

**OIL & GAS DEVELOPMENT COMPANY LIMITED  
PROCUREMENT DEPARTMENT, ISLAMABAD  
FOREIGN SECTION B**

(To be completed, filled in, signed and stamped by the principal)

**ANNEXURE 'A'**

**Material** CHOKE AND KILL MANIFOLDS ALONGWITH ACCESSORIES  
**Tender Enquiry No** PROC:FB/CB/D-4532/2019  
**Due Date**  
**Evaluation Criteria** FULL

**SCHEDULE OF REQUIREMENT**

Sr No	Description	Unit	Quantity	Unit Price (FOB)	Total Price (FOB)	Unit Price C & F BY SEA	Total Price C & F BY SEA	Deviated From Tender Spec. If Any
1	Complete Set of Choke Manifold Assembly, 4-1/16" X 3-1/16", 10,000 PSI WP AS PER DETAIL DESCRIPTION ATTACHED.	Sets	4					
2	Complete Set of Local Control Panel (LCP) for Single Hydraulic Choke and Single Hydraulic gate Valve = 04 +01 (Spare) As per Detail description attached.	Sets	5					
3	Complete Set of Kill Manifold Assembly, 4-1/16" X 3-1/16", 10,000 psi WP as per detail description attached.	Sets	4					
4	Repair Kit for quoted 4-1/16" -10K psi Manual Gate Valves	Sets	9					
5	Repair Kit for quoted 3-1/16"-10K psi Manual Gate Valves	Sets	9					
6	Repair Kit for quoted 2-1/16"-10K psi Manual Gate Valves	Sets	4					
7	Repair Kit for quoted 4-1/16"-10K psi Hydraulic Gate Valves	Sets	4					
8	Complete Service Kit for quoted 3-1/16"-10K psi Hydraulic Choke for 2 years smooth operation	Sets	4					
9	Complete Service Kit for quoted 3-1/16"-10K psi Manual Adjustable Chokes for 2 years smooth operation	Sets	4					
10	Complete set of service kit for quoted Local Control Panel (LCP) for Single Hydraulic Choke and Single Hydraulic gate Valve for 2 years smooth operation	Sets	2					
11	4-1/16" -10K psi quoted Manual Gate Valves spare gate assembly	Number	10					
12	3-1/16"-10K quoted Manual Gate Valves spare gate assembly	Number	10					
13	2-1/16"-10K psi quoted Manual Gate Valves spare gate assembly	Number	4					
14	4-1/16"-10K psi quoted Hydraulic Gate Valves spare gate assembly	Number	4					
15	4-1/16" -10K psi Manual Gate Valves Anson E-Type or equivalent or superior quality	Number	4					
16	3-1/16"-10K psi Manual Gate Valves Anson E-Type or equivalent or superior	Number	4					
17	2-1/16"-10K psi Manual Gate Valves Anson E-Type or equivalent or superior	Number	4					
18	4-1/16"-10K psi Hydraulic Gate Valves Anson E-Type or equivalent or superior	Number	2					
19	3-1/16"-10K psi HXE G-3 Hydraulic Choke or equivalent or superior, c/w digital Type Position indicator, 2" Orifice	Number	2					
20	3-1/16"-10K psi HXE-G3 Manual Adjustable Chokes or equivalent or superior, 2" Orifice	Number	2					
21	3-1/16"-10K psi Top Entry Check Valves	Number	2					
22	DOUBLE STUDDED ADAPTER FLANGE, 4-1/16"-10,000 PSI(BX-155)X3-1/8"-5,000 PSI(RX-35) WITH ZINC PLATED STUDS AND NUTS, RING GASKETS(SS-316), STANDARD RING GROOVES, H2S SERVICE, AS PER API 6A, PSL-3, PR-2, MAT:EE-NL, TEMP:P+U	Number	4					

**Note:** NOTE:  
01: PAYMENT WILL BE MADE AS PER THE FOREIGN PROCUREMENT PAYMENT TERMS AVAILABLE AT OGDCL WEBSITE (TENDERS TAB) EFFECTIVE FROM FEBRUARY 27, 2018.  
02: PURSUANT TO TENDER CLAUSE # 2.2, 11.4, 13 & 35.3.2, A BID BOND OF USD 70,000/- OR EQUIVALENT IN PAK RUPEES, MUST BE SUBMITTED WITH THE TECHNICAL BID AND IT MUST BE VALID FOR 150 DAYS FROM THE DATE OF OPENING OF THE BID.

