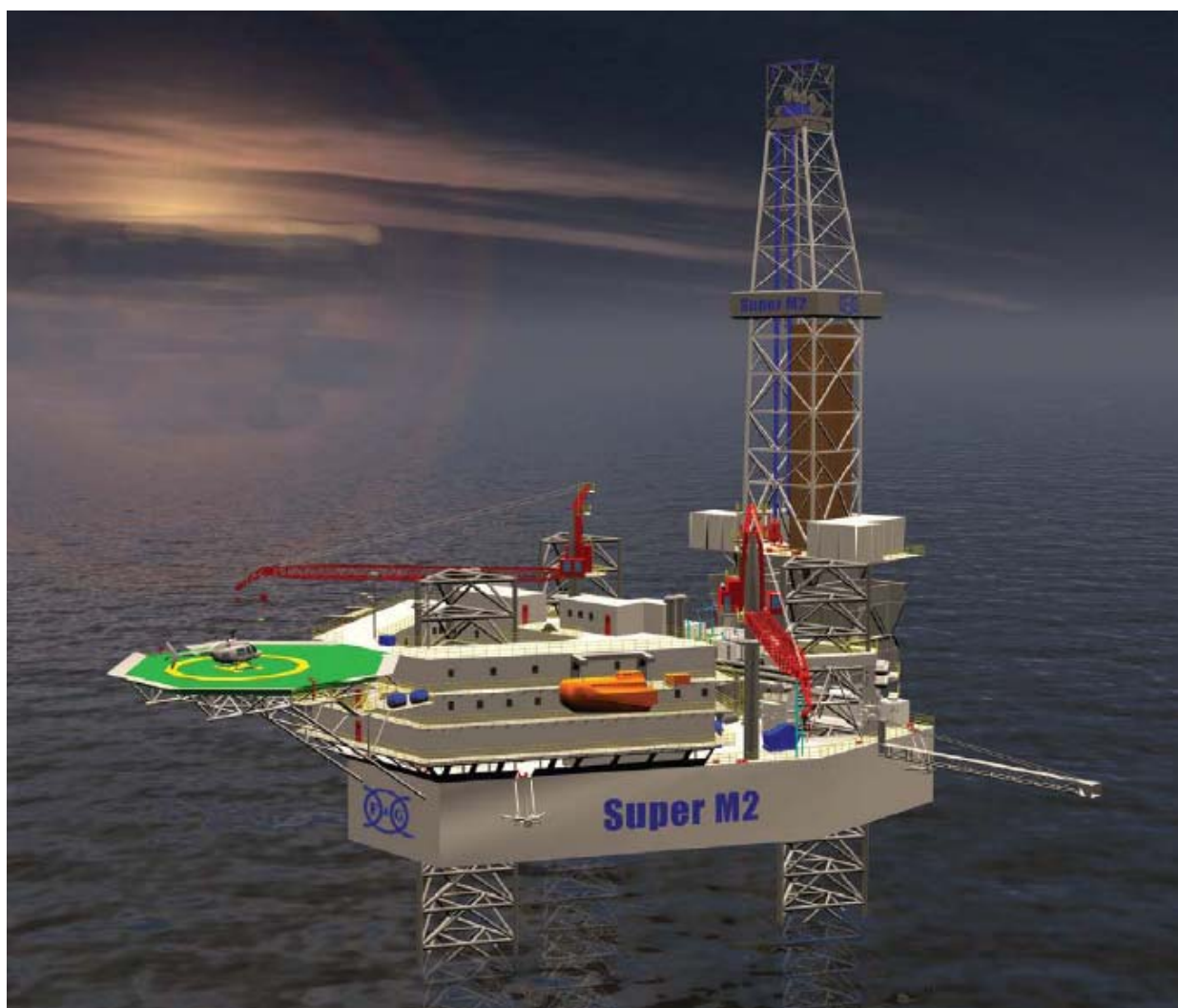


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EQUIPMENT LIST

JACK-UP DRILLING UNIT



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A UNIT SPECIFICATIONS

A.1 UNIT OWNER DATA

A.1.1 Owner General Data

- | | | | |
|---|----------------------------------|---|-----------------------------|
| 1 | Rig Owner | : | KS Energy Services Ltd. |
| 2 | Rig Operation Management | : | Atlantic Oilfield Services. |
| 3 | Owner Head-office address | : | P.O.Box. 228717 Dubai,UAE |
| 4 | Management Head office address | : | AS ABOVE |
| 5 | Owner Head office telephone | : | +971 48852169 |
| 6 | Management Head office telephone | : | +971 48852169 |

