higher sizes.

5.2 FITTING

- 5.2.1 Dimensions and tolerances for butt-weld fitting (be normally used for nominal diameter 2" and larger) shall conform to ASME B16.9.
- 5.2.2 Dimensions and tolerances for Socket weld fittings and/or screwed fitting (be normally used for nominal diameter 1 1/2" and smaller) shall conform to ASME B16.11.
- 5.2.3 Long radius ($R=1.5D$) butt-welding elbows shall be used wherever possible. Unless otherwise specified, flanged elbows shall not be used.
- 5.2.4 Fittings up to 20 inches shall be seamless.

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| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | | | | | | | | | | | |

5.3 FLANGES

- 5.3.1 All flanges shall be specified with bore to match I.D. of pipe.
- 5.3.2 Machining shall be in accordance with ASME B16.5. Roughness of RF shall be between 3.2 and 6.3 micrometers (125 to 250 micro inches AARH)
- 5.3.3 Orifice flanges shall conform to ASME B16.36. Quantities shown on Material Requisition must be understood as "pair" of orifice flanges supplied with assembly bolting.

5.4 VALVES

- 5.4.1 All socket welded ball valves of nominal sizes 1/2" to 1 1/2" shall have extended ends (Sch. 160 nipples) with an overall length of 400mm.
- 5.4.2 Valve trim numbers for gate, globe and check valves are as API 600 (2015) Table 8.

5.5 GASKETS

- 5.5.1 Spiral wound gaskets shall conform to ASME B16.20 and Non-metallic flat gaskets shall conform to ASME B16.21.

5.6 BOLTS AND NUTS



- 5.6.1 Thread shall be in accordance with ASME B1.1 and Nuts shall conform to ASME B18.2.2.
- 5.6.2 Stud bolts shall be threaded full length and chamfered both ends. Length for standard flange assembly shall be in accordance with ASME B16.5. Stud bolts shall be supplied with 2 Heavy Hex nuts.

5.7 BRANCH CONNECTIONS

- 5.7.1 Branches shall be as specified in the individual line classes.
- 5.7.2 For pipe line to be pigged, tee or branch with 40% or more of the main line diameter shall be equipped with scraper guide bars.

5.8 UG SERVICE COATING

- 5.8.1 For UG services, all Pipes & Fittings Shall be Solvent Free Epoxy / Three Layer Cold Applied Plastic Tape at Field.

| | | | | | | | | | | | | | | | | | | |
|--|---|---|-------|----------|-----------|-----------|-----------|-----------|-------|-----|------|----|----|-----|-------|-----|----|-----------------------------|
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| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | | | | | | | | | | | |

6.0 GENERAL TESTING REQUIRMENTS

- 6.1** Pressure testing of the following piping shall be in accordance with ASME B31.3 test procedures. The test pressure shall be held for a sufficient time to allow detection of any leaks and for a minimum time of 1 hour. The basis of calculating the hydro static test pressure shall be considered based on the pressure class of each pipeline.
- a) Metallic piping including carbon steel, lined carbon steel, stainless steel, corrosion resistant alloys and ductile iron but excluding copper shall normally be tested at 1.5 x the design pressure.
- 6.2** Pipelines designed to ASME B31.8 where the operating pressure results in a hoop stress greater than 30% of the specified minimum yield strength shall be hydrostatically tested or tested with air or gas. The type of test and the test pressure is dependent on Location Class as defined in ASME B31.8 Para. 841.3.2. Test duration shall be a minimum of 2 hours.



7.0 PIPING AND PIPELINE CLASSES

7.1 PIPING CLASSES NUMBERING



Each piping class is identified from two alphabetical characters which precede a two digit figure. The first alphabetical character indicates pressure rating of flange and the second alphabetical character indicates material as follows:

| 1st alphabetical character | | 2nd alphabetical character | |
|----------------------------|------------|----------------------------|-------------------------|
| A | Class 150 | N | Carbon Steel |
| C | Class 300 | S | Stainless Steel |
| F | Class 600 | X | Non Metal Pipe |
| G | Class 900 | Z | Galvanized Carbon Steel |
| H | Class 1500 | | |

The third figure indicates the design code and the forth figure indicates corrosion allowance for metallic as follows

| | | | | | | | | | | | | | | | | | | |
|---|---|--|-------|----------|-----------|-----------|-----------|-----------|-------|-----|------|----|----|-----|-------|-----|----|------------------------------|
|  <p>NISOC</p> | <p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |  | | | | | | | | | | | | | | | | |
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| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه | | | | | | | | | | | |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | | | | | | | | | | | |

| 3rd figure | | 4th figure for metal pipe | | | 4th figure for non-metal pipe | |
|------------|--------------------------------------|------------------------------|------|---|----------------------------------|--|
| Fig. | Design standard | Fig. | C.A. | NACE MR 0175 / ISO 15156 Requirement | Fig. | Material type |
| 0 | ASME B 31.3 (For Inside of Plant) | 0 | 0 mm | Remark-1 | 1 | PE |
| | | 1 | 1 mm | No | 2 | GRE |
| 1 | ASME B 31.4 (For Liquid Pipeline) | 2 | 1 mm | Yes | 3 | RTP (Reinforced Thermoplastic pipe) |
| | | 4 | 3 mm | No | | |
| 2 | ASME B 31.8 (For Gas Pipeline) | 5 | 3 mm | Yes | | |
| | | 6 | 6 mm | No | | |
| | | 7 | 6 mm | Yes | | |

| | | | | | | | | | | | | | | | | | | |
|--|--|---|-------|----------|------------|-----------|------------|-----------|-------|-----|------|----|----|-----|-------|-----|----|-----------------------------|
|  <p>NISOC</p> | <p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |  | | | | | | | | | | | | | | | | |
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| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادر کننده | بسته کاری | پروژه | | | | | | | | | | | |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | | | | | | | | | | | |

7.2 SUMMARY OF PIPING AND PIPELINE CLASSES

Table 1: piping classes

| Piping Class | ANSI Rating /Facing | Max Pipe Size (In) | Base Material | Max. TEMP. °C | NACE MR 0175 / ISO 15156 Req. | C.A. (mm) | Service |
|--------------|---------------------|--------------------|---------------------|---------------|-------------------------------|-----------|--|
| AN01 | 150/RF | 10 | Carbon Steel | 85 | --- | 1 | Oily Water ,Diesel Oil, Nitrogen, Methanol |
| AN04 | 150/RF | 16 | Carbon Steel | 85 | --- | 3 | Plant Air, Lean GLYCOL, Fire Water |
| AN05 | 150/RF | 16 | Killed Carbon Steel | 85 | Yes | 3 | Close Drain, Process Gas |
| AN07 | 150/RF | 20 | Killed Carbon Steel | 96 | Yes | 6 | Fuel Gas, Close Drain, Flare, Blow down, Process Gas |
| AS00 | 150/RF | 16 | Stainless Steel | 85 | Remark-1 | 0 | Chemical, Close drain |
| AX01 | 150/RF | 4 | HDPE | 85 | --- | 0 | Potable Water(UG) |
| AZ00 | 150/RF | 4 | Carbon Steel+ Galv | 85 | --- | 0 | Instrument Air<4", Potable Water |
| CN05 | 300/RF | 6 | Killed Carbon Steel | 155 | Yes | 3 | Close Drain, Process Gas |
| CN07 | 300/RF | 6 | Killed Carbon Steel | 155 | Yes | 6 | Close Drain, Process Gas |
| CS00 | 300/RF | 6 | Stainless Steel | 155 | Remark-1 | 0 | Chemical, Process Gas, Close drain |
| FN05 | 600/RF | 8 | Killed Carbon Steel | 175 | Yes | 3 | Hydrocarbon Gas |
| FN07 | 600/RF | 8 | Killed Carbon Steel | 175 | Yes | 6 | Hydrocarbon Gas |
| FS00 | 600/RF | 6 | Stainless Steel | 175 | Remark-1 | 0 | Chemical, Close drain, Process Gas |

Remark-1: Material for "Process Gas and Close drain" Service of "AS00, CS00 & FS00" Classes shall be in compliance with "NACE MR 0175 / ISO 15156 Std." For "Chemical" service, there is no need for "NACE MR 0175 / ISO 15156 Std." requirements.



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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| | | | | | | | |
|-------|-----------|-----------|---------|------|----------|-------|------|
| پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه |
| BK | GCS | PEDCO | 120 | PI | SP | 0001 | D05 |

شماره صفحه: ۱۶ از ۵۸

8.0 CLASSES DESCRIPTION



| SERVICES: Oily Water, Diesel Oil, Nitrogen, Methanol | | | | CLASS: AN01 | | | C.A.: 1 mm | |
|--|------------|----------|---------------------|----------------------|---|---------------------|-----------------|--------------|
| DES. (TEMP.) | °C | 85 | Basic Material | Carbon Steel | NACE MR 0175 / ISO 15156 Requirements : No | | | Rating: 150# |
| DES. (PRES.) | BARG | 18.2 | | | Design Code: ASME B31.3 | | | |
| ITEM | SIZES (In) | | END | SCH./RATING | DESCRIPTION | MATERIAL | STANDARD | NOTE |
| | FROM | TO | | | | | | |
| PIPES | 1/2 | 1 1/2 | PBE/ TBE | SCH.80 | Seamless | ASTM A106 Gr.B | ASME B36.10M | Note 1 |
| | 2 | 6 | BE | SCH.40 | Seamless | ASTM A106 Gr.B | ASME B36.10M | |
| | 8 | 10 | BE | SCH.20 | Seamless | ASTM A106 Gr.B | ASME B36.10M | |
| Nipples | 1/2 | 1 1/2 | PBE/PSE/BLE | Same as Pipe | Nipples | ASTM A106 Gr.B | ASME B36.10M | |
| | 1/2 | 2 | PBE/BLE/PSE/PLE/TSE | Same as Pipe | Swaged Nipple CONC/ECC | ASTM A234 Gr.WPB | MSS-SP-95 | |
| FITTINGS | 1/2 | 1 1/2 | SW/THRD | 3000# | Cap/Cap NPT | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Reducer Conc.&Ecc. | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Union | ASTM A105 | MSS SP-83 | |
| | 1/2 | 1 1/2 | SW | 3000# | Coupling/Half Coupling | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Elbow 45°&90°LR | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Socket | ASTM A105 | MSS SP-97 | |
| | 1/2 | 1 1/2 | THD | 3000# | Hex. Head Plug | ASTM A105 | ASME B16.11 | |
| | 1 | 1 1/2 | SW | 3000# | Tee Eq | ASTM A105 | ASME B16.11 | |
| | 2 | 10 | BW | Same as Pipe | Cap | ASTM 234 WPB | ASME B16.9 | |
| | 2 | 10 | BW | Same as Pipe | Tee Eq. & Red | ASTM 234 WPB | ASME B16.9 | |
| | 2 | 10 | BW | Same as Pipe | Reducer Conc.&Ecc. | ASTM 234 WPB | ASME B16.9 | |
| | 2 | 10 | BW | Same as Pipe | Elbow 45° & 90° LR | ASTM 234 WPB | ASME B16.9 | |
| | 2 | 10 | BW | Same as Pipe | Weldolet | ASTM A105 | MSS SP-97 | |
| FLANGES | 1/2 | 1 1/2 | SW | 150# | Socket welded, RF, SF | ASTM A105 | ASME B16.5 | |
| | 1/2 | 1 1/2 | SW | 300# | Socket welded, RF,SF | ASTM A105 | ASME B16.5 | |
| | 2 | 10 | BW | Same as Pipe 150# | Weld Neck, RF, SF | ASTM A105 | ASME B16.5 | |



نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



شماره پیمان:



۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه |
|------|-------|----------|------|---------|-----------|-----------|-------|
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

شماره صفحه: ۱۷ از ۵۸

| | | | | | | | | |
|-------------|-----|----------|---------|-------------------|--|---|--------------|-------------|
| | 2 | 10 | BW | Same as Pipe 300# | Weld Neck, RF, SF | ASTM A105 | ASME B16.5 | |
| | 4 | 6 | BW | 150# | Weld Neck, FF, SF | ASTM A105 | ASME B16.5 | |
| | 1/2 | 10 | - | 150# | Blind, RF, SF | ASTM A105 | ASME B16.5 | |
| | 1/2 | 10 | - | 300# | Blind, RF, SF | ASTM A105 | ASME B16.5 | |
| | 2 | 10 | BW | Same as Pipe 300# | Orifice, With 2 Hole 1/2" NPT Female, RF | ASTM A105 | ASME B16.36 | |
| CLOUSERS | 1/2 | 10 | - | 150# | Spectacle Blind, RF | ASTM A516-Gr.60 | ASME B16.48 | |
| GASKETS | 1/2 | 10 | - | 150# | Spiral Wound, 4.45 mm Thick., RF, SF | S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring | ASME B16.20 | |
| | 1/2 | 10 | - | 300# | Spiral Wound, 4.45 mm Thick., RF, SF | S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring | ASME B16.20 | |
| Nut & Bolt | 1/2 | 10 | - | 150# | Stud bolt, Unified threaded | ASTM A 193-B7 | ASME B18.2.1 | Zinc Plated |
| | 1/2 | 10 | - | 150# | Nut, two heavy nuts for each bolt | ASTM A 194 -2H | ASME B18.2.2 | Zinc Plated |
| | 1/2 | 10 | - | 300# | Stud bolt, Unified threaded | ASTM A 193-B7 | ASME B18.2.1 | Zinc Plated |
| | 1/2 | 10 | - | 300# | Nut, two heavy nuts for each bolt | ASTM A 194 -2H | ASME B18.2.2 | Zinc Plated |
| Gate Valve | 1/2 | 1 1/2 | SW/THRD | 800# | Solid wedge, BB, OS.&Y,HO | Body: A105, Trim No.8 | API 602 | |
| | 2 | 10 | FLGD-RF | 150# | Flexible wedge, BB, OS.&Y, Renewable Seat Ring, HO | Body: A216 GR. WCB, Trim No.8 | API 600 | |
| Globe Valve | 1/2 | 1 1/2 | SW/THRD | 800# | OS&Y, BB, HO | Body: A 105, Trim No.8 | API 602 | |
| | 2 | 6 | FLGD-RF | 150# | OS&Y, BB, Renewable Seat Ring, HO | Body: A216 GR. WCB., Trim No.8 | API 623 | |
| | 8 | 10 | FLGD-RF | 150# | OS&Y, BB, Renewable Seat Ring, GO | | API 623 | |
| Check Valve | 1/2 | 1 1/2 | SW | 800# | Lift Type, Piston Type, BC | Body: A 105, Trim No.8 | API 602 | |
| | 2 | 10 | FLGD-RF | 150# | Swing Type, BC | Body: A216 GR. WCB., Trim No.8 | API 594 | |
| Ball Valve | 1/2 | 1 1/2 | SW | 800# | FB, Soft Seat, Floating Ball, With two 100 | Body: A105, Ball: 13Cr Stem: 13Cr | API 608 | Note 2 |



| | | | | | | | | | | | | | | | | | | |
|---|--|--|-------|----------|------------|-----------|------------|-----------|-------|-----|------|----|----|-----|-------|-----|----|-----------------------------|
|  <p>NISOC</p> | <p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |  | | | | | | | | | | | | | | | | |
| <p>شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴</p> | <p>PIPING MATERIAL SPECIFICATION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">نسخه</td> <td style="width: 10%;">سریال</td> <td style="width: 10%;">نوع مدرک</td> <td style="width: 10%;">رشته</td> <td style="width: 10%;">تسهیلات</td> <td style="width: 10%;">صادر کننده</td> <td style="width: 10%;">بسته کاری</td> <td style="width: 10%;">پروژه</td> </tr> <tr> <td>D05</td> <td>0001</td> <td>SP</td> <td>PI</td> <td>120</td> <td>PEDCO</td> <td>GCS</td> <td>BK</td> </tr> </table> | نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادر کننده | بسته کاری | پروژه | D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | <p>شماره صفحه: ۱۸ از ۵۸</p> |
| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادر کننده | بسته کاری | پروژه | | | | | | | | | | | |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | | | | | | | | | | | |

| | | | | | | | | |
|----------|-----|----------|---------|------|--|--|----------|--------|
| | | | | | mm Nipples, Lever Operated | Trim:13Cr+PTFE | | |
| | 2 | 2 | FLGD-RF | 150# | RB, Soft Seat, Floating Ball, Renewable Seat Ring, Lever Operated | Body: A216 Gr. WCB, Ball: 13Cr Stem: 13Cr Trim:13Cr+PTFE | API 6D | Note 2 |
| | 3 | 6 | FLGD-RF | 150# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, Lever Operated | | API 6D | Note 2 |
| | 8 | 10 | FLGD-RF | 150# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, GO | | API 6D | Note 2 |
| STRAINER | 1/2 | 1 1/2 | SW | 800# | Y-TYPE | Body: A105 , Screen :A 182 GR. F316L | MFR. STD | |
| | 2 | 2 | FLGD-RF | 150# | Y-TYPE | Body: A216 WCB , Screen :A 182 GR. F316L | MFR. STD | |
| | 3 | 10 | FLGD-RF | 150# | T-TYPE | Body: A234 WPB, Screen :A 182 GR. F316L | MFR. STD | |

Note 1: Thread end will be used just for Orifice flange connections

Note 2: Fire Safe per API 6FA Anti-Static, and Blow-Out Proof Stem shall be considered for these valves.