*vetted as per approved indent -*  
*[Signature]* 5/12/18

# CHOKE & KILL MANIFOLD ASSEMBLIES ALONG WITH ACCESSORIES

## DETAILED SOR (SCHEDULE OF REQUIREMENT)

### 1. Complete Set of Choke Manifold Assembly, 4-1/16" X 3-1/16", 10,000 psi WP = 04 Sets

#### Each quoted Set of Choke Manifold Assembly should consist of the following:


1. 4-1/16" -10K psi Manual Gate Valves Anson E-Type or equivalent or superior quality = 06 Nos.
  2. 3-1/16" -10K psi Manual Gate Valves Anson E-Type or equivalent or superior quality = 07 Nos.
  3. 2-1/16" -10K psi Manual Gate Valves Anson E-Type or equivalent or superior quality = 01 No.
  4. 4-1/16" -10K psi Hydraulic Gate Valves Anson E-Type or equivalent or superior quality = 01 No.
  5. 3-1/16" -10K psi HXE G-3 Hydraulic Choke or equivalent or superior, c/w digital Type Position indicator, 2" Orifice = 01 No.
  6. 3-1/16" -10K psi HXE-G3 Manual Adjustable Chokes or equivalent or superior, 2" Orifice = 02 Nos.
- Assembled complete with Studded Blocks, Spools, Flanges, Xylan Coated Studs & Nuts (ASTM A194B7 & A193 2H), API 6BX RTJ Ring Gaskets SS 316, etc. Mounted on Heavy Duty Oilfield Skid choke Manifold Frame Assembly. 625 Inconel Inlay on all API-6A Ring Grooves.
  - API-6A Monogram on all Gate Valves and Applicable Flow Fittings.
  - API-16C - built in accordance with API Standard 53.
  - PSL-3
  - PR-2 on all Gate Valves and Chokes
  - Material Class 'EE-NL'
  - Temp Class 'P+U' (-20F to 250F)
  - H2S Service per NACE MR-01-75
  - Standard Coating System for Onshore Application.

#### Constructions should preferably be in the following order or superior:

1. 4-1/16" -10K E-Type MK.2 or equivalent or superior Manual Gate Valve. (See attached drawing serial # 1)
2. 4-1/16" -10K E-Type MK.2 DAO or equivalent or superior Hydraulic Gate Valve. (See attached drawing serial # 2)
3. 4-1/16" -10K API Flanged Integral Spool 26.38" Long. (See attached drawing serial # 15)
4. 4-1/16" -10K API Studded Block 4-way (2x4-1/16" & 2x3-1/16", 1x2-1/16" -10K Connections). (See attached drawing serial # 10)
5. Block Top side, 2-1/16" -10K E-Type MK.2 or equivalent or superior Gate Valve (See attached drawing serial # 4)
6. 2-1/16" -10K API Studded Block Tee (See attached drawing serial # 12)
7. Pressure Gauge 0-10K PSI x 2-1/16" -10K API Flange (See attached drawing serial # 24)
8. 2-1/16" -10K API Flanged Cross over x 2" FIG 1502 Female (See attached drawing serial # 21)
9. Pressure transmitter 0-10K PSI x 2" FIG 1502 Male C/W Nut (See attached drawing serial # 23)
10. Block Upside, 3-1/16" -10K E-Type MK.2 or equivalent or superior Manual Gate Valve. (See attached drawing serial # 3)
11. 3-1/16" -10K E-Type MK.2 or equivalent or superior Manual Gate Valve. (See attached drawing serial # 3)
12. 3-1/16" -10K HXE or equivalent or superior Manual Drilling Choke. (See attached drawing serial # 5)
13. 3-1/16" -10K API Flanged Fabricated Spool 39.13" Long. (See attached drawing serial # 17)