A.2 UNIT DATA

A.2.1 Unit General Data

- | | | | |
|---|--|---|---|
| 1 | Unit Name | : | |
| 2 | Unit Type | : | Self-Elevating Mobile Offshore Drilling Unit. |
| 3 | Unit Flag | : | Panama |
| 4 | Unit Classification | : | ABS |
| 5 | Unit Design | : | F&G Super M2 300ft Cantilever |
| 6 | Year of Unit construction | : | 2009 |
| 7 | Unit construction shipyard | : | MIS , Sharja,UAE |
| 8 | Actual Unit Location | : | Ship Yard |
| 9 | Actual Unit Status (drilling,-Idle,etc.) | : | Under Construction |

A.3 MAIN DIMENSIONS OF THE UNIT

A.3.1 Main Dimensions of Hull

- | | | | |
|---|--|----|------|
| 1 | Light Ship weight | Mt | TBN |
| 2 | Main deck width | ft | 183 |
| 3 | Main deck length | ft | 196 |
| 4 | Main deck Depth | ft | 25 |
| 5 | Longitudinal distance between center Legs | ft | 115 |
| 6 | Transversal distance between center Legs | ft | 120 |
| 7 | Jack House height. | ft | 20,5 |
| 8 | Distance from Rig Floor to Bottom of Hull. | ft | 60 |

A.3.2 Main Dimensions of Legs

- | | | | |
|---|--|-----------------|-------------------------------|
| 1 | Legs; quantity | No | 3 |
| 2 | Leg Shape type | : | TRIANGULAR |
| 3 | Leg actual length installed | ft | 411 |
| 4 | Leg Max length that can be installed. | ft | TBN |
| 5 | Leg Max Usable length below the Hull. | ft | 337 |
| 6 | Leg Minimum safe reserve, upper guide to top of leg. | ft | 28,5 Depending on Penetration |
| 7 | Leg Spudcan Diameter. | ft | 50 |
| 8 | Leg Spudcan Height. | ft | 25 |
| 9 | Leg Spudcan Foot Print area. | ft ² | 1962/182 |

A.3.3 Spud- can Jetting system

- | | | | |
|---|---|--------|---------------------|
| 1 | Jetting system type | : | LOW & HIGH PRESSURE |
| 2 | Able to use High Pressure with Rig Mud pumps. | Yes/No | YES |

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A.3.4 Jacking system

1	Number of Pinions per leg	No.	18
2	Lifting capacity of each pinion	Mt	200
3	Holding capacity of each pinion	Mt	318/445/557
4	Speed, raising hull	ft/m	1,5
5	Speed, lowering hull	ft/m	1,5

A.3.5 Derrick Skidding system

1	Max.longitudinal skidding capacity	ft	50
2	Max.Transversal skidding capacity	ft	2 x 15
3	Max quantity of drill pipe stands can be kept racked on derrick during the skidding operation.	ft	TBN
4	Max quantity of drill Collars stands can be kept racked on derrick during the skidding operation	ft	TBN

A.4. UNIT STORAGE CAPACITIES

A.4.1 Unit Storage capacity

1	Fuel	bbls	4000
2	drilling water	bbls	4000
3	Potable water	bbls	2000
4	Liquid mud (active & reserve)	bbls	2900
5	Mud processing Tank	bbls	TBN
6	Waste liquid (mud and washing water)	bbls	2 x 95
7	Brine	bbls	919
8	Oil base Mud	bbls	919
9	Bulk bentonite/Barite	ft ³	5300
10	Bulk Cement	ft ³	5300
11	Sack storage	No.	3500
12	Ballast water system	bbls	36439

13	Casing Joints racking capacity	No./ft	Mt	On Main Deck	On Cantilever
14	Drill pipes/Collars racking capacity	No./ft	Mt	Mt	Mt

A.5 OPERATIONAL CAPABILITY

A.5.1 Operating depths

1	Max. Designed water depth capability	ft	300
2	Max. outfitted water depth capability	ft	300
3	Min. outfitted water depth capability	ft	25
4	Min. Transit water depth capability	ft	25
5	Maximum Operating AIR GAP for which the Unit is fully equipped.		37 & 15 penetration
6	Max. Drilling depth capacity (5" DP)	ft	30000

A.6. UNIT VARIABLE LOAD

A.6.1 Variable Deck Load

1	Variable Deck Load In Transit mode	Mt	2400
2	Variable Deck Load In Drilling mode	Mt	2720
3	Variable Deck Load In Survival mode	Mt	2400

A.6.2 Preload capacity

1	Max Preload Capacity	Mt	6400
2	Leg Reaction with maximum preload	Mt/m ²	TBN

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3 Leg Reaction in drilling Mode