Note 3: For UG service, all pipes & fittings shall coated using Solvent Free Epoxy.

| | | | | | | | | | | | | | | | | | | |
|--|---|--|-------|----------|-----------|-----------|-----------|-----------|-------|-----|------|----|----|-----|-------|-----|----|------------------------------|
|  <p>NISOC</p> | <p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |  | | | | | | | | | | | | | | | | |
| <p>شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴</p> | <p>PIPING MATERIAL SPECIFICATION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>نسخه</td> <td>سریال</td> <td>نوع مدرک</td> <td>رشته</td> <td>تسهیلات</td> <td>صادرکننده</td> <td>بسته کاری</td> <td>پروژه</td> </tr> <tr> <td>D05</td> <td>0001</td> <td>SP</td> <td>PI</td> <td>120</td> <td>PEDCO</td> <td>GCS</td> <td>BK</td> </tr> </table> | نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه | D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | <p>شماره صفحه : ۱۹ از ۵۸</p> |
| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه | | | | | | | | | | | |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | | | | | | | | | | | |

PIPE CLASS : AN01

| | | | | | | | | | | | |
|--------------------|-------|--------------------|-----|---|-------|---|---|---|---|---|----|
| Header Size (Inch) | 1/2 | 1 | | | | | | | | | |
| | 3/4 | 2 | 1 | | | | | | | | |
| | 1 | 2 | 2 | 1 | | | | | | | |
| | 1 1/2 | 2 | 2 | 2 | 1 | | | | | | |
| | 2 | 4 | 4 | 4 | 4 | 3 | | | | | |
| | 3 | 4 | 4 | 4 | 4 | 5 | 3 | | | | |
| | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 3 | | | |
| | 6 | 4 | 4 | 4 | 4 | 6 | 5 | 5 | 3 | | |
| | 8 | 4 | 4 | 4 | 4 | 6 | 6 | 5 | 5 | 3 | |
| | 10 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 5 | 5 | 3 |
| | Size | 1/2 | 3/4 | 1 | 1 1/2 | 2 | 3 | 4 | 6 | 8 | 10 |
| | | Branch Size (Inch) | | | | | | | | | |

| | | | |
|----------------|------------------|-----------------|------------------|
| Legend: | 1. EQUAL TEE, SW | 2. RED. TEE, SW | 3. EQUAL TEE, BW |
| | 4. SOCKOLET | 5. RED. TEE, BW | 6. WELDOLET |



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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| | | | | | | | |
|-------|-----------|-----------|---------|------|----------|-------|------|
| پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه |
| BK | GCS | PEDCO | 120 | PI | SP | 0001 | D05 |

شماره صفحه : ۲۰ از ۵۸

| SERVICES: Plant air, Lean GLYCOL, Fire Water | | | | | CLASS: AN04 | | | C.A.:3 mm |
|--|------------|-------|----------------------|--------------------------|----------------------------------|------------------|--------------|--------------|
| DES. (TEMP.) | °C | 85 | Basic Material | Carbon Steel | NACE MR 0175 / 56 Requirements : | | | Rating: 150# |
| DES. (PRES.) | BARG | 18.2 | | | Design Code: ASME B31.3 | | | |
| ITEM | SIZES (In) | | END | SCH./RATING | DESCRIPTION | MATERIAL | STANDARD | NOTE |
| | FROM | TO | | | | | | |
| PIPES | 1/2 | 1 1/2 | PBE/ TBE | SCH.80 | Seamless | ASTM A106 Gr.B | ASME B36.10M | NOTE 1 |
| | 2 | 2 | BE | SCH.80 | Seamless | ASTM A106 Gr.B | ASME B36.10M | |
| | 3 | 6 | BE | SCH.40 | Seamless | ASTM A106 Gr.B | ASME B36.10M | |
| | 8 | 16 | BE | SCH.20 | Seamless | ASTM A106 Gr.B | ASME B36.10M | |
| Nipples | 1/2 | 1 1/2 | PBE/PSE/BLE | Same as Pipe | Nipples | ASTM A106 Gr.B | ASME B36.10M | |
| | 1/2 | 2 | PBE/PSE/BLE /PLE/TSE | Same as Pipe | Swaged Nipple CONC | ASTM A234 Gr.WPB | MSS-SP-95 | |
| FITTINGS | 1/2 | 1 1/2 | SW/THRD | 3000# | Cap/Cap NPT | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Reducer Conc.&Ecc. | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Union | ASTM A105 | MSS SP-83 | |
| | 1/2 | 1 1/2 | SW | 3000# | Coupling/ Half Coupling | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Elbow 45° & 90° LR | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Tee Eq | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Socketlet | ASTM A105 | MSS SP-97 | |
| | 1/2 | 1 1/2 | THD | 3000# | Hex. Head Plug | ASTM A105 | ASME B16.11 | |
| | 2 | 16 | BW | Same as Pipe | Cap | ASTM 234 WPB | ASME B16.9 | |
| | 2 | 16 | BW | Same as Pipe | Tee Eq. & Red | ASTM 234 WPB | ASME B16.9 | |
| | 2 | 16 | BW | Same as Pipe | Reducer Conc.&Ecc. | ASTM 234 WPB | ASME B16.9 | |
| | 2 | 16 | BW | Same as Pipe | Elbow 45° & 90° LR | ASTM 234 WPB | ASME B16.9 | |
| FLANGES | 2 | 16 | BW | Same as Pipe | Weldolet | ASTM A105 | MSS SP-97 | |
| | 1/2 | 1 1/2 | SW | 150# | Socket welded, RF, SF | ASTM A105 | ASME B16.5 | |
| | 1/2 | 1 1/2 | SW | 300# | Socket welded, RF, SF | ASTM A105 | ASME B16.5 | |
| | 2 | 16 | BW | Same as Pipe 150# / 300# | Weld Neck, RF, SF | ASTM A105 | ASME B16.5 | |
| | 12 | 12 | BW | 150# | Weld Neck, FF, SF | ASTM A105 | ASME B16.5 | |
| | 12 | 16 | BW | Same as Pipe | Weld Neck, | ASTM A105 | ASME B16.5 | |



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احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه |
|------|-------|----------|------|---------|-----------|-----------|-------|
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

شماره صفحه : ۲۱ از ۵۸

| | | | | | | | | |
|-------------|-----|-------|---------|-------------------|--|---|--------------|-------------|
| | | | | 150# / 300# | RF, SF | with Jack Screw | | |
| | 1/2 | 16 | - | 150# | Blind, RF, SF | ASTM A105 | ASME B16.5 | |
| | 1/2 | 16 | - | 300# | Blind, RF, SF | ASTM A105 | ASME B16.5 | |
| | 2 | 16 | BW | Same as Pipe 300# | Orifice, With 2 Hole 1/2" NPT Female, RF | ASTM A105 | ASME B16.36 | |
| CLOSERS | 1/2 | 10 | - | 150# | Spectacle Blind, RF | ASTM A516-Gr.60 | ASME B16.48 | |
| | 12 | 16 | - | 150# | Spade (Ring&Blind), RF | ASTM A516-Gr.60 | ASME B16.48 | |
| GASKETS | 1/2 | 16 | - | 150# | Spiral Wound, 4.45 mm Thick., RF, SF | S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring | ASME B16.20 | |
| | 1/2 | 16 | - | 300# | Spiral Wound, 4.45 mm Thick., RF, SF | S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring | ASME B16.20 | |
| Nut & Bolt | 1/2 | 16 | - | 150# | Stud bolt, Unified threaded | ASTM A 193-B7 | ASME B18.2.1 | Zinc Plated |
| | 1/2 | 16 | - | 150# | Nut, two heavy nuts for each bolt | ASTM A 194 - 2H | ASME B18.2.2 | Zinc Plated |
| | 1/2 | 16 | - | 300# | Stud bolt, Unified threaded | ASTM A 193-B7 | ASME B18.2.1 | Zinc Plated |
| | 1/2 | 16 | - | 300# | Nut, two heavy nuts for each bolt | ASTM A 194 - 2H | ASME B18.2.2 | Zinc Plated |
| Gate Valve | 1/2 | 1 1/2 | SW/THRD | 800# | Solid wedge, BB, OS.&Y,HO | Body: A105 ,Trim No.12 | API 602 | |
| | 2 | 12 | FLGD-RF | 150# | Flexible wedge, BB, OS.&Y, Renewable Seat Ring, HO | Body: A216 GR. WCB, Trim No.12 | API 600 | |
| | 14 | 16 | FLGD-RF | 150# | Flexible wedge, BB, OS.&Y, Renewable Seat Ring, GO | Body: A216 GR. WCB, Trim No.12 | API 600 | |
| Globe Valve | 1/2 | 1 1/2 | SW/THRD | 800# | OS&Y, BB, HO | Body: A 105 .Trim No.12 | API 602 | |
| | 2 | 6 | FLGD-RF | 150# | OS&Y, BB, Renewable Seat Ring, HO | Body: A216 GR. WCB., Trim No.12 | API 623 | |
| | 8 | 16 | FLGD-RF | 150# | OS&Y, BB, Renewable Seat Ring, GO | | API 623 | |
| Check Valve | 1/2 | 1 1/2 | SW | 800# | Lift Type, Piston Type, BC | Body: A 105 .Trim No.12 | API 602 | |
| | 2 | 16 | FLGD-RF | 150# | Swing Type, | Body: A216 | API 594 | |



نگهداشت و افزایش تولید میدان نفتی بینک
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| | | | | | | | | |
|----------------------------------|-------------------------------|-----------|-----------|---------|------|----------|-------|----------------------|
| شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴ | PIPING MATERIAL SPECIFICATION | | | | | | | شماره صفحه: ۲۲ از ۵۸ |
| | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | |
| | BK | GCS | PEDCO | 120 | PI | SP | 0001 | D05 |

| | | | | | BC | GR. WCB., Trim No.12 | | |
|------------|-----|-------|---------|------|--|---|----------|--------|
| Ball Valve | 1/2 | 1 1/2 | SW | 800# | FB, Soft Seat, Floating Ball, With two 100 mm Nipples, Lever Operated | Body: A105, Ball: 316 Stem: 316 Trim:316+PTFE | API 608 | Note 2 |
| | 2 | 2 | FLGD-RF | 150# | RB, Soft Seat, Floating Ball, Renewable Seat Ring, Lever Operated | Body: A216 Gr. WCB, Ball: 316 Stem: 316 Trim:316+PTFE | API 6D | Note 2 |
| | 3 | 6 | FLGD-RF | 150# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, Lever Operated | | API 6D | Note 2 |
| | 8 | 16 | FLGD-RF | 150# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, GO | | API 6D | Note 2 |
| STRAINER | 1/2 | 1 1/2 | SW | 800# | Y-TYPE | Body: A105 , Screen :A 182 GR. F316L | MFR. STD | |
| | 2 | 2 | FLGD-RF | 150# | Y-TYPE /Basket TYPE | Body: A216 WCB , Screen :A 182 GR. F316L | MFR. STD | |
| | 12 | 12 | FLGD-RF | 150# | Basket TYPE | Body: A234 WPB, Screen :A 182 GR. F316L | MFR. STD | |
| | 3 | 16 | FLGD-RF | 150# | T-TYPE | Body: A234 WPB , Screen :A 182 GR. F316L | MFR. STD | |

Note 1: Thread end will be used just for Orifice flange connections

Note 2: Fire Safe per API 6FA. Anti Static, and Blow-Out Proof Stem shall be considered for these valves.



نگهداشت و افزایش تولید میدان نفتی بینک
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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| | | | | | | | |
|------|-------|----------|------|---------|-----------|-----------|-------|
| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

شماره صفحه : ۲۳ از ۵۸

| | | | | | | | | | | | | | | |
|--------------------|------|---|---|---|----|---|---|---|---|---|----|----|----|----|
| Header Size (Inch) | ½ | 1 | | | | | | | | | | | | |
| | ¾ | 2 | 1 | | | | | | | | | | | |
| | 1 | 2 | 2 | 1 | | | | | | | | | | |
| | 1½ | 2 | 2 | 2 | 1 | | | | | | | | | |
| | 2 | 4 | 4 | 4 | 4 | 3 | | | | | | | | |
| | 3 | 4 | 4 | 4 | 4 | 5 | 3 | | | | | | | |
| | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 3 | | | | | | |
| | 6 | 4 | 4 | 4 | 4 | 6 | 5 | 5 | 3 | | | | | |
| | 8 | 4 | 4 | 4 | 4 | 6 | 6 | 5 | 5 | 3 | | | | |
| | 10 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 5 | 5 | 3 | | | |
| | 12 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 5 | 5 | 3 | | |
| | 14 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 5 | 5 | 3 | |
| | 16 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 5 | 3 |
| | Size | ½ | ¾ | 1 | 1½ | 2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |

Branch Size (Inch)

| | | | |
|---------|------------------|-----------------|------------------|
| Legend: | 1. EQUAL TEE, SW | 2. RED. TEE, SW | 3. EQUAL TEE, BW |
| | 4. SOCKOLET | 5. RED. TEE, BW | 6. WELDOLET |

PIPE CLASS : AN04



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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| | | | | | | | |
|-------|-----------|------------|---------|------|----------|-------|------|
| پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه |
| BK | GCS | PEDCO | 120 | PI | SP | 0001 | D05 |

شماره صفحه : ۲۴ از ۵۸

| SERVICES: Close Drain, Process Gas | | | | | CLASS: D05 AN05 | | | C.A.: 3 mm |
|------------------------------------|------------|-------|----------------|--------------------------|---|---------------------------|--------------|--------------|
| DES. (TEMP.) | °C | 85 | Basic Material | Killed Carbon Steel | NACE MR 0175 / ISO 15156 Requirements : Yes | | | Rating: 150# |
| DES. (PRES.) | BARG | 18.2 | | | Design Code: ASME B31.3 | | | |
| ITEM | SIZES (In) | | END | SCH./RATING | DESCRIPTION | MATERIAL | STANDARD | NOTE |
| | FROM | TO | | | | | | |
| PIPES | 1/2 | 1 1/2 | PBE | SCH.80 | Seamless | ASTM A106 Gr.B | ASME B36.10M | NOTE 1 |
| | 2 | 2 | BE | SCH.80 | Seamless | ASTM A106 Gr.B | ASME B36.10M | |
| | 3 | 6 | BE | SCH.40 | Seamless | ASTM A106 Gr.B | ASME B36.10M | |
| | 8 | 16 | BE | SCH.20 | Seamless | ASTM A106 Gr.B | ASME B36.10M | |
| Nipples | 1/2 | 1 1/2 | PBE/PSE/BLE | Same as Pipe | Nipples | ASTM A106 Gr.B | ASME B36.10M | |
| | 1/2 | 1 | PBE/PLE/TSE | Same as Pipe | Swaged Nipple CONC | ASTM A234 Gr.WPB | MSS-SP-95 | |
| FITTINGS | 1/2 | 1 1/2 | SW | 3000# | Cap | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Reducer Conc.&Ecc. | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Union | ASTM A105 | MSS SP-83 | |
| | 1/2 | 1 1/2 | SW | 3000# | Coupling/Half Coupling | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Elbow 45° & 90° LR | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Tee Eq | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Socketlet | ASTM A105 | MSS SP-97 | |
| | 2 | 16 | BW | Same as Pipe | Cap | ASTM 234 WPB | ASME B16.9 | |
| | 2 | 16 | BW | Same as Pipe | Tee Eq. & Red | ASTM 234 WPB | ASME B16.9 | |
| | 2 | 16 | BW | Same as Pipe | Reducer Conc.&Ecc. | ASTM 234 WPB | ASME B16.9 | |
| | 2 | 16 | BW | Same as Pipe | Elbow 45° & 90° LR | ASTM 234 WPB | ASME B16.9 | |
| FLANGES | 1/2 | 1 1/2 | SW | 150# | Socket welded, RF, SF | ASTM A105 | ASME B16.5 | |
| | 1/2 | 1 1/2 | SW | 300# | Socket welded, RF, SF | ASTM A105 | ASME B16.5 | |
| | 2 | 2 | BW | 600# | Weld Neck, RF, SF | ASTM A105 | ASME B16.5 | |
| | 2 | 16 | BW | Same as Pipe 150# / 300# | Weld Neck, RF, SF | ASTM A105 | ASME B16.5 | |
| | 12 | 16 | BW | Same as Pipe 150# / 300# | Weld Neck, RF, SF | ASTM A105 with Jack Screw | ASME B16.5 | |
| | 1/2 | 16 | - | 150# | Blind, RF, SF | ASTM A105 | ASME B16.5 | |