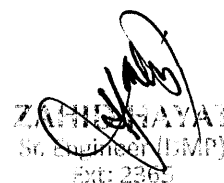
Page 1 of 10

  
**M. Zafar Rehman**  
Manager (DMP)  
Ext: 2396

  
**ZAHIR HAVAEI**  
Sr. Engineer (DMP)  
Ext: 2396

14. 3-1/16"-10K E-Type MK.2 or equivalent or superior Manual Gate Valve. (See attached drawing serial # 3)
15. 4-1/16"-10K API Target Blind Flange. (See attached drawing serial # 18)
16. 4-1/16"-10K E-Type MK.2 or equivalent or superior Manual Gate Valve. (See attached drawing serial # 1)
17. 4-1/16"-10K API neck Flange 5" XXS (See attached drawing serial # 19)
18. 4-1/16"-10k API Studded Block 4-way (3x4-1/16" & 1x3-1/16"-10K Connections) (See attached drawing serial # 9)
19. 4-1/16"-10K API Flanged Integral Spool 10.62" Long. (See attached drawing serial # 16)
20. 4-1/16"-10K API Target Blind Flange. (See attached drawing serial # 18)
21. 4-1/16"-10K API Studded Block 4-way (3x4-1/16" & 1x3-1/16"-10K Connections). (See attached drawing serial # 9)
22. 3-1/16"-10K E-Type MK.2 or equivalent or superior Manual Gate Valve. (See attached drawing serial # 3)
23. 3-1/16"-10K HXE or equivalent or superior Hydraulic Drilling Choke. (See attached drawing serial # 6)
24. NOV or equivalent or superior DECAL (See attached drawing serial # 28)
25. 4-1/16"-10K E-Type MK.2 or equivalent or superior Manual Gate Valve. (See attached drawing serial # 1)
26. 4-1/16"-10K Extended API Studded Block 3-Way 21.88" Long (2x4-1/16" & 1x3-1/16" 10K Connection). (See attached drawing serial # 11)
27. 4-1/16"-10K E-Type MK.2 or equivalent or superior Manual Gate Valve. (See attached drawing serial # 1)
28. 4-1/16" 10K API Studded Block Cross. (See attached drawing serial # 8)
29. Nameplate SS 316 (c/w 4x M5 Cap Head Screws). (See attached drawing serial # 27)
30. 4-1/16"-10K API Flanged Integral Spool 31.75" Long. (See attached drawing serial # 14)
31. 4-1/16"-10K E-Type MK.2 or equivalent or superior Manual Gate Valve. (See attached drawing serial #1)
32. 4-1/16"-10K API Weld neck Flange 5" XXS. (See attached drawing serial # 19)
33. 4-1/16"-10K API Flanged Fabricated Spool 56.13" Long (See attached drawing serial # 13)
34. 4-1/16"-10k API Studded Block 4-way (3x4-1/16" & 1x3-1/16"-10K Connections). (See attached drawing serial # 9)
35. 4-1/16"-10K E-Type MK.2 or equivalent or superior Manual Gate Valve. (See attached drawing serial # 1)
36. 4-1/16"-10K API Weld neck Flange 5" XXS (See attached drawing serial # 19)
37. Choke Manifold Skid Frame Assembly (See attached drawing serial # 29)
38. 3-1/16"-10K HXE or equivalent or superior Manual Drilling Choke (See attached drawing serial # 5)
39. 3-1/16"-10K API Flanged Fabricated Spool 39.13" Long (See attached drawing serial # 17)
40. 3-1/16"-10K E-Type MK.2 or equivalent or superior Manual Gate Valve (See attached drawing serial # 3)
41. Upside Manual Drilling Choke, 3-1/16"-10K E-Type MK.2 or equivalent or superior Manual Gate Valve (See attached drawing serial # 3)
42. 3-1/16"-10K E-Type MK.2 or equivalent or superior Manual Gate Valve (See attached drawing serial # 3)

  
**M. Zafar Rehan**  
 Manager (DMP)  
 Ext: 2396

  
**Z. Husein Hayat**  
 Sr. Engineer (DMP)  
 Ext: 2365

## 2. Complete Set of Local Control Panel (LCP) for Single Hydraulic Choke and Single Hydraulic gate Valve = 04 +01 (Spare) = 05 Sets

Each Set of Control Console for Single Choke, 10,000 psi WP should consist of following:

Suitable to operate single HXE actuated hydraulic drilling choke and single hydraulic gate valve double acting cylinder design actuator (1,900psi Hydraulic operating Pressure)

The choke control console is an open frame carbon steel construction with bulkhead manifold fitted in the rear to receive all hoses to and from the console.

Consisting of the following equipment:

- One (1) Pressure Gauge 6" analog dial (0-10,000psi) Drill Pipe pressure
- One (1) Pressure Gauge 6" analog dial (0-15,000psi) for Casing pressure
- One (1) Choke Position Indicator Gauge **Analog /Digital** (0-100%)
- One (1) Pressure Gauge 1½ "analog dial (0-3000psi) for hydraulic output pressure
- One (1) Rate Meter, Digital Pump Stroke Counter 3 pump / 6 display w/ 200' cable and accessories
- One (1) **G.V.** operation valves (one for each gate valve)
- One (1) Gate Valve open indicator lamp (Green)
- One (1) Gate Valve closed indicator lamp (Red)
- One (1) Choke operating valve
- One (1) Choke speed control valve
- One (1) Hydraulic Reservoir, 5 gallon c/w level indicator and filler breather
- One (1) Manual Hydraulic Hand pump for emergency operations
- One (1) Pressure Relief Valve for Hydraulic pump pressure
- One (1) Air Filter & pressure Regulator
- One (1) Set of control hoses, 50' minimum length for complete operations of the system.


## 3. Complete Set of Kill Manifold Assembly, 4-1/16" X 3-1/16", 10,000 psi WP = 04 SETS

Each quoted Set of Kill Manifold Assembly should consist of the following:

- 4-1/16" -10K psi Manual Gate Valves Anson E-Type or equivalent or superior = 03 Nos.
- 3-1/16" -10K psi Manual Gate Valves Anson E-Type or equivalent or superior = 02 Nos.
- 3-1/16" -10K psi Top Entry Check Valves = 02 Nos.