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شماره پیمان:



۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه |
|------|-------|----------|------|---------|-----------|-----------|-------|
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

شماره صفحه : ۲۵ از ۵۸

| | | | | | | | | |
|-------------|-----|-------|---------|----------------------|---|--|-----------------|----------------|
| | 1/2 | 16 | - | 300# | Blind, RF, SF | ASTM A105 | ASME B16.5 | |
| | 2 | 16 | BW | Same as Pipe 300# | Orifice, With 2 Hole 1/2" NPT Female, RF | ASTM A105 | ASME B16.36 | |
| CLOUSERS | 1/2 | 10 | - | 150# | Spectacle Blind, RF | ASTM A516- Gr.60 | ASME B16.48 | |
| | 12 | 16 | - | 150# | Spade (Ring&Blind), RF | ASTM A516- Gr.60 | ASME B16.48 | |
| GASKETS | 1/2 | 16 | - | 150# | Spiral Wound, 4.45 mm Thick., RF, SF | S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring | ASME B16.20 | |
| | 1/2 | 16 | - | 300# | Spiral Wound, 4.45 mm Thick., RF, SF | S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring | ASME B16.20 | |
| Nut & Bolt | 1/2 | 16 | - | 150# | Stud bolt, Unified threaded | ASTM A 193- B7M | ASME B18.2.1 | Zinc Plated |
| | 1/2 | 16 | - | 150# | Nut, two heavy nuts for each bolt | ASTM A 194 - 2HM | ASME B18.2.2 | Zinc Plated |
| | 1/2 | 16 | - | 300# | Stud bolt, Unified threaded | ASTM A 193- B7M | ASME B18.2.1 | Zinc Plated |
| | 1/2 | 16 | - | 300# | Nut, two heavy nuts for each bolt | ASTM A 194 - 2HM | ASME B18.2.2 | Zinc Plated |
| Gate Valve | 1/2 | 1 1/2 | SW | 800# | Solid wedge, BB, OS.&Y,HO | Body: A105 ,Trim No.12 | API 602 | |
| | 2 | 12 | FLGD-RF | 150# | Flexible wedge, BB, OS.&Y, Renewable Seat Ring, HO | Body: A216 GR. WCB, Trim No.12 | API 600 | |
| | 14 | 16 | FLGD-RF | 150# | Flexible wedge, BB, OS.&Y, Renewable Seat Ring, GO | Body: A216 GR. WCB, Trim No.12 | API 600 | |
| Globe Valve | 1/2 | 1 1/2 | SW | 800# | OS&Y,BB,HO | Body: A 105 .Trim No.12 | API 602 | |
| | 2 | 6 | FLGD-RF | 150# | OS&Y,BB, Renewable Seat Ring, HO | Body: A216 GR. WCB., Trim No.12 | API 623 | |
| | 8 | 16 | FLGD-RF | 150# | OS&Y,BB, Renewable Seat Ring, GO | | API 623 | |
| Check Valve | 1/2 | 1 1/2 | SW | 800# | Lift Type, Piston Type,BC | Body: A 105 .Trim No.12 | API 602 | |
| | 2 | 16 | FLGD-RF | 150# | Swing Type, BC | Body: A216 GR. WCB., Trim No.12 | API 594 | |
| Ball Valve | 1/2 | 1 1/2 | SW | 800# | FB, Soft Seat, Floating Ball, With two 100 mm Nipples, | Body: A105, Ball: 316 Stem: 316 Trim:316+PTFE | API 608 | Note 2 |

| | | | | | | | | | | | | | | | | | | |
|---|---|--|-------|----------|-----------|-----------|-----------|-----------|-------|-----|------|----|----|-----|-------|-----|----|-----------------------------|
|  <p>NISOC</p> | <p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |  | | | | | | | | | | | | | | | | |
| <p>شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴</p> | <p>PIPING MATERIAL SPECIFICATION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">نسخه</td> <td style="width: 10%;">سریال</td> <td style="width: 10%;">نوع مدرک</td> <td style="width: 10%;">رشته</td> <td style="width: 10%;">تسهیلات</td> <td style="width: 10%;">صادرکننده</td> <td style="width: 10%;">بسته کاری</td> <td style="width: 10%;">پروژه</td> </tr> <tr> <td>D05</td> <td>0001</td> <td>SP</td> <td>PI</td> <td>120</td> <td>PEDCO</td> <td>GCS</td> <td>BK</td> </tr> </table> | نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه | D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | <p>شماره صفحه: ۲۶ از ۵۸</p> |
| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه | | | | | | | | | | | |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | | | | | | | | | | | |

| | | | | | | | | |
|----------|-----|-------|---------|------|---|--|----------|--------|
| | 2 | 2 | FLGD-RF | 150# | Lever Operated RB, Soft Seat, Floating Ball, Renewable Seat Ring, Lever Operated | Body: A216 Gr. WCB Ball: 316 Stem: 316 Trim:316+PTFE | API 6D | Note 2 |
| | 3 | 6 | FLGD-RF | 150# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, Lever Operated | | API 6D | Note 2 |
| | 8 | 16 | FLGD-RF | 150# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, GO | | API 6D | Note 2 |
| STRAINER | 1/2 | 1 1/2 | SW | 800# | Y-TYPE | Body: A105 , Screen :A 182 GR. F316L | MFR. STD | |
| | 2 | 2 | FLGD-RF | 150# | Y-TYPE | Body: A216 WCB , Screen :A 182 GR. F316L | MFR. STD | |
| | 3 | 16 | FLGD-RF | 150# | T-TYPE | Body: A234 WPB , Screen :A 182 GR. F316L | MFR. STD | |

Note 1: Thread end will be used just for Orifice flange connections

Note 2: Fire Safe per API 6FA. Anti Static, and Blow-Out Proof Stem shall be considered for these valves.



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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه |
|------|-------|----------|------|---------|-----------|-----------|-------|
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

شماره صفحه : ۲۷ از ۵۸

PIPE CLASS : AN05

| Header Size (Inch) | 1/2 | 3/4 | 1 | 1 1/2 | 2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
|--------------------|-----|-----|---|-------|---|---|---|---|---|----|----|----|----|
| 1/2 | 1 | | | | | | | | | | | | |
| 3/4 | 2 | 1 | | | | | | | | | | | |
| 1 | 2 | 2 | 1 | | | | | | | | | | |
| 1 1/2 | 2 | 2 | 2 | 1 | | | | | | | | | |
| 2 | 4 | 4 | 4 | 4 | 3 | | | | | | | | |
| 3 | 4 | 4 | 4 | 4 | 5 | 3 | | | | | | | |
| 4 | 4 | 4 | 4 | 4 | 5 | 5 | 3 | | | | | | |
| 6 | 4 | 4 | 4 | 4 | 6 | 5 | 5 | 3 | | | | | |
| 8 | 4 | 4 | 4 | 4 | 6 | 6 | 5 | 5 | 3 | | | | |
| 10 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 5 | 5 | 3 | | | |
| 12 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 5 | 5 | 3 | | |
| 14 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 5 | 5 | 3 | |
| 16 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 5 | 3 |
| Size | 1/2 | 3/4 | 1 | 1 1/2 | 2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |

Branch Size (Inch)

| Legend: | 1. EQUAL TEE, SW | 2. RED. TEE, SW | 3. EQUAL TEE, BW |
|---------|------------------|-----------------|------------------|
| | 4. SOCKOLET | 5. RED. TEE, BW | 6. WELDOLET |



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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| | | | | | | | |
|-------|-----------|------------|---------|------|----------|-------|------|
| پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه |
| BK | GCS | PEDCO | 120 | PI | SP | 0001 | D05 |

شماره صفحه: ۲۸ از ۵۸

| SERVICES: Fuel Gas, Close Drain, Flare, Blow down, process gas | | | | | CLASS: AN07 | | | D05 | C.A.:6 mm |
|--|------------|-------|----------------------|---------------------|--|------------------|--------------|--------|--------------|
| DES. (TEMP.) | °C | 85 | Basic Material | Killed Carbon Steel | NACE MR 0175 / ISO 15156 Requirements : Yes | | | | Rating: 150# |
| DES. (PRES.) | BARG | 18.2 | | | Design Code: ASME B31.3 | | | | |
| ITEM | SIZES (In) | | END | SCH./RATING | DESCRIPTION | MATERIAL | STANDARD | NOTE | |
| | FROM | TO | | | | | | | |
| PIPES | 1/2 | 1 1/2 | PBE | SCH.XXS | Seamless | ASTM A106 Gr.B | ASME B36.10M | NOTE 1 | |
| | 2 | 2 | BE | SCH.160 | Seamless | ASTM A106 Gr.B | ASME B36.10M | | |
| | 3 | 6 | BE | SCH.80 | Seamless | ASTM A106 Gr.B | ASME B36.10M | | |
| | 8 | 8 | BE | SCH.60 | Seamless | ASTM A106 Gr.B | ASME B36.10M | | |
| | 10 | 16 | BE | SCH.40 | Seamless | ASTM A106 Gr.B | ASME B36.10M | | |
| | 18 | 20 | BE | SCH.30 | Seamless | ASTM A106 Gr.B | ASME B36.10M | | |
| Nipples | 1/2 | 1 1/2 | PBE/PSE/BLE | Same as Pipe | Nipples | ASTM A106 Gr.B | ASME B36.10M | | |
| | 1/2 | 2 | PBE/PSE/BLE /PLE/TSE | Same as Pipe | Swaged Nipple CONC | ASTM A234 GR.WPB | MSS-SP-95 | | |
| FITTINGS | 1/2 | 1 1/2 | SW | 9000# | Cap | ASTM A105 | ASME B16.11 | | |
| | 3/4 | 1 | THD | 6000# | Cap NPT | ASTM A105 | ASME B16.11 | | |
| | 1/2 | 1 1/2 | SW | 9000# | Reducer Conc.&Ecc. | ASTM A105 | ASME B16.11 | | |
| | 1/2 | 1 1/2 | SW | 9000# | Union | ASTM A105 | MSS SP-83 | | |
| | 1/2 | 1 1/2 | SW | 9000# | Coupling/Half Coupling | ASTM A105 | ASME B16.11 | | |
| | 1/2 | 1 1/2 | SW | 9000# | Elbow 45° & 90° LR | ASTM A105 | ASME B16.11 | | |
| | 1/2 | 1 1/2 | SW | 9000# | Sockolet | ASTM A105 | MSS SP-97 | | |
| | 1 | 1 | SW | 9000# | Tee Eq | ASTM A105 | ASME B16.11 | | |
| | 2 | 20 | BW | Same as Pipe | Cap | ASTM 234 WPB | ASME B16.9 | | |
| | 2 | 20 | BW | Same as Pipe | Tee Eq. & Red, Lateral | ASTM 234 WPB | ASME B16.9 | | |
| | 2 | 20 | BW | Same as Pipe | Reducer Conc.&Ecc. | ASTM 234 WPB | ASME B16.9 | | |
| | 2 | 20 | BW | Same as Pipe | Elbow 45° & 90° LR | ASTM 234 WPB | ASME B16.9 | | |
| | 2 | 20 | BW | Same as Pipe | Weldolet | ASTM A105 | MSS SP-97 | | |
| | 2 | 10 | BW | Same as Pipe | Latrolet | ASTM A105 | MSS SP-97 | | |
| FLANGES | 1/2 | 1 1/2 | SW | 150# | Socket welded, RF,SF | ASTM A105 | ASME B16.5 | | |
| | 1/2 | 1 1/2 | SW | 300# / 600# | Socket welded, RF,SF | ASTM A105 | ASME B16.5 | | |
| | 2 | 20 | BW | Same as Pipe | Weld Neck, RF, | ASTM A105 | ASME B16.5 | | |



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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه |
|------|-------|----------|------|---------|-----------|-----------|-------|
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

شماره صفحه : ۲۹ از ۵۸

| | | | | | | | | |
|-------------|-----|-------|---------|---------------------------------|--|---|--------------|-------------|
| | | | | 150# / 300# / 600# | SF | | | |
| | 12 | 20 | BW | Same as Pipe 150# / 300# / 600# | Weld Neck, RF, SF | ASTM A105 with Jack Screw | ASME B16.5 | |
| | 1/2 | 20 | - | 150# | Blind, RF, SF | ASTM A105 | ASME B16.5 | |
| | 1/2 | 20 | - | 300# | Blind, RF, SF | ASTM A105 | ASME B16.5 | |
| | 2 | 20 | BW | Same as Pipe 300# | Orifice, With 2 Hole 1/2" NPT Female, RF | ASTM A105 | ASME B16.36 | |
| CLOUSERS | 1/2 | 10 | - | 150# | Spectacle Blind, RF | ASTM A516-Gr.60 | ASME B16.48 | |
| | 12 | 20 | - | 150# | Spade(Ring & Blind), RF | ASTM A516-Gr.60 | ASME B16.48 | |
| GASKETS | 1/2 | 20 | - | 150# | Spiral Wound, 4.45 mm Thick., RF, SF | S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring | ASME B16.20 | |
| | 1/2 | 20 | - | 300# | Spiral Wound, 4.45 mm Thick., RF, SF | S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring | ASME B16.20 | |
| Nut & Bolt | 1/2 | 20 | - | 150# | Stud bolt, Unified threaded | ASTM A 193-B7M | ASME B18.2.1 | Zinc Plated |
| | 1/2 | 20 | - | 150# | Nut, two heavy nuts for each bolt | ASTM A 194 - 2HM | ASME B18.2.2 | Zinc Plated |
| | 1/2 | 20 | - | 300# | Stud bolt, Unified threaded | ASTM A 193-B7M | ASME B18.2.1 | Zinc Plated |
| | 1/2 | 20 | - | 300# | Nut, two heavy nuts for each bolt | ASTM A 194 - 2HM | ASME B18.2.2 | Zinc Plated |
| Gate Valve | 1/2 | 1 1/2 | SW | 800# | Solid wedge, BB, OS.&Y,HO | Body: A105 ,Trim No.12 | API 602 | |
| | 2 | 12 | FLGD-RF | 150# | Flexible wedge, BB, OS.&Y, Renewable Seat Ring, HO | Body: A216 GR. WCB, Trim No.12 | API 600 | |
| | 14 | 20 | FLGD-RF | 150# | Flexible wedge, BB, OS.&Y, Renewable Seat Ring, GO | Body: A216 GR. WCB, Trim No.12 | API 600 | |
| Globe Valve | 1/2 | 1 1/2 | SW | 800# | OS&Y, BB, HO | Body: A 105 Trim No.12 | API 602 | |
| | 2 | 6 | FLGD-RF | 150# | OS&Y, BB, Renewable Seat Ring, HO | Body: A216 GR. WCB., Trim No.12 | API 623 | |
| | 8 | 16 | FLGD-RF | 150# | OS&Y, BB, Renewable Seat Ring, GO | | API 623 | |
| Check Valve | 1/2 | 1 1/2 | SW | 800# | Lift Type, Piston Type, BC | Body: A 105 .Trim No.12 | API 602 | |
| | 2 | 20 | FLGD-RF | 150# | Swing Type, | Body: A216 GR. | API 594 | |



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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه |
|------|-------|----------|------|---------|-----------|-----------|-------|
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

شماره صفحه : ۳۰ از ۵۸

| | | | | | BC | WCB., Trim No.12 | | |
|------------|-----|-------|---------|------|---|---|----------|--------|
| Ball Valve | 1/2 | 1 1/2 | SW | 800# | FB, Soft Seat, Floating Ball, With two 100 mm Nipples, Lever Operated | Body: A105, Ball: 316 Stem: 316 Trim:316+PTFE | API 608 | Note 2 |
| | 2 | 2 | FLGD-RF | 150# | RB, Soft Seat, Floating Ball, Renewable Seat Ring, Lever Operated | Body: A216 Gr. WCB, Ball: 316 Stem: 316 Trim:316+PTFE | API 6D | Note 2 |
| | 3 | 6 | FLGD-RF | 150# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, Lever Operated | | API 6D | Note 2 |
| | 8 | 20 | FLGD-RF | 150# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, GO | | API 6D | Note 2 |
| STRAINER | 1/2 | 1 1/2 | SW | 800# | Y-TYPE | Body: A105 , Screen :A 182 GR. F316L | MFR. STD | |
| | 2 | 2 | FLGD-RF | 150# | Y-TYPE | Body: A216 WCB , Screen :A 182 GR. F316L | MFR. STD | |
| | 3 | 20 | FLGD-RF | 150# | T-TYPE | Body: A234 WPB, Screen :A 182 GR. F316L | MFR. STD | |

Note 1: Thread end will be used just for Orifice flange connections

Note 2: Fire Safe per API 6FA. Anti Static, and Blow-Out Proof Stem shall be considered for these valves.