- Assembled complete with Studded Blocks, Spools, Flanges, Xylan Coated Studs & Nuts (ASTM A194B7 & A193 2H), API 6BX RTJ Ring Gaskets SS 316, etc. Mounted on Heavy Duty Oilfield Skid KILL Manifold Frame Assembly. 625 inconel Inlay on all API-6A Ring Grooves.
- API-6A Monogram on all Gate Valves and Applicable Flow Fittings.

  
**M. Zafar Rehan**  
Manager (DMP)  
Ext: 2396

  
**ZAHID HAYAT**  
Sr. Engineer (DMP)  
Ext: 2365

- API-16C - built in accordance with
- API Standard 53
- PSL-3
- PR-2 on all Gate Valves
- Material Class 'EE-NL'
- Temp Class 'P+U' (-20F to 250F)
- H2S Service per NACE MR-01-75
- Standard Coating System for Onshore Application.


**Constructions should preferably be in the following order or superior:**

1. 4-1/16"-10K E-Type MK.2 or equivalent or superior Manual Gate Valve. **(See attached drawing serial # 1)**
2. 4-1/16"-10K E-Type MK.2 or equivalent or superior Manual Gate Valve. **(See attached drawing serial # 1)**
3. 4-1/16"-10k API Flanged Integral Spool 26.38" Long. **(See attached drawing serial # 15)**
4. 4-1/16"-10k API Studded Block 4-way (2x4-1/16" & 2x3-1/16", 1x2-1/16"-10K Connections). **(See attached drawing serial # 10)**
5. **Block Left side**, 4-1/16"-10K E-Type MK.2 or equivalent or superior Manual Gate Valve. **(See attached drawing serial # 1)**
6. 4-1/16"-10K API Weld neck Flange 5" XXS. **(See attached drawing serial # 19)**
7. **Block upside**, 3-1/16"-10K E-Type MK.2 or equivalent or superior Manual Gate Valve. **(See attached drawing serial # 3)**
8. 3-1/16"-10K Check Valve. **(See attached drawing serial #7)**
9. 3-1/16"-10K API Flanged Crossover x 3" FIG 1502 Female **(See attached drawing serial #20)**
10. 3" FIG 1502 Male Blind C/W Nut **(See attached drawing serial # 22)**
11. **Block Downside**, 3-1/16"-10K E-Type MK.2 or equivalent or superior Manual Gate Valve. **(See attached drawing serial # 3)**
12. 3-1/16"-10K Check Valve. **(See attached drawing serial #7)**
13. 3-1/16"-10K API Flanged Crossover x 3" FIG 1502 Female **(See attached drawing serial #20)**
14. 3" FIG 1502 Male Blind C/W Nut **(See attached drawing serial # 22)**
15. **Block Front side**, Pressure Gauge 0-10K PSI x 2-1/16"-10K API Flange **(See attached drawing serial # 24)**
16. Kill Manifold Skid Frame Assembly **(See attached drawing serial # 30)**

**SPARES (LOOSE ITEMS)**

4. Repair Kit for quoted 4-1/16" -10K psi Manual Gate Valves = 09 Sets.
5. Repair Kit for quoted 3-1/16"-10K psi Manual Gate Valves = 09 Sets.
6. Repair Kit for quoted 2-1/16"-10K psi Manual Gate Valves = 04 Sets.
7. Repair Kit for quoted 4-1/16"-10K psi Hydraulic Gate Valves = 04 Sets.
8. Complete Service Kit for quoted 3-1/16"-10K psi Hydraulic Choke for 2 years smooth operation = 04 Sets.
9. Complete Service Kit for quoted 3-1/16"-10K psi Manual Adjustable Chokes for 2 years smooth operation = 04 Sets.

  
**M. Zafar Rehan**  
 Manager (DMP)  
 Ext: 2396

  
**TAMIR HAYAT**  
 Sr. Engineer (DMP)  
 Ext: 2365

10. Complete set of service kit for quoted Local Control Panel (LCP) for Single Hydraulic Choke and Single Hydraulic gate Valve for 2 years smooth operation = 02 Sets
11. 4-1/16" -10K psi quoted Manual Gate Valves spare gate assembly = 10 NOS
12. 3-1/16" -10K psi quoted Manual Gate Valves spare gate assembly = 10 NOS
13. 2-1/16" -10K psi quoted Manual Gate Valves spare gate assembly = 04 Nos
14. 4-1/16" -10K psi quoted Hydraulic Gate Valves spare gate assembly = 04 Nos
15. 4-1/16" -10K psi Manual Gate Valves Anson E-Type or equivalent or superior quality = 04 Nos.
16. 3-1/16" -10K psi Manual Gate Valves Anson E-Type or equivalent or superior = 04 Nos.
17. 2-1/16" -10K psi Manual Gate Valves Anson E-Type or equivalent or superior = 04 Nos.
18. 4-1/16" -10K psi Hydraulic Gate Valves Anson E-Type or equivalent or superior = 02 Nos.
19. 3-1/16" -10K psi HXE G-3 Hydraulic Choke or equivalent or superior, c/w digital Type Position indicator, 2" Orifice = 02 Nos.
20. 3-1/16" -10K psi HXE-G3 Manual Adjustable Chokes or equivalent or superior, 2" Orifice = 02 Nos.
21. 3-1/16" -10K psi Top Entry Check Valves = 02 Nos.
22. DOUBLE STUDDER ADAPTER FLANGE, 4-1/16" - 10,000 PSI (BX-155) X 3-1/8" -5,000 PSI (RX-35) COMPLETE WITH ZINC PLATED STUDS AND NUTS, RING GASKETS (SS-316), STANDARD RING GROOVES, H2S SERVICE, AS PER API 6A LATEST EDITION, PSL-3, PR-2, MAT: EE-NL, TEMP: P+U. QTY = 04 NOS.