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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| | | | | | | | |
|------|-------|----------|------|---------|-----------|-----------|-------|
| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

شماره صفحه : ۳۱ از ۵۸

PIPE CLASS : AN07

| | | | | | | | | | | | | | | |
|--------------------|-------|-----|-----|---|-------|---|---|---|---|---|----|----|----|----|
| Header Size (Inch) | 1/2 | 1 | | | | | | | | | | | | |
| | 3/4 | 2 | 1 | | | | | | | | | | | |
| | 1 | 2 | 2 | 1 | | | | | | | | | | |
| | 1 1/2 | 2 | 2 | 2 | 1 | | | | | | | | | |
| | 2 | 4 | 4 | 4 | 4 | 3 | | | | | | | | |
| | 3 | 4 | 4 | 4 | 4 | 5 | 3 | | | | | | | |
| | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 3 | | | | | | |
| | 6 | 4 | 4 | 4 | 4 | 6 | 5 | 5 | 3 | | | | | |
| | 8 | 4 | 4 | 4 | 4 | 6 | 6 | 5 | 5 | 3 | | | | |
| | 10 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 5 | 5 | 3 | | | |
| | 12 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 5 | 5 | 3 | | |
| | 14 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 5 | 5 | 3 | |
| | 16 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 5 | 3 |
| | Size | 1/2 | 3/4 | 1 | 1 1/2 | 2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |

PIPE CLASS: AN07 (For Flare Lines)

| | | | | | | | | | | | | | | |
|--------------------|-------|-----|-----|---|-------|---|---|---|---|---|----|----|----|----|
| Header Size (Inch) | 1/2 | 1 | | | | | | | | | | | | |
| | 3/4 | 2 | 1 | | | | | | | | | | | |
| | 1 | 2 | 2 | 1 | | | | | | | | | | |
| | 1 1/2 | 2 | 2 | 2 | 1 | | | | | | | | | |
| | 2 | 4 | 4 | 4 | 4 | 3 | | | | | | | | |
| | 3 | 4 | 4 | 4 | 4 | 5 | 8 | | | | | | | |
| | 4 | 4 | 4 | 4 | 4 | 5 | 8 | 8 | | | | | | |
| | 6 | 4 | 4 | 4 | 4 | 6 | 8 | 8 | 8 | | | | | |
| | 8 | 4 | 4 | 4 | 4 | 6 | 7 | 8 | 8 | 8 | | | | |
| | 10 | 4 | 4 | 4 | 4 | 6 | 7 | 7 | 8 | 8 | 8 | | | |
| | 12 | 4 | 4 | 4 | 4 | 6 | 7 | 7 | 9 | 8 | 8 | 8 | | |
| | 14 | 4 | 4 | 4 | 4 | 6 | 7 | 7 | 7 | 9 | 8 | 8 | 8 | |
| | 16 | 4 | 4 | 4 | 4 | 6 | 7 | 7 | 7 | 9 | 9 | 8 | 8 | 8 |
| | Size | 1/2 | 3/4 | 1 | 1 1/2 | 2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |

Branch Size (Inch)

| | | | |
|---------|------------------|--------------------|------------------|
| Legend: | 1. EQUAL TEE, SW | 2. RED. TEE, SW | 3. EQUAL TEE, BW |
| | 4. SOCKOLET | 5. RED. TEE, BW | 6. WELDOLET |
| | 7. LATROLET, BW | 8. LATERAL TEE, BW | 9. PIPE TO PIPE |



نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| | | | | | | | |
|-------|-----------|------------|---------|------|----------|-------|------|
| پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه |
| BK | GCS | PEDCO | 120 | PI | SP | 0001 | D05 |

شماره صفحه: ۳۲ از ۵۸

| SERVICES: Chemical, Close drain | | | | | CLASS: AS00 | | | C.A.:0 mm |
|---------------------------------|------------|-------|----------------------|-------------------|---|-------------------------------------|--------------------|--------------|
| DES. (TEMP.) | °C | 85 | Basic Material | Stainless Steel | NACE MR 0175 / ISO 15156 Requirements : Remark-1 | | | Rating: 150# |
| DES. (PRES.) | BARG | 13.9 | | | Design Code: ASME B31.3 | | | |
| ITEM | SIZES (In) | | END | SCH./RATING | DESCRIPTION | MATERIAL | STANDARD | NOTE |
| | FROM | TO | | | | | | |
| PIPES | 1/2 | 1 1/2 | PBE | SCH.40S | Seamless | ASTM A312 TP 316L | ASME B36.19M | NOTE 1 |
| | 2 | 16 | BE | SCH.10S | Seamless | ASTM A312 TP 316L | ASME B36.19M | |
| Nipples | 1/2 | 1 1/2 | PBE/PSE/BLE | Same as Pipe | Nipples | ASTM A312 TP 316L | ASME B36.19M | |
| | 1/2 | 2 | PBE/BLE/PSE /PLE/TSE | Same as Pipe | Swaged Nipple CONC/ECC | ASTM A403 WP316L | MSS-SP-95 | |
| FITTINGS | 1/2 | 1 1/2 | SW | 3000# | Cap | ASTM A182 GR.F316L | ASME B16.11 | |
| | 3/4 | 1 1/2 | THD | 3000# | Cap NPT | ASTM A182 GR.F316L | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Reducer Conc. &Ecc. | ASTM A182 GR.F316L | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Union | ASTM A182 GR.F316L | MSS SP-83 | |
| | 1/2 | 1 1/2 | SW | 3000# | Coupling / Half Coupling | ASTM A182 GR.F316L | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Elbow 45° & 90° LR | ASTM A182 GR.F316L | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Tee Eq | ASTM A182 GR.F316L | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Socket | ASTM A182 GR.F316L | MSS SP-97 | |
| | 2 | 16 | BW | Same as Pipe | Cap | ASTM A403 GR.WP316L | ASME B16.9 | |
| | 2 | 16 | BW | Same as Pipe | Tee Eq. & Red | ASTM A403 GR.WP316L | ASME B16.9 | |
| | 2 | 16 | BW | Same as Pipe | Reducer Conc. &Ecc. | ASTM A403 GR.WP316L | ASME B16.9 | |
| | 2 | 16 | BW | Same as Pipe | Elbow 45° & 90° LR | ASTM A403 GR.WP316L | ASME B16.9 | |
| | 2 | 16 | BW | Same as Pipe | Weldolet | ASTM A182 GR.F316L | MSS SP-97 | |
| | FLANGES | 1/2 | 1 1/2 | SW | 150# | Socket welded, RF,SF | ASTM A182 GR.F316L | ASME B16.5 |
| 1/2 | | 1 1/2 | SW | 300# | Socket welded, RF,SF | ASTM A182 GR.F316L | ASME B16.5 | |
| 2 | | 16 | BW | Same as Pipe 150# | Weld Neck, RF, SF | ASTM A182 GR.F316L | ASME B16.5 | |
| 2 | | 2 | BW | 300# | Weld Neck, RF, SF | ASTM A182 GR.F316L | ASME B16.5 | |
| 12 | | 16 | BW | Same as Pipe 150# | Weld Neck, RF, SF | ASTM A182 GR.F316L, Jack Screw Type | ASME B16.5 | |
| 1/2 | | 16 | - | 150# | Blind, RF, SF | ASTM A182 | ASME | |



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شماره پیمان:



۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| | | | | | | | |
|------|-------|----------|------|---------|-----------|-----------|-------|
| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

شماره صفحه: ۳۳ از ۵۸



| | | | | | | | | |
|-------------|-----|-------|---------|----------------------|--|--|------------------------|--|
| | 1/2 | 16 | - | 300# | Blind, RF, SF | GR.F316L ASTM A182 GR.F316L | B16.5 ASME B16.5 | |
| | 2 | 16 | BW | Same as Pipe 300# | Orifice, With 2 Hole 1/2" NPT Female, RF | ASTM A182 GR.F316L | ASME B16.36 | |
| CLOUSERS | 1/2 | 10 | - | 150# | Spectacle Blind, RF | ASTM A240- Gr.316L | ASME B16.48 | |
| | 12 | 16 | - | 150# | Spade(Ring &Blind), RF | ASTM A240- Gr.316L | ASME B16.48 | |
| GASKETS | 1/2 | 16 | - | 150# | Spiral Wound, 4.45 mm Thick., RF, SF | S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring | ASME B16.20 | |
| | 1/2 | 16 | - | 300# | Spiral Wound, 4.45 mm Thick., RF, SF | S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring | ASME B16.20 | |
| Nut & Bolt | 1/2 | 16 | - | 150# | Stud bolt, Unified threaded | ASTM A 193- B8M | ASME B18.2.1 | |
| | 1/2 | 16 | - | 150# | Nut, two heavy nuts for each bolt | ASTM A 194 - 8M | ASME B18.2.2 | |
| | 1/2 | 16 | - | 300# | Stud bolt, Unified threaded | ASTM A 193- B8M | ASME B18.2.1 | |
| | 1/2 | 16 | - | 300# | Nut, two heavy nuts for each bolt | ASTM A 194 - 8M | ASME B18.2.2 | |
| Gate Valve | 1/2 | 1 1/2 | SW | 800# | Solid wedge, BB, OS.&Y,HO | Body: ASTM A182 GR.F316L ,Trim No.10 | API 602 | |
| | 2 | 12 | FLGD-RF | 150# | Flexible wedge, BB, OS.&Y, Renewable Seat Ring, HO | Body: A351 GR. CF3M, Trim No.10 | API 600 | |
| | 14 | 16 | FLGD-RF | 150# | Flexible wedge, BB, OS.&Y, Renewable Seat Ring, GO | Body: A351 GR. CF3M, Trim No.10 | API 600 | |
| Globe Valve | 1/2 | 1 1/2 | SW | 800# | OS&Y,BB, HO | Body: ASTM A182 GR.F316L ,Trim No.10 | API 602 | |
| | 2 | 6 | FLGD-RF | 150# | OS&Y,BB,Renewable Seat Ring, HO | Body: A351 GR. CF3M, Trim No.10 | API 623 | |
| | 8 | 16 | FLGD-RF | 150# | OS&Y,BB,Renewable Seat Ring, GO | Body: A351 GR. CF3M, Trim No.10 | API 623 | |
| Check Valve | 1/2 | 1 1/2 | SW | 800# | Lift Type, Piston Type,BC | Body: ASTM A182 GR.F316L ,Trim No.10 | API 602 | |
| | 2 | 16 | FLGD-RF | 150# | Swing Type, BC | Body: A351 GR. CF3M, Trim No.10 | API 594 | |

| | | | | | | | | | | | | | | | | | | |
|---|---|--|-------|----------|-----------|-----------|-----------|-----------|-------|-----|------|----|----|-----|-------|-----|----|------------------------------|
|  <p>NISOC</p> | <p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |  | | | | | | | | | | | | | | | | |
| <p>شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴</p> | <p>PIPING MATERIAL SPECIFICATION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>نسخه</td> <td>سریال</td> <td>نوع مدرک</td> <td>رشته</td> <td>تسهیلات</td> <td>صادرکننده</td> <td>بسته کاری</td> <td>پروژه</td> </tr> <tr> <td>D05</td> <td>0001</td> <td>SP</td> <td>PI</td> <td>120</td> <td>PEDCO</td> <td>GCS</td> <td>BK</td> </tr> </table> | نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه | D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | <p>شماره صفحه : ۳۴ از ۵۸</p> |
| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه | | | | | | | | | | | |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | | | | | | | | | | | |

| | | | | | | | | |
|------------|-----|-------|---------|------|---|---|----------|--------|
| Ball Valve | 1/2 | 1 1/2 | SW | 800# | FB, Soft Seat, Floating Ball, With two 100 mm Nipples, Lever Operated | Body: ASTM A182 GR.F316L, Ball: 316 Stem: 316 Trim:316+PTFE | API 608 | Note 2 |
| | 2 | 2 | FLGD-RF | 150# | RB, Soft Seat, Floating Ball, Renewable Seat Ring, Lever Operated | Body: ASTM A351 GR.CF3M, Ball: 316 Stem: 316 Trim:316+PTFE | API 6D | Note 2 |
| | 3 | 6 | FLGD-RF | 150# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, Lever Operated | | API 6D | Note 2 |
| | 8 | 16 | FLGD-RF | 150# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, GO | | API 6D | Note 2 |
| STRAINER | 1/2 | 1 1/2 | SW | 800# | Y-TYPE | Body: ASTM A182 GR.F316L, Screen :A 182 GR. F316L | MFR. STD | |
| | 2 | 2 | FLGD-RF | 150# | Y-TYPE | Body: ASTM A351 GR.CF3M, Screen :A 182 GR. F316L | MFR. STD | |
| | 3 | 8 | FLGD-RF | 150# | T-TYPE | Body: A403 WP316L Screen :A 182 GR. F316L | MFR. STD | |

Note 1: Thread end will be used just for Orifice flange connections



Note 2: Fire Safe per API 6FA. Anti-Static and Blow-Out Proof Stem shall be considered for these valves.

| | | | | | | | | | | | | | | | | | | |
|--|---|---|-------|----------|-----------|-----------|-----------|-----------|-------|-----|------|----|----|-----|-------|-----|----|------------------------------|
|  <p>NISOC</p> | <p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |  | | | | | | | | | | | | | | | | |
| <p>شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴</p> | <p>PIPING MATERIAL SPECIFICATION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>نسخه</td> <td>سریال</td> <td>نوع مدرک</td> <td>رشته</td> <td>تسهیلات</td> <td>صادرکننده</td> <td>بسته کاری</td> <td>پروژه</td> </tr> <tr> <td>D05</td> <td>0001</td> <td>SP</td> <td>PI</td> <td>120</td> <td>PEDCO</td> <td>GCS</td> <td>BK</td> </tr> </table> | نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه | D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | <p>شماره صفحه : ۳۵ از ۵۸</p> |
| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه | | | | | | | | | | | |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | | | | | | | | | | | |

PIPE CLASS: AS00

| | | | | | | | | | | | | | | | |
|--------------------|--------------------|---|---|---|----|---|---|---|---|---|----|----|----|----|--|
| Header Size (Inch) | ½ | 1 | | | | | | | | | | | | | |
| | ¾ | 2 | 1 | | | | | | | | | | | | |
| | 1 | 2 | 2 | 1 | | | | | | | | | | | |
| | 1½ | 2 | 2 | 2 | 1 | | | | | | | | | | |
| | 2 | 4 | 4 | 4 | 4 | 3 | | | | | | | | | |
| | 3 | 4 | 4 | 4 | 4 | 5 | 3 | | | | | | | | |
| | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 3 | | | | | | | |
| | 6 | 4 | 4 | 4 | 4 | 6 | 5 | 5 | 3 | | | | | | |
| | 8 | 4 | 4 | 4 | 4 | 6 | 6 | 5 | 5 | 3 | | | | | |
| | 10 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 5 | 5 | 3 | | | | |
| | 12 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 5 | 5 | 3 | | | |
| | 14 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 5 | 5 | 3 | | |
| | 16 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 5 | 3 | |
| | Size | ½ | ¾ | 1 | 1½ | 2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | |
| | Branch Size (Inch) | | | | | | | | | | | | | | |

| | | | |
|---------|------------------|-----------------|------------------|
| Legend: | 1. EQUAL TEE, SW | 2. RED. TEE, SW | 3. EQUAL TEE, BW |
| | 4. SOCKOLET | 5. RED. TEE, BW | 6. WELDOLET |

| | | | | | | | | | | | | | | | | | | |
|--|--|---|-----------|------------|----------|-------|----------|-------|------|----|-----|-------|-----|----|----|------|-----|--|
|  NISOC | نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک |  شرکت توسعه و پیمانکاری HIRGAN ENERGY | | | | | | | | | | | | | | | | |
| شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴ | PIPING MATERIAL SPECIFICATION | شماره صفحه: ۳۶ از ۵۸ | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; text-align: center;"> <tr> <td>پروژه</td> <td>بسته کاری</td> <td>صادر کننده</td> <td>تسهیلات</td> <td>رشته</td> <td>نوع مدرک</td> <td>سریال</td> <td>نسخه</td> </tr> <tr> <td>BK</td> <td>GCS</td> <td>PEDCO</td> <td>120</td> <td>PI</td> <td>SP</td> <td>0001</td> <td>D05</td> </tr> </table> | پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | BK | GCS | PEDCO | 120 | PI | SP | 0001 | D05 | |
| پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | | | | | | | | | | | |
| BK | GCS | PEDCO | 120 | PI | SP | 0001 | D05 | | | | | | | | | | | |

| SERVICES: Potable Water(UG) | | | | CLASS: AX01 | | | | C.A.:0 mm |
|-----------------------------|------------|-------|-------------------------|----------------|--|-------------|---|--------------|
| DES. (TEMP.) | °C | 85 | Basic Material | HDPE (PE -100) | NACE MR 0175 / ISO 15156 Requirements : NO | | | Rating: 150# |
| DES. (PRES.) | BARG | 18.2 | | | Design Code: ASME B31.3 | | | |
| ITEM | SIZES (In) | | END | SCH./RATING | DESCRIPTION | MATERIAL | STANDARD | NOTE |
| | FROM | TO | | | | | | |
| PIPES | 1 | 4 | Fusion Welding, PBE | PN 20 | PIPE | HDPE-PE100 | Man.Std | |
| | 6 | 12 | Fusion Welding, PBE | PN 20 | PIPE | HDPE-PE100 | Man.Std | |
| FITTINGS | 1 | 4 | PBE | PN 20 | Tee Eq. & Red | PE 100 | ISO 4427/Man.Std | |
| | 1 | 4 | PBE | PN 20 | Reducer Conc.&Ecc. | PE 100 | ISO 4427/Man.Std | |
| | 1 | 4 | PBE | PN 20 | Saddle | PE 100 | ISO 4427/Man.Std | |
| | 1 | 4 | PBE | PN 20 | Cap | PE 100 | ISO 4427/Man.Std | |
| | 1 | 10 | PBE | PN 20 | Elbow 45° & 90° LR | PE 100 | ISO 4427/Man.Std | |
| | 6 | 10 | PBE | PN 20 | Tee Eq. & Red | HDPE PE100 | DIN 16963 & MFR STD | |
| FLANGES | 1/2 | 1 1/2 | FF | PN20 | Flange Adapter | PE 100 | ASME B 16.5 | |
| | 1 | 4 | Fusion Welding | PN 20 | Flange Adapter, Butt-Weld Stub End | PE 100 | Man. Std.,Drilling ACC. TO ASME B16.5 | |
| | 6 | 6 | BW, Fusion Weld With CS | PN 20 | STUB END BW | HDPE PE-100 | DIN 16963 | |
| | 10 | 12 | FF | PN20 | Flange Adapter | PE 100 | Backing Ring ASTM A105 as per ASME B 16.5 & Related stud Bolt/Nut | |
| RINGS | 1 | 4 | - | 150# | Backing Ring | ASTM A105 | Man. Std.,Drilling ACC. TO ASME B16.5 | |