### 4-1/16" x 3-1/16" -10K CHOKE & KILL MANIFOLD ASSEMBLY

#### GENERAL TERMS & CONDITIONS


1. The quoted Single manufacturer of Choke & Kill Manifold Assembly and accessories must have an approval of API specs 6A & 16C for the last Twenty (20) years. In this regard latest & consecutive (Without any breaks) Twenty (20) years back API 6A & API 16C certificates or authentic proof from API official website for the same to be submitted with the technical offer.
2. The quoted sets of Choke & Kill Manifold along with accessories/spares must be brand new & unused. Confirmation to this effect is required in the technical offer.
3. The successful bidder will be required to furnish mill inspection certificate for Choke & Kill Manifold Assembly and accessories with shipping documents. Confirmation to this effect must be provided in the technical offer.
4. Authority letter in original from the manufacturer(s) covering Warranty/Guarantee for offered Choke & Kill Manifold Assembly and accessories for a period of 18 Months from date of shipment with tender enquiry number must be furnished with the technical offer.
5. Authority letters in original from the manufacturer(s) to bidder and from bidder to local agent for offered Choke & Kill Manifold Assembly and accessories with tender enquiry number must be furnished with the technical offer. The authority letter must be on company letter head, showing the name and contact details (E-mail & fax number) of the signing authority.
6. Original Brochure or brochure on CD/USB format of the manufacturer(s) containing technical literature/specs sheets specifying physical/performance properties of quoted Choke & Kill Manifold Assembly and accessories must be submitted with the technical offer.

  
**M. Zafar Rehman**  
 Manager (DMP)  
 Ext: 2396

  
**ZAID HAYAT**  
 Sr. Engineer (DMP)  
 Ext: 2365

7. The manufacturer must have minimum Twenty (20) years' experience in the manufacturing of Choke & Kill Manifold Assembly and accessories and have supplied quoted Choke & Kill Manifold Assembly and accessories each year during last 10 years to the major international E & P companies like PDO, KOC, Shell, BP, Total, ENI, MOL, OMV or equivalent and drilling contractors company like Schlumberger, Weatherford, Exalo etc. In this regard bidder(s)/ manufacturer should provide last 10 (ten) years comprehensive detailed supply record containing detail of offered and similar Choke & Kill Manifold Assembly along with accessories, quantity, name of customers other than manufacturer's own country should be submitted with the technical offer. The supply record must be on the company letterhead and should indicate the Name & Designation of the signing authority along with his complete contact details phone & fax numbers and his official email address.
8. If manufacturer has not already supplied Choke & Kill Manifold Assembly to OGDCL then Bidder/Manufacturer must submit with technical bid, unpriced copies of at least 10 different purchase orders (for different clients) for quoted Choke & Kill Manifold Assembly and accessories being supplied to the major international E & P companies like PDO, KOC, Shell, BP, Total, ENI, MOL, OMV or equivalent and drilling contractors company like Schlumberger, Weatherford, Exalo or equivalent in other than manufacturer's own country. (Documentary evidence to prove the equivalent stature of E & P Company/ Drilling contractors other than specified above will be required along with technical bid, to ascertain the equivalency of E & P Company/ Drilling contractors other than specified above will be OGDCL sole discretion).
9. If manufacturer has not already supplied Choke & Kill Manifold Assembly to OGDCL then certificates of satisfactory performance of quoted Choke & Kill Manifold Assembly and accessories only issued by authorized official(s) of at least 5 (Five) different renowned international E&P companies like PDO, KOC, Shell, BP, Total, ENI, MOL, OMV or equivalent and drilling contractor companies like Schlumberger, Weatherford, Exalo etc other than manufacturer's own country in favour of manufacturer to be submitted with the technical offer. If manufacturer has already supplied Choke & Kill Manifold Assembly to OGDCL then its performance will be evaluated on in house report. The Provided Performance certificates must be on the company letterhead and should indicate the Name & Designation of the signing authority along with his complete contact details phone & fax numbers and his official email address. However above certificate(s) issued by joint ventures and supply/trading house(s) will not be accepted. (Documentary evidence to prove the equivalent stature of E & P Company/ Drilling contractors other than specified above will be required along with technical bid, to ascertain the equivalency of E & P Company/ Drilling contractors other than specified above will be OGDCL sole discretion).
10. Evaluation criteria will be Full consignment wise.
11. Bidder(s) must ensure to provide required specification/information/documents mentioned above. OGDCL may verify any documents provided.
12. **Delivery required:** - Within **180 days** after establishment of letter of credit C&F Karachi by sea.
13. Third party inspection by internationally reputed inspection company is required as per oil industry practice. TPI will be arranged by OGDCL from any of the following parties (i) M/S SGS

  
**M. Zafar Rehman**  
Manager (DMP)  
Ext: 2396


  
**ZAID HAYAT**  
Sr. Engineer (DMP)  
Ext: 2365

Pakistan (Private) Limited, Pakistan (ii) M/S Bureau VERITAS Pakistan (Pvt) Ltd, Pakistan (iii) M/S TUV Austria Bureau of inspection & certification (Pvt) Ltd, Pakistan (iv) M/s TUV Rheinland Arabia LLC, Pakistan (v) M/S Velosi, Pakistan .Bidder will assist and make necessary arrangement for TPI. Bidder to confirm that the Third Party Inspection (TPI) report verified by OGDCL will be provided with the shipping documents for LC encashment.

**Scope of work for TPI will be as follows but will not be limited to these:**

- a) Full Process inspection from the day 1st of manufacturing as per industry standard & API 6A & API 16C Specifications.
  - b) Verification of All Raw material certificates including Forgings etc for confirmation of country of origin of Raw Materials. All Raw materials including forging preferably should be of Western Europe & American origin.
  - c) Verification of full body ultrasonic inspection where applicable.
  - d) Visual inspection for any defects
  - e) Verification of mill test certificates.
  - f) Verification that all equipment is brand new and unused.
  - g) Verification that all the materials (quantity & specifications) & documents are in accordance with Purchase order.
  - h) Verification that all choke & Kill Manifold Assembly and accessories are manufactured as per relevant API specs.
14. Technical literature of offered Choke & Kill Manifold Assembly and accessories specifying model, type & part nos. should be submitted with the technical offer.
  15. The bidder is required to furnish undertaking from respective OEM of the offered equipment confirming availability of spare parts for the offered equipments for the next five (05) years.
  16. All the equipment's should be boxed (where applicable) and packed in compact manner as per international standard to ensure safe transportation during shipment.
  17. Adequate and relevant OEM technical literature, service/maintenance manual & drawings (in printed form) of quoted equipments must be submitted with the technical bid to facilitate technical evaluation and all correspondence/ literature must be in English language.
  18. 02 (two) sets (hard copy) as well as one soft copy (readable CD/USB) each of service/maintenance manual and part catalogue of each equipment to be provided by the successful bidder with the consignment.
  19. Note: All Valves to be tested to a pressure of 15,000 PSI & Choke & Kill Manifold complete Assembly to 10,000 PSI (Hydro test Pressure).
  20. All the quoted valves should be of only AISI 4130 Alloy steel forged material, as per API 6A Latest Edition, PSL-3, PR-2, Temperature Class 'P+U' Material Class 'EE-NL' in compliance with NACE MR-0175 for all the equipment. Documentary evidence in this regard with the technical quotation.
  21. All valves & Repair kits must be brand new & un-used. Confirmation to this effect is required in the technical offer.