نگهداشت و افزایش تولید میدان نفتی بینک
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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه |
|------|-------|----------|------|---------|-----------|-----------|-------|
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

شماره صفحه: ۳۷ از ۵۸

| | | | | | | | | |
|-----------------|---|-------|---------|------|---|---|--------------|-------------|
| GASKETS | 1 | 10 | - | 150# | FLAT RING, 1.5 mm Thick. | Asbestos Free | ASME B16.21 | |
| Nut & Bolt | 1 | 4 | - | 150# | Stud bolt, Unified threaded | ASTM A 193-B7 | ASME B18.2.1 | Zinc Plated |
| | 1 | 4 | - | 150# | Nut, two heavy nuts for each bolt | ASTM A 194 - 2H | ASME B18.2.2 | Zinc Plated |
| Gate Valve | 1 | 10 | FLGD-RF | 150# | Solid wedge, BB, OS.&Y, Renewable Seat Ring, HO | Body: ASTM B148 UNS C95800, Trim: Aluminum Bronze | ASME B16.34 | |
| Globe Valve | 1 | 4 | FLGD-RF | 150# | OS&Y, BB, Renewable Seat Ring, HO | Body: ASTM B148 UNS C95800, Trim: Aluminum Bronze | ASME B16.34 | |
| Check Valve | 1 | 1 1/2 | FLGD-RF | 150# | Lift Type, Piston Type, Renewable Seat Ring, BC | Body and Trim: ASTM B148 UNS C95800 | ASME B16.34 | |
| | 2 | 4 | FLGD-RF | 150# | Swing Type, BC | | | |
| Butterfly Valve | 1 | 4 | FLGD-RF | 150# | Lug, FF, Flanged END (B16.5), Center Line Seat, FB,HO | Body and Trim: ASTM B148 UNS C95800 | ASME B16.34 | |

Note 1: Branch Table will be finalized by vendor.



نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| | | | | | | | |
|-------|-----------|------------|---------|------|----------|-------|------|
| پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه |
| BK | GCS | PEDCO | 120 | PI | SP | 0001 | D05 |

شماره صفحه: ۳۸ از ۵۸

| SERVICES: Instrument Air<4", Potable Water | | | | CLASS: AZ00 | | | | C.A.:0 mm |
|--|------------|-------|----------------|------------------------------|--|--------------------------|--------------|---------------|
| DES. (TEMP.) | °C | 85 | Basic Material | Carbon Steel (GALVD.) NOTE 1 | NACE MR 0175 / ISO 15156 Requirements : NO D05 | | | Rating : 150# |
| DES. (PRES.) | BAR G | 18.2 | | | Design Code: ASME B31.3 | | | |
| ITEM | SIZES (In) | | END | SCH./RATING | DESCRIPTION | MATERIAL | STANDARD | NOTE |
| | FROM | TO | | | | | | |
| PIPES | 1/2 | 1 1/2 | NPT | SCH.80 | Seamless | ASTM A106 Gr.B (GALVD.) | ASME B36.10M | NOTE 1 |
| | 2 | 4 | NPT | SCH.40 | Seamless | ASTM A106 Gr.B (GALVD.) | ASME B36.10M | |
| Nipples | 1/2 | 1 | TBE | Same as Pipe | Swaged Nipple CONC | ASTM A234 Gr.WPB (GALVD) | MSS-SP-95 | |
| FITTINGS | 1 | 1 | THRD | 3000# | Tee Eq | ASTM A105 (GALVD) | ASME B16.11 | |
| | 2 | 2 | THRD | 3000# | Tee Eq | ASTM A105 (GALVD) | ASME B16.11 | |
| | 1/2 | 2 | THRD | 3000# | Tee Red | ASTM A105 (GALVD) | ASME B16.11 | |
| | 1/2 | 4 | THRD | 3000# | Cap | ASTM A105 (GALVD.) | ASME B16.11 | |
| | 1/2 | 4 | THRD | 3000# | Reducer Conc.&Ecc./ | ASTM A105 (GALVD.) | ASME B16.11 | |
| | 1/2 | 4 | THRD | 3000# | Union | ASTM A105 (GALVD.) | MSS SP-83 | |
| | 1/2 | 4 | THRD | 3000# | Coupling /Full Coupling/ Reduced Coupling THRD | ASTM A105 (GALVD.) | ASME B16.11 | |
| | 1/2 | 4 | THRD | 3000# | Elbow 45° & 90° LR | ASTM A105 (GALVD.) | ASME B16.11 | |
| | 1/2 | 4 | THRD | 3000# | Hex. Head Plug | ASTM A105 (GALVD.) | ASME B16.11 | |
| | 1/2 | 4 | THRD | 3000# | Threadolet | ASTM A105 (GALVD.) | MSS SP-97 | |
| FLANGES | 1/2 | 4 | THRD | Same as Pipe 150# | Threaded, RF, SF | ASTM A105 (GALVD.) | ASME B16.5 | |
| | 1/2 | 4 | THRD | Same as Pipe 300# | Threaded, RF, SF | ASTM A105 (GALVD.) | ASME B16.5 | |
| | 1/2 | 4 | - | 150# | Blind, RF, SF | ASTM A105 (GALVD.) | ASME B16.5 | |
| | 1/2 | 4 | - | 300# | Blind, RF, SF | ASTM A105 (GALVD.) | ASME B16.5 | |
| | 1/2 | 4 | THRD | Same as Pipe 300# | Orifice, With 2 Hole 1/2" NPT Female, RF | ASTM A105 (GALVD.) | ASME B16.36 | |
| CLOUSERS | 1/2 | 4 | - | 150# | Spectacle Blind, RF | ASTM A516-Gr.60(GALVD.) | ASME B16.48 | |
| GASKETS | 1/2 | 4 | - | 150# | FLAT RING, 1.5 mm Thick. | Non Metal, Non-Asbestos | ASME B16.21 | |
| | 1/2 | 4 | - | 300# | FLAT RING, 1.5 mm Thick. | Non Metal, Non-Asbestos | ASME B16.21 | |
| Nut & Bolt | 1/2 | 4 | - | 150# | Stud bolt, Unified | ASTM A 193-B7 | ASME | Zinc |



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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION



| | | | | | | | |
|-------|-----------|-----------|---------|------|----------|-------|------|
| پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه |
| BK | GCS | PEDCO | 120 | PI | SP | 0001 | D05 |

شماره صفحه : ۳۹ از ۵۸

| | | | | | | | | |
|-------------|-----|-------|---------|------|---|---|-------------------------|-----------------------|
| | 1/2 | 4 | - | 150# | threaded Nut, two heavy nuts for each bolt | ASTM A 194 -2H | B18.2.1 ASME B18.2.2 | Plated Zinc Plated |
| | 1/2 | 4 | - | 300# | Stud bolt, Unified threaded | ASTM A 193-B7 | ASME B18.2.1 | Zinc Plated |
| | 1/2 | 4 | - | 300# | Nut, two heavy nuts for each bolt | ASTM A 194 -2H | ASME B18.2.2 | Zinc Plated |
| Gate Valve | 1/2 | 1 1/2 | THRD | 800# | Solid wedge, Screwed Bonnet, HO | Body: ASTM B148 UNS C95800, Trim: Aluminum Bronze | MSS SP-80 | |
| | 2 | 4 | FLGD-RF | 150# | Solid wedge, BB, OS.&Y, Renewable Seat Ring, HO | Body: ASTM B148 UNS C95800, Trim: Aluminum Bronze | API 600 | |
| Globe Valve | 1/2 | 1 1/2 | THRD | 800# | OS&Y, BB,HO | Body: ASTM B148 UNS C95800, Trim: Aluminum Bronze | MSS SP-80 | |
| | 2 | 4 | FLGD-RF | 150# | Solid wedge, BB, OS.&Y, Renewable Seat Ring, HO | Body: ASTM B148 UNS C95800, Trim: Aluminum Bronze | API 623 | |
| Check Valve | 1/2 | 1 1/2 | THRD | 800# | Lift Type, Piston Type, BC | Body and Trim: ASTM B148 UNS C95800 | MSS SP-80 | |
| | 2 | 4 | FLGD-RF | 150# | Swing Type, BC | Body and Trim: ASTM B148 UNS C95800 | API 594 | |
| Ball Valve | 1/2 | 1 1/2 | THRD | 800# | FB, Soft Seat, Floating Ball, With two 100 mm Nipples, Lever Operated | Body, Trim and Ball: ASTM B148 UNS C95800, Seat: PTFE | API 608 | Note 2 |
| | 2 | 2 | FLGD-RF | 150# | RB, Soft Seat, Floating Ball, Renewable Seat Ring, Lever Operated | Body, Trim and Ball: ASTM B148 UNS C95800, Seat: PTFE | API 6D | Note 2 |
| | 3 | 4 | FLGD-RF | 150# | RB, Soft Seat, Trunnion Mounted Ball, Renewable Seat Ring, Lever Operated | Body, Trim and Ball: ASTM B148 UNS C95800, Seat: PTFE | API 6D | Note 2 |
| STRAINER | 1/2 | 2 | THRD | 800# | Y-TYPE | Body: ASTM A105 (GALVD.) , Screen : B62 | MFR STD | |
| | 3 | 4 | FLGD-RF | 150# | T-TYPE | Body: A234 WPB(GALVD.) , Screen : B62 | MFR STD | |

Note 1: Hot dip galvanized coating on fabricated shall be according to ASTM A153.

Note 2: Fire Safe per API 6FA. Anti Static, and Blow-Out Proof Stem shall be considered for these valves.

| | | | | | | | | | | | | | | | | | | |
|--|---|--|-------|----------|-----------|-----------|-----------|-----------|-------|-----|------|----|----|-----|-------|-----|----|------------------------------|
|  <p>NISOC</p> | <p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |  | | | | | | | | | | | | | | | | |
| <p>شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴</p> | <p>PIPING MATERIAL SPECIFICATION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>نسخه</td> <td>سریال</td> <td>نوع مدرک</td> <td>رشته</td> <td>تسهیلات</td> <td>صادرکننده</td> <td>بسته کاری</td> <td>پروژه</td> </tr> <tr> <td>D05</td> <td>0001</td> <td>SP</td> <td>PI</td> <td>120</td> <td>PEDCO</td> <td>GCS</td> <td>BK</td> </tr> </table> | نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه | D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | <p>شماره صفحه : ۴۰ از ۵۸</p> |
| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه | | | | | | | | | | | |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | | | | | | | | | | | |

PIPE CLASS : AZ00

| | | | | | | | | |
|--------------------|------|---|---|---|----|---|---|---|
| Header Size (Inch) | ½ | 1 | | | | | | |
| | ¾ | 2 | 1 | | | | | |
| | 1 | 2 | 2 | 1 | | | | |
| | 1½ | 2 | 2 | 2 | 1 | | | |
| | 2 | 2 | 2 | 2 | 2 | 1 | | |
| | 3 | 3 | 3 | 3 | 2 | 2 | 1 | |
| | 4 | 3 | 3 | 3 | 2 | 2 | 2 | 1 |
| | Size | ½ | ¾ | 1 | 1½ | 2 | 3 | 4 |
| Branch Size (Inch) | | | | | | | | |

| | | |
|----------------|----------------------------------|-------------------|
| Legend: | 1. EQUAL TEE, THRD | 2. RED. TEE, THRD |
| | 3. RED. TEE+REDUCING BUSH , THRD | |



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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| | | | | | | | |
|------|-------|----------|------|---------|-----------|-----------|-------|
| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

شماره صفحه : ۴۱ از ۵۸

| SERVICES: close drain, Process Gas | | | | CLASS: CN05 | | | | C.A.:3 mm |
|------------------------------------|------------|-------|-----------------------|---------------------|--|---|--------------|--------------|
| DES. (TEMP.) | °C | 155 | Basic Material | Killed Carbon Steel | NACE 175 Requirements : Yes | | D05 | Rating: 300# |
| DES. (PRES.) | BARG | 47.7 | | | Design Code: ASME B31.3 | | | |
| ITEM | SIZES (In) | | END | SCH./RATING | DESCRIPTION | MATERIAL | STANDARD | NOTE |
| | FROM | TO | | | | | | |
| PIPES | 1/2 | 1 1/2 | PBE | SCH.160 | Seamless | ASTM A106 Gr.B | ASME B36.10M | NOTE 1 |
| | 2 | 2 | BE | SCH.80 | Seamless | ASTM A106 Gr.B | ASME B36.10M | |
| | 3 | 8 | BE | SCH.40 | Seamless | ASTM A106 Gr.B | ASME B36.10M | |
| Nipples | 1/2 | 1 1/2 | PBE/ BLE/PSE | Same as Pipe | Nipples | ASTM A106 Gr.B | ASME B36.10M | |
| | 1/2 | 2 | PBE/ BLE/PSE /PLE/TSE | Same as Pipe | Swaged Nipple CONC | ASTM A234 Gr.WPB | MSS-SP-95 | |
| FITTINGS | 1/2 | 1 1/2 | SW | 6000# | Cap | ASTM A105 | ASME B16.11 | |
| | 3/4 | 1 | THD | 3000# | Cap NPT | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 6000# | Reducer Conc.&Ecc. | ASTM A105 | ASME B16.11 | |
| | 1 | 1 | SW | 6000# | Tee Eq | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 6000# | Union | ASTM A105 | MSS SP-83 | |
| | 1/2 | 1 1/2 | SW | 6000# | Coupling / Full Coupling / Half Coupling | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 6000# | Elbow 45° & 90° LR | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 6000# | Socketolet | ASTM A105 | MSS SP-97 | |
| | 2 | 6 | BW | Same as Pipe | Cap | ASTM 234 WPB | ASME B16.9 | |
| | 2 | 6 | BW | Same as Pipe | Tee Eq. & Red | ASTM 234 WPB | ASME B16.9 | |
| | 2 | 6 | BW | Same as Pipe | Reducer Conc.&Ecc. | ASTM 234 WPB | ASME B16.9 | |
| | 2 | 8 | BW | Same as Pipe | Elbow 45° & 90° LR | ASTM 234 WPB | ASME B16.9 | |
| 2 | 8 | BW | Same as Pipe | Weldolet | ASTM A105 | MSS SP-97 | | |
| FLANGES | 1/2 | 1 1/2 | SW | 300# | Socket welded, RF,SF | ASTM A105 | ASME B16.5 | |
| | 2 | 2 | BW | 600# | Weld Neck, RF, SF | ASTM A105 | ASME B16.5 | |
| | 2 | 8 | BW | Same as Pipe 300# | Weld Neck, RF, SF | ASTM A105 | ASME B16.5 | |
| | 1/2 | 6 | - | 300# | Blind, RF, SF | ASTM A105 | ASME B16.5 | |
| CLOUSERS | 1/2 | 8 | - | 300# | Spectacle Blind, RF | ASTM A516-Gr.70 | ASME B16.48 | |
| GASKETS | 1/2 | 8 | - | 300# | Spiral Wound, 4.45 mm Thick., RF, SF | S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring | ASME B16.20 | |
| Nut & Bolt | 1/2 | 6 | - | 300# | Stud bolt, Unified threaded | ASTM A 193-B7M | ASME B18.2.1 | Zinc Plated |
| | 1/2 | 6 | - | 300# | Nut, two heavy nuts | ASTM A 194 - | ASME | Zinc |



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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION



| | | | | | | | |
|-------|-----------|-----------|---------|------|----------|-------|------|
| پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه |
| BK | GCS | PEDCO | 120 | PI | SP | 0001 | D05 |

شماره صفحه: ۴۲ از ۵۸

| | | | | | for each bolt | 2HM | B18.2.2 | Plated |
|-------------|-----|-------|---------|------|---|--|----------|--------|
| Gate Valve | 1/2 | 1 1/2 | SW | 800# | Solid wedge, BB, OS.&Y, HO | Body: A105 ,Trim No.12 | API 602 | |
| | 2 | 6 | FLGD-RF | 300# | Flexible wedge, BB, OS.&Y, Renewable Seat Ring, HO | Body: A216 GR. WCB, Trim No.12 | API 600 | |
| Globe Valve | 1/2 | 1 1/2 | SW | 800# | OS&Y, BB, HO | Body: A 105 Trim No.12 | API 602 | |
| | 2 | 6 | FLGD-RF | 300# | OS&Y, BB, Renewable Seat Ring, HO | Body: A216 GR. WCB., Trim No.12 | API 623 | |
| Check Valve | 1/2 | 1 1/2 | SW | 800# | Lift Type, Piston Type, BC | Body: A 105 .Trim No.12 | API 602 | |
| | 2 | 6 | FLGD-RF | 300# | Swing Type, BC | Body: A216 GR. WCB., Trim No.12 | API 594 | |
| | 6 | 6 | FLGD-RF | 300# | Non Slam Type, BC | Body: A216 GR. WCB., Trim No.12 | API 594 | |
| Ball Valve | 1/2 | 1 1/2 | SW | 800# | FB, Soft Seat, Floating Ball, With two 100 mm Nipples, Lever Operated | Body: A105, Ball: 316 Stem: 316 Trim:316+RPTFE | API 608 | Note 2 |
| | 2 | 2 | FLGD-RF | 300# | RB, Soft Seat, Floating Ball, Renewable Seat Ring, Lever Operated | Body: A216 Gr. WCB, Ball: 316 Stem: 316 Trim:316+RPTFE | API 6D | Note 2 |
| | 3 | 4 | FLGD-RF | 300# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, Lever Operated | | API 6D | Note 2 |
| | 6 | 6 | FLGD-RF | 300# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, GO | | API 6D | Note 2 |
| STRAINER | 1/2 | 1 1/2 | SW | 800# | Y-TYPE | Body: A105 , Screen :A 182 GR. F316L | MFR. STD | |
| | 2 | 2 | FLGD-RF | 300# | Y-TYPE | Body: A216 WCB , Screen :A 182 GR. F316L | MFR. STD | |
| | 3 | 8 | FLGD-RF | 300# | T-TYPE | Body: A234 WPB , Screen :A 182 GR. F316L | MFR. STD | |

Note 1: Thread end will be used just for Orifice flange connections

Note 2: Fire Safe per API 6FA. Anti Static, and Blow-Out Proof Stem shall be considered for these valves.

| | | | | | | | | | | | | | | | | | | |
|--|---|---|-------|----------|-----------|-----------|-----------|-----------|-------|-----|------|----|----|-----|-------|-----|----|------------------------------|
|  <p>NISOC</p> | <p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |  | | | | | | | | | | | | | | | | |
| <p>شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴</p> | <p>PIPING MATERIAL SPECIFICATION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>نسخه</td> <td>سریال</td> <td>نوع مدرک</td> <td>رشته</td> <td>تسهیلات</td> <td>صادرکننده</td> <td>بسته کاری</td> <td>پروژه</td> </tr> <tr> <td>D05</td> <td>0001</td> <td>SP</td> <td>PI</td> <td>120</td> <td>PEDCO</td> <td>GCS</td> <td>BK</td> </tr> </table> | نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه | D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | <p>شماره صفحه : ۴۳ از ۵۸</p> |
| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه | | | | | | | | | | | |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | | | | | | | | | | | |

PIPE CLASS : CN05

| | | | | | | | | | |
|--------------------|-------|---------------------------|-----|---|-------|---|---|---|---|
| Header Size (Inch) | 1/2 | 1 | | | | | | | |
| | 3/4 | 2 | 1 | | | | | | |
| | 1 | 2 | 2 | 1 | | | | | |
| | 1 1/2 | 2 | 2 | 2 | 1 | | | | |
| | 2 | 4 | 4 | 4 | 4 | 3 | | | |
| | 3 | 4 | 4 | 4 | 4 | 5 | 3 | | |
| | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 3 | |
| | 6 | 4 | 4 | 4 | 4 | 6 | 5 | 5 | 3 |
| | Size | 1/2 | 3/4 | 1 | 1 1/2 | 2 | 3 | 4 | 6 |
| | | Branch Size (Inch) | | | | | | | |

| | | | |
|----------------|------------------|-----------------|------------------|
| Legend: | 1. EQUAL TEE, SW | 2. RED. TEE, SW | 3. EQUAL TEE, BW |
| | 4. SOCKOLET | 5. RED. TEE, BW | 6. WELDOLET |



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شماره پیمان:

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PIPING MATERIAL SPECIFICATION

| | | | | | | | |
|------|-------|----------|------|---------|------------|-----------|-------|
| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادر کننده | بسته کاری | پروژه |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

شماره صفحه : ۴۴ از ۵۸

| SERVICES: close drain, Process Gas | | | | CLASS: CN07 | | | | C.A.:6 mm |
|------------------------------------|------------|----------|----------------|---------------------|--------------------------------------|---|--------------|-------------|
| DES. (TEMP.) | °C | 155 | Basic Material | Killed Carbon Steel | NACE 175 Requirements : Yes | | Rating: 300# | |
| DES. (PRES.) | BARG | 47.7 | | | Design Code: ASME B31.3 | | | |
| ITEM | SIZES (In) | | END | SCH./RATING | DESCRIPTION | MATERIAL | STANDARD | NOTE |
| | FROM | TO | | | | | | |
| PIPES | 1/2 | 1 1/2 | PBE | XXS | Seamless | ASTM A106 Gr.B | ASME B36.10M | NOTE 1 |
| | 2 | 3 | BE | SCH 160 | Seamless | ASTM A106 Gr.B | ASME B36.10M | |
| | 4 | 4 | BE | SCH 120 | Seamless | ASTM A106 Gr.B | ASME B36.10M | |
| | 6 | 6 | BE | SCH 80 | Seamless | ASTM A106 Gr.B | ASME B36.10M | |
| Nipples | 1/2 | 1 1/2 | PBE/PSE/BLE | Same as Pipe | Nipples | ASTM A106 Gr.B | ASME B36.10M | |
| | 1/2 | 1 | PBE/PLE/TSE | Same as Pipe | Swaged Nipple CONC | ASTM A234 Gr.WPB | MSS-SP-95 | |
| FITTINGS | 1/2 | 1 1/2 | SW | 9000# | Cap | ASTM A105 | ASME B16.11 | |
| | 1 | 1 | THRD | 6000# | Cap NPT | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 9000# | Reducer Conc.&Ecc. | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 9000# | Union | ASTM A105 | MSS SP-83 | |
| | 1/2 | 1 1/2 | SW | 9000# | Tee Eq | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 9000# | Coupling / Half Coupling | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 9000# | Elbow 45° & 90° LR | ASTM A105 | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 9000# | Sockolet | ASTM A105 | MSS SP-97 | |
| | 2 | 6 | BW | Same as Pipe | Cap | ASTM 234 WPB | ASME B16.9 | |
| | 2 | 6 | BW | Same as Pipe | Tee Eq. & Red | ASTM 234 WPB | ASME B16.9 | |
| | 2 | 6 | BW | Same as Pipe | Reducer Conc.&Ecc. | ASTM 234 WPB | ASME B16.9 | |
| | 2 | 6 | BW | Same as Pipe | Elbow 45° & 90° LR | ASTM 234 WPB | ASME B16.9 | |
| | 2 | 6 | BW | Same as Pipe | Weldolet | ASTM A105 | MSS SP-97 | |
| FLANGES | 1/2 | 1 1/2 | SW | 300# | Socket welded, RF,SF | ASTM A105 | ASME B16.5 | |
| | 2 | 6 | BW | Same as Pipe 300# | Weld Neck, RF, SF | ASTM A105 | ASME B16.5 | |
| | 1/2 | 6 | - | 300# | Blind, RF, SF | ASTM A105 | ASME B16.5 | |
| CLOUSERS | 1/2 | 6 | - | 300# | Spectacle Blind, RF | ASTM A516-Gr.70 | ASME B16.48 | |
| GASKETS | 1/2 | 6 | - | 300# | Spiral Wound, 4.45 mm Thick., RF, SF | S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring | ASME B16.20 | |
| Nut & Bolt | 1/2 | 6 | - | 300# | Stud bolt, Unified threaded | ASTM A 193-B7M | ASME B18.2.1 | Zinc Plated |



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سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| | | | | | | | |
|-------|-----------|-----------|---------|------|----------|-------|------|
| پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه |
| BK | GCS | PEDCO | 120 | PI | SP | 0001 | D05 |

شماره صفحه: ۴۵ از ۵۸

| | | | | | | | | |
|-------------|-----|----------|---------|------|---|--|--------------|-------------|
| | 1/2 | 6 | - | 300# | Nut, two heavy nuts for each bolt | ASTM A 194 - 2HM | ASME B18.2.2 | Zinc Plated |
| Gate Valve | 1/2 | 1 1/2 | SW | 800# | Solid wedge, BB, OS.&Y,HO | Body: A105 ,Trim No.12 | API 602 | |
| | 2 | 6 | FLGD-RF | 300# | Flexible wedge, BB, OS.&Y, Renewable Seat Ring, HO | Body: A216 GR. WCB, Trim No.12 | API 600 | |
| Globe Valve | 1/2 | 1 1/2 | SW | 800# | OS&Y,BB, HO | Body: A 105 Trim No.12 | API 602 | |
| | 2 | 6 | FLGD-RF | 300# | OS&Y,BB, Renewable Seat Ring, HO | Body: A216 GR. WCB., Trim No.12 | API 623 | |
| Check Valve | 1/2 | 1 1/2 | SW | 800# | Lift Type, Piston Type, BC | Body: A 105 .Trim No.12 | API 602 | |
| | 2 | 6 | FLGD-RF | 300# | Swing Type, BC | Body: A216 GR. WCB., Trim No.12 | API 594 | |
| Ball Valve | 1/2 | 1 1/2 | SW | 800# | FB, Soft Seat, Floating Ball, With two 100 mm Nipples, Lever Operated | Body: A105, Ball: 316 Stem: 316 Trim:316+RPTFE | API 608 | Note 2 |
| | 2 | 2 | FLGD-RF | 300# | RB, Soft Seat, Floating Ball, Renewable Seat Ring, Lever Operated | Body: A216 Gr. WCB, Ball: 316 Stem: 316 Trim:316+RPTFE | API 6D | Note 2 |
| | 3 | 4 | FLGD-RF | 300# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, Lever Operated | | API 6D | Note 2 |
| | 6 | 6 | FLGD-RF | 300# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, GO | | API 6D | Note 2 |
| STRAINER | 1/2 | 1 1/2 | SW | 800# | Y-TYPE | Body: A105 , Screen :A 182 GR. F316L | MFR. STD | |
| | 2 | 2 | FLGD-RF | 300# | Y-TYPE | Body: A216 WCB , Screen :A 182 GR. F316L | MFR. STD | |
| | 3 | 6 | FLGD-RF | 300# | T-TYPE | Body: A234 WPB, Screen :A 182 GR. F316L | MFR. STD | |

Note 1: Thread end will be used just for Orifice flange connections

Note 2: Fire Safe per API 6FA. Anti Static, and Blow-Out Proof Stem shall be considered for these valves.



نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض
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| | | | | | | | | |
|----------------------------------|-------------------------------|-------|----------|------|---------|------------|-----------|-----------------------|
| شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴ | PIPING MATERIAL SPECIFICATION | | | | | | | شماره صفحه : ۴۶ از ۵۸ |
| | نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادر کننده | بسته کاری | |
| | D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

PIPE CLASS : CN07

| | | | | | | | | | |
|--------------------|-------|--------------------|-----|---|-------|---|---|---|---|
| Header Size (Inch) | 1/2 | 1 | | | | | | | |
| | 3/4 | 2 | 1 | | | | | | |
| | 1 | 2 | 2 | 1 | | | | | |
| | 1 1/2 | 2 | 2 | 2 | 1 | | | | |
| | 2 | 4 | 4 | 4 | 4 | 3 | | | |
| | 3 | 4 | 4 | 4 | 4 | 5 | 3 | | |
| | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 3 | |
| | 6 | 4 | 4 | 4 | 4 | 6 | 5 | 5 | 3 |
| | Size | 1/2 | 3/4 | 1 | 1 1/2 | 2 | 3 | 4 | 6 |
| | | Branch Size (Inch) | | | | | | | |

| | | | |
|---------|------------------|-----------------|------------------|
| Legend: | 1. EQUAL TEE, SW | 2. RED. TEE, SW | 3. EQUAL TEE, BW |
| | 4. SOCKOLET | 5. RED. TEE, BW | 6. WELDOLET |



نگهداشت و افزایش تولید میدان نفتی بینک
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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| | | | | | | | |
|-------|-----------|------------|---------|------|----------|-------|------|
| پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه |
| BK | GCS | PEDCO | 120 | PI | SP | 0001 | D05 |

شماره صفحه: ۴۷ از ۵۸

| SERVICES: Chemical, Close drain, Process Gas | | | | CLASS: CS00 | | | | C.A.:0 mm |
|--|------------|----------|----------------|-------------------|---|---|--------------|--------------|
| DES. (TEMP.) | °C | 155 | Basic Material | Stainless Steel | NACE MR 0175 / ISO 15156 Requirements : Remark-1 | | | |
| DES. (PRES.) | BARG | 30.3 | | | Design Code: ASME B31.3 | | | |
| ITEM | SIZES (In) | | END | SCH./RATING | DESCRIPTION | MATERIAL | STANDARD | NOTE |
| | FROM | TO | | | | | | |
| PIPES | 1/2 | 1 1/2 | PBE | SCH.40S | Seamless | ASTM A312 TP 316L | ASME B36.19M | NOTE 1 |
| | 2 | 6 | BE | SCH.10S | Seamless | ASTM A312 TP 316L | ASME B36.19M | |
| Nipples | 1/2 | 1 1/2 | PBE/PSE/BLE | Same as Pipe | Nipples | ASTM A312 TP 316L | ASME B36.19M | |
| | 1/2 | 1 | PBE/PLE/TSE | Same as Pipe | Swaged Nipple CONC | ASTM A403 WP316L | MSS-SP-95 | |
| FITTINGS | 1/2 | 1 1/2 | SW | 3000# | Cap | ASTM A182 GR.F316L | ASME B16.11 | |
| | 3/4 | 3/4 | THRD | 3000# | Cap NPT | ASTM A182 GR.F316L | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Tee Eq | ASTM A182 GR.F 316L | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Reducer Conc.&Ecc. | ASTM A182 GR.F316L | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Union | ASTM A182 GR.F316L | MSS SP-83 | |
| | 1/2 | 1 1/2 | SW | 3000# | Coupling | ASTM A182 GR.F316L | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Elbow 45° & 90° LR | ASTM A182 GR.F316L | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Sockolet | ASTM A182 GR.F316L | MSS SP-97 | |
| | 2 | 6 | BW | Same as Pipe | Cap | ASTM A403 GR.WP316L | ASME B16.9 | |
| | 2 | 6 | BW | Same as Pipe | Tee Eq. & Red | ASTM A403 GR.WP316L | ASME B16.9 | |
| | 2 | 6 | BW | Same as Pipe | Reducer Conc.&Ecc. | ASTM A403 GR.WP316L | ASME B16.9 | |
| | 2 | 6 | BW | Same as Pipe | Elbow 45° & 90° LR | ASTM A403 GR.WP316L | ASME B16.9 | |
| | 2 | 6 | BW | Same as Pipe | Weldolet | ASTM A182 GR.F316L | MSS SP-97 | |
| FLANGES | 1/2 | 1 1/2 | SW | 300# | Socket welded, RF, SF | ASTM A182 GR.F316L | ASME B16.5 | |
| | 2 | 6 | BW | Same as Pipe 300# | Weld Neck, RF, SF | ASTM A182 GR.F316L | ASME B16.5 | |
| | 1/2 | 6 | - | 300# | Blind, RF, SF | ASTM A182 GR.F316L | ASME B16.5 | |
| CLOUSERS | 1/2 | 6 | - | 300# | Spectacle Blind, RF | ASTM A240-Gr.316L | ASME B16.48 | |
| GASKETS | 1/2 | 6 | - | 300# | Spiral Wound, 4.45 mm Thick., RF, SF | S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring | ASME B16.20 | |
| Nut & Bolt | 1/2 | 6 | - | 300# | Stud bolt, Unified | ASTM A 193- | ASME | |