  
**M. Zafar Rehman**  
Manager (DMP)  
Ext: 2396

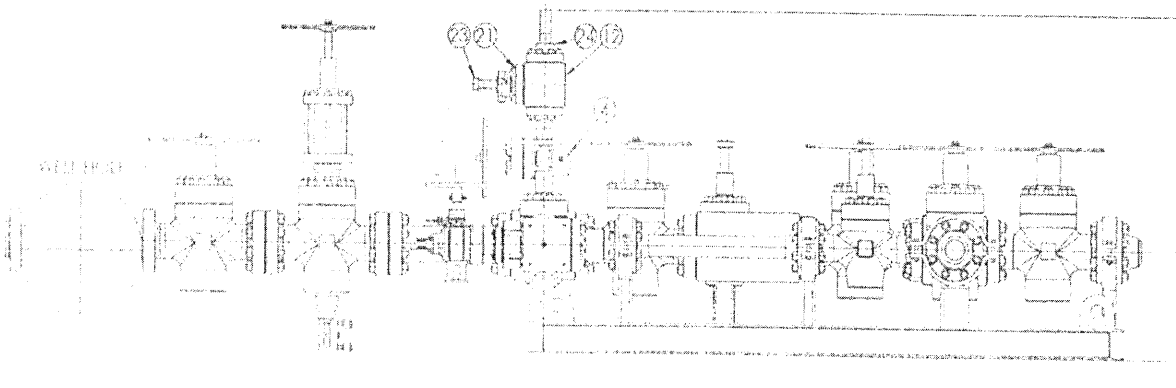
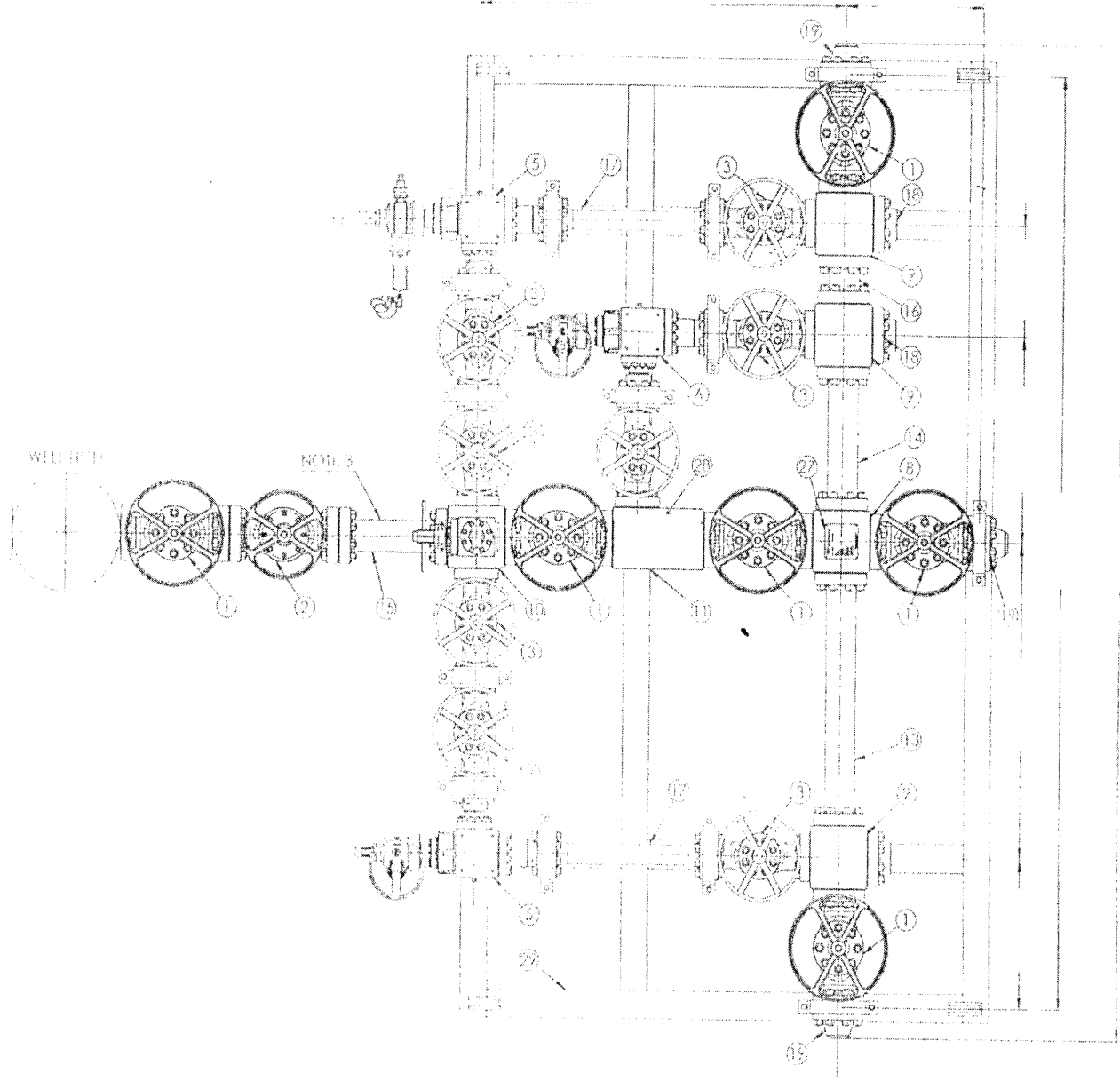
  
**ZAHID HAYAT**  
Sr. Engineer (DMP)  
Ext: 2365



22. Repair kits for of Gate valves should include Pins, Bearings, Bonnet Seal, Seat Seal, Stem Packing, O-rings, stem high pressure seal packing etc and any other part essentially required to service the valve. However kit may not include major items e.g. gate, hand wheels etc. The repair kit should include all the items required to service Gate valves at rig site.
23. The gate valves must be of forged material and also fulfill following requirements
- I. The gate valves with split gates are not acceptable, only solid gates are acceptable.
  - II. Body bushing must be free floating (pressed in body bushings are not acceptable).
  - III. Valve stem and bonnet must have back seating feature (metal to metal) to allow stem packing change while under pressure.
  - IV. Sealant injection ports on the valve body are not acceptable.
  - V. All the Gate valves should be bi-directional.
24. The Manufacturer must supply the required ring gasket (02 numbers) material SS 316 or higher grade along with complete accessories for each gate valve to assemble.