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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه |
|-------|-----------|------------|---------|------|----------|-------|------|
| BK | GCS | PEDCO | 120 | PI | SP | 0001 | D05 |

شماره صفحه: ۴۸ از ۵۸

| | 1/2 | 6 | - | 300# | threaded Nut, two heavy nuts for each bolt | B8M ASTM A 194 -8M | B18.2.1 ASME B18.2.2 | |
|-------------|-----|----------|---------|------|--|--|----------------------------|--------|
| Gate Valve | 1/2 | 1 1/2 | SW | 800# | Solid wedge, BB, OS.&Y,HO | Body: ASTM A182 GR.F316L ,Trim No.10 | API 602 | |
| | 2 | 6 | FLGD-RF | 300# | Flexible wedge, BB, OS.&Y, Renewable Seat Ring, HO | Body: A351 GR. CF3M, Trim No.10 | API 600 | |
| Globe Valve | 1/2 | 1 1/2 | SW | 800# | OS&Y,BB, HO | Body: ASTM A182 GR.F316L ,Trim No.10 | API 602 | |
| | 2 | 6 | FLGD-RF | 300# | OS&Y,BB, Renewable Seat Ring, HO | Body: A351 GR. CF3M, Trim No.10 | API 623 | |
| Check Valve | 1/2 | 1 1/2 | SW | 800# | Lift Type, Piston Type, BC | Body: ASTM A182 GR.F316L ,Trim No.10 | API 602 | |
| | 2 | 6 | FLGD-RF | 300# | Swing Type, BC | Body: A351 GR. CF3M, Trim No.10 | API 594 | |
| Ball Valve | 1/2 | 1 1/2 | SW | 800# | FB, Soft Seat, Floating Ball, With two 100 mm Nipples, Lever Operated | Body: ASTM A182 GR.F316L, Ball: 316 Stem: 316 Trim:316+RPTFE | API 608 | Note 2 |
| | 2 | 2 | FLGD-RF | 300# | RB, Soft Seat, Floating Ball, Renewable Seat Ring, Lever Operated | Body: ASTM A351 GR.CF3M, Ball: 316 Stem: 316 Trim:316+RPTFE | API 6D | Note 2 |
| | 3 | 4 | FLGD-RF | 300# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, Lever Operated | | API 6D | Note 2 |
| | 6 | 6 | FLGD-RF | 300# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, GO | | API 6D | Note 2 |
| STRAINER | 1/2 | 1 1/2 | SW | 800# | Y-TYPE | Body: ASTM A182 GR.F316L, Screen :A 182 GR. F316L | MFR. STD | |
| | 2 | 2 | FLGD-RF | 300# | Y-TYPE | Body: ASTM A351 GR.CF3M, Screen :A 182 GR. F316L | MFR. STD | |
| | 3 | 6 | FLGD-RF | 300# | T-TYPE | Body: A403 WP316L, Screen :A 182 GR. F316L | MFR. STD | |

Note 1: Thread end will be used just for Orifice flange connections

Note 2: Fire Safe per API 6FA. Anti Static, and Blow-Out Proof Stem shall be considered for these valves.



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| | | | | | | | | |
|----------------------------------|-------------------------------|-------|----------|------|---------|-----------|-----------|-----------------------|
| شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴ | PIPING MATERIAL SPECIFICATION | | | | | | | شماره صفحه : ۴۹ از ۵۸ |
| | نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | |
| | D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

PIPE CLASS : CS00

| | | | | | | | | | |
|--------------------|--------------------|-----|-----|---|-------|---|---|---|---|
| Header Size (Inch) | 1/2 | 1 | | | | | | | |
| | 3/4 | 2 | 1 | | | | | | |
| | 1 | 2 | 2 | 1 | | | | | |
| | 1 1/2 | 2 | 2 | 2 | 1 | | | | |
| | 2 | 4 | 4 | 4 | 4 | 3 | | | |
| | 3 | 4 | 4 | 4 | 4 | 5 | 3 | | |
| | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 3 | |
| | 6 | 4 | 4 | 4 | 4 | 6 | 5 | 5 | 3 |
| | Size | 1/2 | 3/4 | 1 | 1 1/2 | 2 | 3 | 4 | 6 |
| | Branch Size (Inch) | | | | | | | | |

| | | | |
|---------|------------------|-----------------|------------------|
| Legend: | 1. EQUAL TEE, SW | 2. RED. TEE, SW | 3. EQUAL TEE, BW |
| | 4. SOCKOLET | 5. RED. TEE, BW | 6. WELDOLET |



نگهداشت و افزایش تولید میدان نفتی بینک
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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| | | | | | | | |
|------|-------|----------|------|---------|-----------|-----------|-------|
| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

شماره صفحه: ۵۰ از ۵۸

| SERVICES: Hydrocarbon Gas | | | | | CLASS: FN05 | | | C.A.:3 mm D05 | Rating: 600# |
|---------------------------|------------|-------|----------------------|---------------------|--|-----------------------------------|--------------|------------------|--------------|
| DES. (TEMP.) | °C | 175 | Basic Material | Killed Carbon Steel | NACE MR 0175 / ISO 15156 Requirements :Yes | | | | |
| DES. (PRES.) | BARG | 90 | | | Design Code: ASME B31.3 | | | | |
| ITEM | SIZES (In) | | END | SCH./RATING | DESCRIPTION | MATERIAL | STANDARD | NOTE | |
| | FROM | TO | | | | | | | |
| PIPES | 1/2 | 1 1/2 | PBE | SCH.160 | Seamless | ASTM A106 Gr.B | ASME B36.10M | NOTE 1 | |
| | 2 | 2 | BE | SCH.160 | Seamless | ASTM A106 Gr.B | ASME B36.10M | | |
| | 3 | 10 | BE | SCH.80 | Seamless | ASTM A106 Gr.B | ASME B36.10M | | |
| Nipples | 1/2 | 1 1/2 | PBE/PSE/BLE | Same as Pipe | Nipples | ASTM A106 Gr.B | ASME B36.10M | | |
| | 1/2 | 2 | PBE/PSE/BLE /PLE/TSE | Same as Pipe | Swaged Nipple CONC | ASTM A234 Gr.WPB | MSS-SP-95 | | |
| FITTINGS | 1/2 | 1 1/2 | SW | 6000# | Cap | ASTM A105 | ASME B16.11 | | |
| | 3/4 | 3/4 | THRD | 6000# | Cap NPT | ASTM A105 | ASME B16.11 | | |
| | 1/2 | 1 1/2 | SW | 6000# | Reducer Conc.&Ecc. | ASTM A105 | ASME B16.11 | | |
| | 1/2 | 1 1/2 | SW | 6000# | Union | ASTM A105 | MSS SP-83 | | |
| | 1 | 1 1/2 | SW | 6000# | Tee Eq | ASTM A105 | ASME B16.11 | | |
| | 3/4 | 1 1/2 | SW | 6000# | Tee Red | ASTM A105 | ASME B16.11 | | |
| | 1/2 | 1 1/2 | SW | 6000# | Coupling | ASTM A105 | ASME B16.11 | | |
| | 1/2 | 1 1/2 | SW | 6000# | Elbow 45° & 90° LR | ASTM A105 | ASME B16.11 | | |
| | 1/2 | 1 1/2 | SW | 6000# | Sockolet | ASTM A105 | MSS SP-97 | | |
| | 2 | 6 | BW | Same as Pipe | Cap | ASTM A234 WPB | ASME B16.9 | | |
| | 2 | 10 | BW | Same as Pipe | Tee Eq. & Red | ASTM A234 WPB | ASME B16.9 | | |
| | 2 | 8 | BW | Same as Pipe | Reducer Conc.&Ecc. | ASTM A234 WPB | ASME B16.9 | | |
| | 2 | 8 | BW | Same as Pipe | Elbow 45° & 90° LR | ASTM A234 WPB | ASME B16.9 | | |
| 2 | 8 | BW | Same as Pipe | Weldolet | ASTM A105 | MSS SP-97 | | | |
| FLANGES | 1/2 | 1 1/2 | SW | 600# | Socket welded, RF,SF | ASTM A105 | ASME B16.5 | | |
| | 2 | 10 | BW | Same as Pipe 600# | Weld Neck, RF, SF | ASTM A105 | ASME B16.5 | | |
| | 1/2 | 6 | - | 600# | Blind, RF, SF | ASTM A105 | ASME B16.5 | | |
| CLOUSERS | 1/2 | 10 | - | 600# | Spectacle Blind, RF | ASTM A516-Gr.70 | ASME B16.48 | | |
| GASKETS | 1/2 | 10 | - | 600# | Spiral Wound, 4.45 mm Thick., RF, SF | S.S 316 Winding /Graphite Filler, | ASME B16.20 | | |



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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴



PIPING MATERIAL SPECIFICATION

| | | | | | | | |
|------|-------|----------|------|---------|-----------|-----------|-------|
| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

شماره صفحه : ۵۱ از ۵۸

| | | | | | | C.S. Outer& S.S 316L Inner Ring | | |
|-------------|-----|-------|---------|------|---|--|--------------------|-------------|
| Nut & Bolt | 1/2 | 6 | - | 600# | Stud bolt, Unified threaded | ASTM A 193-B7M | ASME B18.2.1 | Zinc Plated |
| | 1/2 | 6 | - | 600# | Nut, two heavy hex nuts for each bolt | ASTM A 194 - 2HM | ASME B18.2.2 | Zinc Plated |
| Gate Valve | 1/2 | 1 1/2 | SW | 800# | Solid wedge, BB, OS.&Y,HO | Body: A105 ,Trim No.12 | API 602 | |
| | 2 | 6 | FLGD-RF | 600# | Flexible wedge, BB, OS.&Y, Renewable Seat Ring, HO | Body: A216 GR. WCB, Trim No.12 | API 600 | |
| Globe Valve | 1/2 | 1 1/2 | SW | 800# | OS&Y, BB, HO | Body: A 105 .Trim No.12 | API 602 | |
| | 2 | 4 | FLGD-RF | 600# | OS&Y, BB, Renewable Seat Ring, HO | Body: A216 GR. WCB., Trim No.12 | API 623 | |
| | 6 | 10 | FLGD-RF | 600# | OS&Y, BB, Renewable Seat Ring, GO | Body: A216 GR. WCB., Trim No.12 | API 623 | |
| Check Valve | 1/2 | 1 1/2 | SW | 800# | Piston Lift Type, BC, Horizontal Install Type | Body: A 105 .Trim No.12 | API 602 | |
| | 6 | 6 | FLGD-RF | 600# | Non Slam Type, BC | Body: A216 GR. WCB., Trim No.12 | API 594 | |
| | 2 | 8 | FLGD-RF | 600# | Swing Type, BC | Body: A216 GR. WCB., Trim No.12 | API 594/ API 6D | |
| Ball Valve | 1/2 | 1 1/2 | SW | 800# | FB, Soft Seat, Floating Ball, With two 100 mm Nipples, Lever Operated | Body: A105, Ball: SS316 Trim:316+RPTFE | API 608 | Note 2 |
| | 2 | 3 | FLGD-RF | 600# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, Lever Operated | Body: A216 Gr. WCB, Ball: SS316 Trim:316+RPTFE | API 6D | Note 2 |
| | 4 | 10 | FLGD-RF | 600# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, GO | Body: A216 Gr. WCB, Ball: SS316 Trim:316+RPTFE | API 6D | Note 2 |
| STRAINER | 1/2 | 1 1/2 | SW | 800# | Y-TYPE | Body: A105 , Screen :A 182 GR. F316L | MFR. STD | |
| | 2 | 2 | FLGD-RF | 600# | Y-TYPE | Body: A216 WCB Screen :A 182 GR. F316L | MFR. STD | |
| | 3 | 6 | FLGD-RF | 600# | T-TYPE | Body: A234 WPB Screen :A 182 GR. F316L | MFR. STD | |

Note 1: Thread end will be used just for Orifice flange connections

| | | | | | | | | | | | | | | | | | | |
|--|---|---|-------|----------|-----------|-----------|-----------|-----------|-------|-----|------|----|----|-----|-------|-----|----|------------------------------|
|  <p>NISOC</p> | <p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |  | | | | | | | | | | | | | | | | |
| <p>شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴</p> | <p>PIPING MATERIAL SPECIFICATION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>نسخه</td> <td>سریال</td> <td>نوع مدرک</td> <td>رشته</td> <td>تسهیلات</td> <td>صادرکننده</td> <td>بسته کاری</td> <td>پروژه</td> </tr> <tr> <td>D05</td> <td>0001</td> <td>SP</td> <td>PI</td> <td>120</td> <td>PEDCO</td> <td>GCS</td> <td>BK</td> </tr> </table> | نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه | D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | <p>شماره صفحه : ۵۲ از ۵۸</p> |
| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه | | | | | | | | | | | |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | | | | | | | | | | | |

PIPE CLASS : FN05

| | | | | | | | | | | |
|---------------------------|------|---|---|---|----|---|---|---|---|---|
| Header Size (Inch) | ½ | 1 | | | | | | | | |
| | ¾ | 2 | 1 | | | | | | | |
| | 1 | 2 | 2 | 1 | | | | | | |
| | 1½ | 2 | 2 | 2 | 1 | | | | | |
| | 2 | 4 | 4 | 4 | 4 | 3 | | | | |
| | 3 | 4 | 4 | 4 | 4 | 5 | 3 | | | |
| | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 3 | | |
| | 6 | 4 | 4 | 4 | 4 | 6 | 5 | 5 | 3 | |
| | 8 | 4 | 4 | 4 | 4 | 6 | 6 | 5 | 5 | 3 |
| | Size | ½ | ¾ | 1 | 1½ | 2 | 3 | 4 | 6 | 8 |
| Branch Size (Inch) | | | | | | | | | | |

| | | | |
|----------------|------------------|-----------------|------------------|
| <i>Legend:</i> | 1. EQUAL TEE, SW | 2. RED. TEE, SW | 3. EQUAL TEE, BW |
| | 4. SOCKOLET | 5. RED. TEE, BW | 6. WELDOLET |



نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| | | | | | | | |
|------|-------|----------|------|---------|-----------|-----------|-------|
| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

شماره صفحه: ۵۳ از ۵۸

| SERVICES: Hydrocarbon Gas | | | | CLASS: FN07 | | | | C.A.: 6 mm |
|---------------------------|------------|-----|----------------|---------------------|--|---------------------|-----------------|--------------|
| DES. (TEMP.) | °C | 175 | Basic Material | Killed Carbon Steel | NACE MR 0175 / ISO 15156 Requirements :Yes | | | Rating: 600# |
| DES. (PRES.) | BARG | 90 | | | Design Code: ASME B31.3 | | | |
| ITEM | SIZES (In) | | END | SCH./RATING | DESCRIPTION | MATERIAL | STANDARD | NOTE |
| | FROM | TO | | | | | | |
| PIPES | 1/2 | 1 | PBE | SCH.XXS | Seamless | ASTM A106 Gr.B | ASME B36.10M | NOTE 1 |
| | | 1/2 | | | | | | |
| | 2 | 2 | BE | SCH.XXS | Seamless | ASTM A106 Gr.B | ASME B36.10M | |
| | 3 | 3 | BE | SCH.160 | Seamless | ASTM A106 Gr.B | ASME B36.10M | |
| | 4 | 6 | BE | SCH.120 | Seamless | ASTM A106 Gr.B | ASME B36.10M | |
| | 8 | 8 | BE | SCH.100 | Seamless | ASTM A106 Gr.B | ASME B36.10M | |
| Nipples | 1/2 | 1 | PBE/PSE/BLE | Same as Pipe | Nipples | ASTM A106 Gr.B | ASME B36.10M | |
| | | 1/2 | | | | | | |
| Nipples | 1/2 | 1 | PBE/PLE/TSE | Same as Pipe | Swaged Nipple CONC | ASTM A234 Gr.WPB | MSS-SP-95 | |
| | | | | | | | | |
| FITTINGS | 1/2 | 1 | SW | 9000# | Cap | ASTM A105 | ASME B16.11 | |
| | | 1/2 | | | | | | |
| | 1/2 | 1 | SW | 9000# | Reducer Conc.&Ecc. | ASTM A105 | ASME B16.11 | |
| | | 1/2 | | | | | | |
| | 1/2 | 1 | SW | 9000# | Tee Eq | ASTM A105 | ASME B16.11 | |
| | | 1/2 | | | | | | |
| | 1/2 | 1 | SW | 9000# | Union | ASTM A105 | MSS SP-83 | |
| | | 1/2 | | | | | | |
| | 1/2 | 1 | SW | 9000# | Coupling / Half Coupling | ASTM A105 | ASME B16.11 | |
| | | 1/2 | | | | | | |
| | 1/2 | 1 | SW | 9000# | Elbow 45° & 90° LR | ASTM A105 | ASME B16.11 | |
| | | 1/2 | | | | | | |
| FLANGES | 2 | 8 | BW | Same as Pipe | Cap,SMLS | ASTM A234 WPB | ASME B16.9 | |
| | 2 | 10 | BW | Same as Pipe | Tee Eq. & Red, SMLS | ASTM A234 WPB | ASME B16.9 | |
| | 2 | 10 | BW | Same as Pipe | Reducer Conc.&Ecc, SMLS | ASTM A234 WPB | ASME B16.9 | |
| | 2 | 8 | BW | Same as Pipe | Elbow 45° & 90°, SMLS,LR | ASTM A234 WPB | ASME B16.9 | |
| | 2 | 10 | BW | Same as Pipe | Weldolet | ASTM A105 | MSS SP-97 | |
| | 1/2 | 1 | SW | 600# | Socket welded, RF,SF | ASTM A105 | ASME B16.5 | |
| | | 1/2 | | | | | | |
| | 2 | 10 | BW | Same as Pipe 600# | Weld Neck, RF, SF | ASTM A105 | ASME B16.5 | |
| | 1/2 | 10 | - | 600# | Blind, RF, SF | ASTM A105 | ASME B16.5 | |
| | CLOUSERS | 1/2 | 10 | - | 600# | Spectacle Blind, RF | ASTM A516-Gr.70 | ASME B16.48 |



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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION



| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه |
|------|-------|----------|------|---------|-----------|-----------|-------|
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

شماره صفحه : ۵۴ از ۵۸

| | | | | | | | | |
|-------------|-----|----------|---------|------|---|---|--------------|-------------|
| GASKETS | 1/2 | 10 | - | 600# | Spiral Wound, 4.45 mm Thick., RF, SF | S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring | ASME B16.20 | |
| Nut & Bolt | 1/2 | 8 | - | 600# | Stud bolt, Unified threaded | ASTM A 193-B7M | ASME B18.2.1 | Zinc Plated |
| | 1/2 | 8 | - | 600# | Nut, two Heavy Hex nuts for each bolt | ASTM A 194 - 2HM | ASME B18.2.2 | Zinc Plated |
| Gate Valve | 1/2 | 1 1/2 | SW | 800# | Solid wedge, BB, OS.&Y, HO | Body: A105 ,Trim No.12 | API 602 | |
| | 2 | 8 | FLGD-RF | 600# | Flexible wedge, BB, OS.&Y, Renewable Seat Ring, HO | Body: A216 GR. WCB, Trim No.12 | API 600 | |
| Globe Valve | 1/2 | 1 1/2 | SW | 800# | OS&Y, BB, HO | Body: A 105 . Trim No.12 | API 602 | |
| | 2 | 4 | FLGD-RF | 600# | OS&Y, BB, Renewable Seat Ring, HO | Body: A216 GR. WCB., Trim No.12 | API 623 | |
| | 6 | 8 | FLGD-RF | 600# | OS&Y, BB, Renewable Seat Ring, GO | | API 623 | |
| Check Valve | 1/2 | 1 1/2 | SW | 800# | Piston Lift Type, BC, Horizontal Install Type | Body: A 105 . Trim No.12 | API 602 | |
| | 2 | 8 | FLGD-RF | 600# | Swing Type, BC | Body: A216 GR. WCB., Trim No.12 | API 594 | |
| Ball Valve | 1/2 | 1 1/2 | SW | 800# | FB, Soft Seat, Floating Ball, With two 100 mm Nipples, Lever Operated | Body: A105, Ball: SS316 Stem: 316 Trim: 316+RPTFE | API 608 | Note 2 |
| | 2 | 3 | FLGD-RF | 600# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, Lever Operated | Body: A216 Gr. WCB, Ball: SS316 Trim: 316+RPTFE | API 6D | Note 2 |
| | 4 | 8 | FLGD-RF | 600# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, GO | Body: A216 Gr. WCB, Ball: SS316 Trim: 316+RPTFE | API 6D | Note 2 |
| STRAINER | 1/2 | 1 1/2 | SW | 800# | Y-TYPE | Body: A105 , Screen :A 182 GR. F316L | MFR. STD | |
| | 2 | 2 | FLGD-RF | 600# | Y-TYPE | Body: A216 WCB , Screen :A 182 GR. F316L | MFR. STD | |
| | 3 | 8 | FLGD-RF | 600# | T-TYPE | Body: A234WPB, Screen :A 182 GR. F316L | MFR. STD | |

Note 1: Thread end will be used just for Orifice flange connections

Note 2: Fire Safe per API 6FA. Anti Static, and Blow-Out Proof Stem shall be considered for these valves.

| | | | | | | | | | | | | | | | | | | |
|--|---|--|-------|----------|-----------|-----------|-----------|-----------|-------|-----|------|----|----|-----|-------|-----|----|------------------------------|
|  <p>NISOC</p> | <p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |  | | | | | | | | | | | | | | | | |
| <p>شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴</p> | <p>PIPING MATERIAL SPECIFICATION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>نسخه</td> <td>سریال</td> <td>نوع مدرک</td> <td>رشته</td> <td>تسهیلات</td> <td>صادرکننده</td> <td>بسته کاری</td> <td>پروژه</td> </tr> <tr> <td>D05</td> <td>0001</td> <td>SP</td> <td>PI</td> <td>120</td> <td>PEDCO</td> <td>GCS</td> <td>BK</td> </tr> </table> | نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه | D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | <p>شماره صفحه : ۵۵ از ۵۸</p> |
| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه | | | | | | | | | | | |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | | | | | | | | | | | |

PIPE CLASS : FN07

| | | | | | | | | | | |
|--------------------|-------|--------------------|-----|---|-------|---|---|---|---|---|
| Header Size (Inch) | 1/2 | 1 | | | | | | | | |
| | 3/4 | 2 | 1 | | | | | | | |
| | 1 | 2 | 2 | 1 | | | | | | |
| | 1 1/2 | 2 | 2 | 2 | 1 | | | | | |
| | 2 | 4 | 4 | 4 | 4 | 3 | | | | |
| | 3 | 4 | 4 | 4 | 4 | 5 | 3 | | | |
| | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 3 | | |
| | 6 | 4 | 4 | 4 | 4 | 6 | 5 | 5 | 3 | |
| | 8 | 4 | 4 | 4 | 4 | 6 | 6 | 5 | 5 | 3 |
| | Size | 1/2 | 3/4 | 1 | 1 1/2 | 2 | 3 | 4 | 6 | 8 |
| | | Branch Size (Inch) | | | | | | | | |

| | | | |
|----------------|------------------|-----------------|------------------|
| <i>Legend:</i> | 1. EQUAL TEE, SW | 2. RED. TEE, SW | 3. EQUAL TEE, BW |
| | 4. SOCKOLET | 5. RED. TEE, BW | 6. WELDOLET |



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سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION

| | | | | | | | |
|-------|-----------|------------|---------|------|----------|-------|------|
| پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه |
| BK | GCS | PEDCO | 120 | PI | SP | 0001 | D05 |

شماره صفحه : ۵۶ از ۵۸

| SERVICES: Chemical, Close drain, | | | | | CLASS: FS00 | | | C.A.: 0 mm |
|----------------------------------|------------|-------|----------------------|-------------------|---|---|--------------|--------------|
| DES. (TEMP.) | °C | 175 | Basic Material | Stainless Steel | NACE MR 0175 / ISO 15156 Requirements : | | | Rating: 600# |
| DES. (PRES.) | BARG | 62.4 | | | Design Code: ASME B31.3 | | | |
| ITEM | SIZES (In) | | END | SCH./RATING | DESCRIPTION | MATERIAL | STANDARD | NOTE |
| | FROM | TO | | | | | | |
| PIPES | 1/2 | 1 1/2 | PBE | SCH.40S | Seamless | ASTM A312 TP 316L | ASME B36.19M | NOTE 1 |
| | 2 | 6 | BE | SCH.40S | Seamless | ASTM A312 TP 316L | ASME B36.19M | |
| Nipples | 1/2 | 1 1/2 | PBE/PSE/BLE | Same as Pipe | Nipples | ASTM A312 TP 316L | ASME B36.19M | |
| | 1/2 | 2 | PBE/PSE/BLE /PLE/TSE | Same as Pipe | Swaged Nipple CONC/ECC | ASTM A403 WP316L | MSS-SP-95 | |
| FITTINGS | 1/2 | 1 1/2 | SW | 3000# | Cap | ASTM A182 GR.F316L | ASME B16.11 | |
| | 3/4 | 3/4 | THD | 3000# | Cap NPT | ASTM A182 GR.F316L | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Reducer Conc.&Ecc. | ASTM A182 GR.F316L | ASME B16.11 | |
| | 1 1/2 | 1 1/2 | SW | 3000# | Tee Eq & Red | ASTM A182 GR.F316L | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Union | ASTM A182 GR.F316L | MSS SP-83 | |
| | 1/2 | 1 1/2 | SW | 3000# | Coupling | ASTM A182 GR.F316L | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Elbow 45° & 90° LR | ASTM A182 GR.F316L | ASME B16.11 | |
| | 1/2 | 1 1/2 | SW | 3000# | Socketolet | ASTM A182 GR.F316L | MSS SP-97 | |
| | 2 | 6 | BW | Same as Pipe | Cap | ASTM A403 GR.WP316L | ASME B16.9 | |
| | 2 | 6 | BW | Same as Pipe | Tee Eq. & Red | ASTM A403 GR.WP316L | ASME B16.9 | |
| | 2 | 6 | BW | Same as Pipe | Reducer Conc.&Ecc. | ASTM A403 GR.WP316L | ASME B16.9 | |
| | 2 | 6 | BW | Same as Pipe | Elbow 45° & 90° LR | ASTM A403 GR.WP316L | ASME B16.9 | |
| | 2 | 6 | BW | Same as Pipe | Weldolet | ASTM A182 GR.F316L | MSS SP-97 | |
| FLANGES | 1/2 | 1 1/2 | SW | 600# | Socket welded, RF,SF | ASTM A182 GR.F316L | ASME B16.5 | |
| | 2 | 6 | BW | Same as Pipe 600# | Weld Neck, RF, SF | ASTM A182 GR.F316L | ASME B16.5 | |
| | 1/2 | 6 | - | 600# | Blind, RF, SF | ASTM A182 GR.F316L | ASME B16.5 | |
| CLOUSERS | 1/2 | 6 | - | 600# | Spectacle Blind, RF | ASTM A240-Gr.316L | ASME B16.48 | |
| GASKETS | 1/2 | 6 | - | 600# | Spiral Wound, 4.45 mm Thick., RF, SF | S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring | ASME B16.20 | |
| Nut & Bolt | 1/2 | 6 | - | 600# | Stud bolt, Unified | ASTM A 193- | ASME | |



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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

PIPING MATERIAL SPECIFICATION



| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه |
|------|-------|----------|------|---------|-----------|-----------|-------|
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK |

شماره صفحه: ۵۷ از ۵۸

| | 1/2 | 6 | - | 600# | threaded Nut, two heavy nuts for each bolt | B8M ASTM A 194 -8M | B18.2.1 ASME B18.2.2 | |
|-------------|-----|-------|---------|------|--|--|----------------------------|--------|
| Gate Valve | 1/2 | 1 1/2 | SW | 800# | Solid wedge, BB, OS.&Y, HO | Body: ASTM A182 GR.F316L ,Trim No.10 | API 602 | |
| | 2 | 6 | FLGD-RF | 600# | Flexible wedge, BB, OS.&Y, Renewable Seat Ring, HO | Body: A351 GR. CF3M, Trim No.10 | API 600 | |
| Globe Valve | 1/2 | 1 1/2 | SW | 800# | OS&Y,BB, HO | Body: ASTM A182 GR.F316L ,Trim No.10 | API 602 | |
| | 2 | 4 | FLGD-RF | 600# | OS&Y,BB,Renewable Seat Ring, HO | Body: A351 GR. CF3M, Trim No.10 | API 623 | |
| | 6 | 6 | FLGD-RF | 600# | OS&Y,BB,Renewable Seat Ring, GO | Body: A351 GR. CF3M, Trim No.10 | API 623 | |
| Check Valve | 1/2 | 1 1/2 | SW | 800# | Lift Type, Piston Type, BC | Body: ASTM A182 GR.F316L ,Trim No.10 | API 602 | |
| | 2 | 6 | FLGD-RF | 600# | Swing Type, BC | Body: A351 GR. CF3M, Trim No.10 | API 594 | |
| Ball Valve | 1/2 | 1 1/2 | SW | 800# | FB, Soft Seat, Floating Ball, With two 100 mm Nipples, Lever Operated | Body: ASTM A182 GR.F316L, Ball: 316 Stem: 316 Trim:316+RPTFE | API 608 | Note 2 |
| | 2 | 2 | FLGD-RF | 600# | RB, Soft Seat, Floating Ball, Renewable Seat Ring, Lever Operated | Body: ASTM A351 GR.CF3M, Ball: 316 Stem: 316 Trim:316+RPTFE | API 6D | Note 2 |
| | 3 | 3 | FLGD-RF | 600# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, Lever Operated | | API 6D | Note 2 |
| | 4 | 6 | FLGD-RF | 600# | RB, Soft Seat, Trunnion mounted, Renewable Seat Ring, GO | | API 6D | Note 2 |
| STRAINER | 1/2 | 1 1/2 | SW | 800# | Y-TYPE | Body: ASTM A182 GR.F316L, Screen :A 182 GR. F316L | MFR. STD | |
| | 2 | 2 | FLGD-RF | 600# | Y-TYPE | Body: ASTM A351 GR.CF3M, Screen :A 182 GR. F316L | MFR. STD | |
| | 3 | 6 | FLGD-RF | 600# | T-TYPE | Body: A403 WP316L, Screen :A 182 GR. F316L | MFR. STD | |

Note 1: Thread end will be used just for Orifice flange connections

Note 2: Fire Safe per API 6FA. Anti Static, and Blow-Out Proof Stem shall be considered for these valves.

| | | | | | | | | | | | | | | | | | | |
|--|---|---|-------|----------|-----------|-----------|-----------|-----------|-------|-----|------|----|----|-----|-------|-----|----|-----------------------------|
|  <p>NISOC</p> | <p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |  | | | | | | | | | | | | | | | | |
| <p>شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴</p> | <p>PIPING MATERIAL SPECIFICATION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%;">نسخه</td> <td style="width: 12.5%;">سریال</td> <td style="width: 12.5%;">نوع مدرک</td> <td style="width: 12.5%;">رشته</td> <td style="width: 12.5%;">تسهیلات</td> <td style="width: 12.5%;">صادرکننده</td> <td style="width: 12.5%;">بسته کاری</td> <td style="width: 12.5%;">پروژه</td> </tr> <tr> <td>D05</td> <td>0001</td> <td>SP</td> <td>PI</td> <td>120</td> <td>PEDCO</td> <td>GCS</td> <td>BK</td> </tr> </table> | نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه | D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | <p>شماره صفحه: ۵۸ از ۵۸</p> |
| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه | | | | | | | | | | | |
| D05 | 0001 | SP | PI | 120 | PEDCO | GCS | BK | | | | | | | | | | | |

PIPE CLASS : FS00

| | | | | | | | | | |
|--------------------|------|---------------------------|---|---|----|---|---|---|---|
| Header Size (Inch) | ½ | 1 | | | | | | | |
| | ¾ | 2 | 1 | | | | | | |
| | 1 | 2 | 2 | 1 | | | | | |
| | 1½ | 2 | 2 | 2 | 1 | | | | |
| | 2 | 4 | 4 | 4 | 4 | 3 | | | |
| | 3 | 4 | 4 | 4 | 4 | 5 | 3 | | |
| | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 3 | |
| | 6 | 4 | 4 | 4 | 4 | 6 | 5 | 5 | 3 |
| | Size | ½ | ¾ | 1 | 1½ | 2 | 3 | 4 | 6 |
| | | Branch Size (Inch) | | | | | | | |

| | | | |
|----------------|------------------|-----------------|------------------|
| Legend: | 1. EQUAL TEE, SW | 2. RED. TEE, SW | 3. EQUAL TEE, BW |
| | 4. SOCKOLET | 5. RED. TEE, BW | 6. WELDOLET |