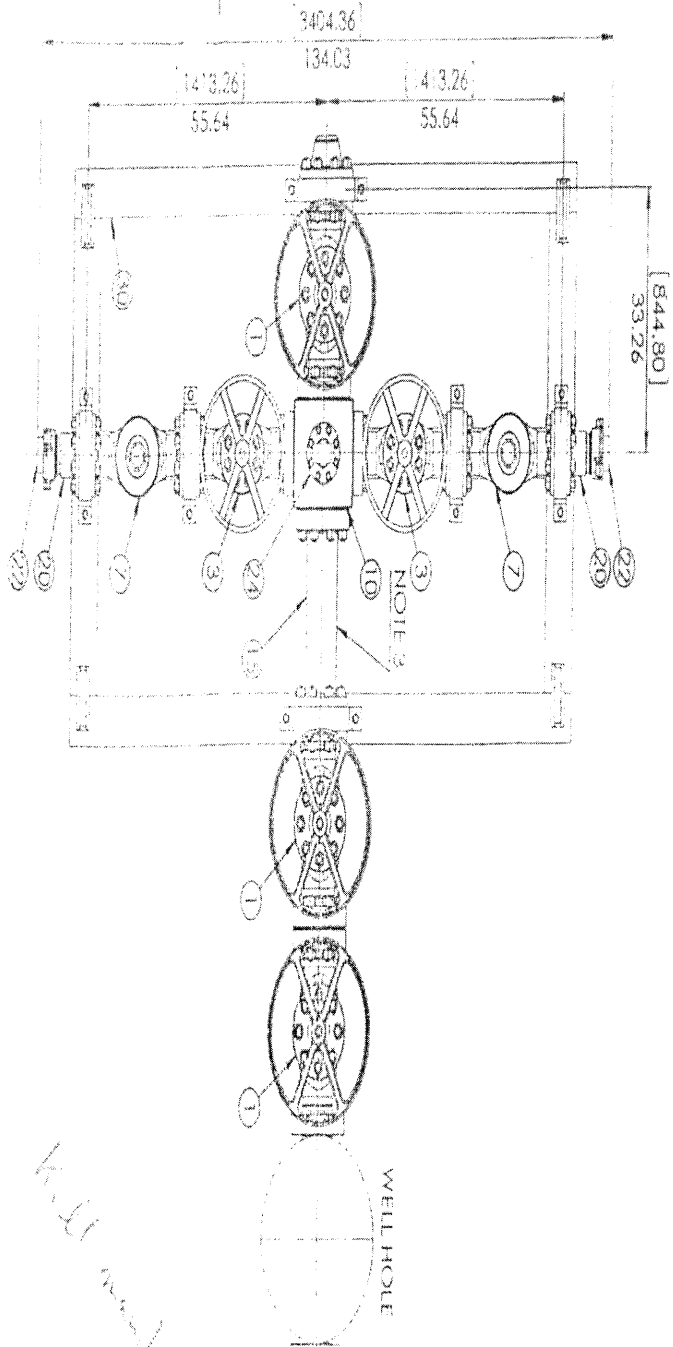
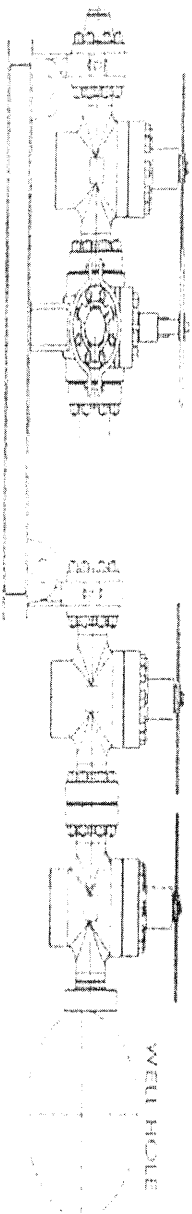
  
**M. Zafar Rehan**  
Manager (DMP)  
Ext: 2396

  
ZAHID HAYAT  
Sr. Engineer (DMP)  
Ext: 2365



*M. Zafar Rehan*  
**M. Zafar Rehan**  
Manager (DMP)  
Ext: 2396

*Zahid Hayat*  
**ZAHID HAYAT**  
Sr. Engineer (DMP)  
Ext: 2365



*Handwritten note:* Well hole

*M. Zafar Rehan*  
**M. Zafar Rehan**  
 Manager (DMP)  
 Ext: 2396

*Zahid Ali*  
**ZAHID ALI**  
 Sr. Engineer (DMP)  
 Ext: 2365