Mt/ft² **TBN**

A.7. ENVIRONMENTAL LIMITS

A.7.1 ENVIRONMENTAL LIMITS

- 1 Max Designed Water Depth
- 1 Max. wave height
- 2 Related wave period
- 3 Max. wind velocity
- 4 Max. current velocity
- 5 Max Air Gap
- 6 Max. Leg Penetration

	Drilling	Survival
ft	300	300
ft	35	49
sec	13,5	13,5
knots	70	100
knots	2	2
ft	37	37
ft	15	15

A.8. UNIT CERTIFICATES

A.8.1 Certificates

- 1 Hull Class certificate
- 2 Machinery Class certificate
- 3 Certificate of Registry
- 4 Safety Construction certificate
- 5 Safety Equipment certificate
- 6 Safety radio certificate
- 7 International load line certificate
- 8 International Oil Pollution certificate
- 9 IMO MODU Code certificate
- 10 Mandatory annual Survey Reports as per
IMO Resolution A.413 (XI)
- 11 Annual Inspection of Cargo Gear
- 12 Other Certificate and/or Regulatory
Compliance

	Issuing Authority	Issuing Date	Expiring Date
:	ABS	To be Issued	
:	ABS	To be Issued	
:	Panama	To be Issued	
:	ABS	To be Issued	
:	ABS	To be Issued	
:	ABS	To be Issued	
:	ABS	To be Issued	
:	ABS	To be Issued	
:	ABS	To be Issued	
:	ABS	To be Issued	
:	Local	To be Issued	
:	ABS	To be Issued	

A.9. MOORING SYSTEM

A.8.1 Anchor winches

- 1 Winches
 - 3 Winches
 - 4 Rated Pull
- No 4
make Norcrane
type SINGLE DRUM
Mt 30

A.9.2 Anchors

- 1 Anchors Quantity
 - 2 Anchors
 - 3 Anchors
 - 4 Anchors Weight
- No 4
Make **TBN**
Type **TBN**
lbs 15000

A.9.3 Mooring Lines

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- | | | | |
|---|---------------------------------|------|--|
| 1 | Mooring Lines | No | 4 |
| 2 | Mooring Lines Nominal diameter | inch | 1.5 inch |
| 3 | Mooring Lines | type | Galvanized steel wire |
| 4 | Mooring Lines Useful Length | Mtr | 945 |
| 5 | Mooring Lines Breaking strength | mt | +/- TBN |
| 6 | Anchor buoys | | 4 each (not onboard, as per contract) |
| 7 | Buoy pendant wires, shackles | | As per contract |

A.9.4 Towing Gear

- | | | | |
|---|---------------------------------------|------|---------------------|
| 1 | Towing Bridle size | Inch | 2.5 |
| 1 | Hook-Up system | Type | Bridle w fish plate |
| 2 | Pull rating | Mt | TBN |
| 3 | Bollard pull Required for Ocean Tow | Mt | 120 |
| 4 | Bollard pull Required for Infield Tow | Mt | 120 |

A.9.5 Supply Vessels Mooring lines

- | | | | |
|---|----------|------|-------------------------------|
| 1 | Quantity | No. | 2 |
| 2 | System | Type | Mooring lugs attached to legs |

A.10. MARINE LOADING HOSES Loading Hoses

- | | | | |
|---|-----------------------------------|---|------------------|
| 1 | Loading Hose Location (port/stbd) | : | Port / starboard |
|---|-----------------------------------|---|------------------|

A.10. Potable Water Hoses

- | | | | |
|---|------------|------|---------------|
| 1 | Quantity | No. | 2 |
| 2 | Size | in | 3 |
| 3 | Connection | Type | Anson fig 200 |

A.10. Drilling water hoses

- | | | | |
|---|------------|------|---------------|
| 1 | Quantity | No. | 2 |
| 2 | Size | in | 4 |
| 3 | Connection | Type | Anson Fig 200 |

A.10. Fuel Hoses

- | | | | |
|---|------------|------|---------|
| 1 | Quantity | No. | 2 |
| 2 | Size | in | 4 |
| 3 | Connection | Type | CAMLOCK |

A.10. Bulk Barite/Bentonite Hoses

- | | | | |
|---|------------|------|---------------|
| 1 | Quantity | No. | 2 |
| 2 | Size | in | 5 |
| 3 | Connection | Type | Anson Fig 200 |

A.10. Bulk Cement Hoses

- | | | | |
|---|------------|------|---------------|
| 1 | Quantity | No. | 2 |
| 2 | Size | in | 5 |
| 3 | Connection | type | Anson Fig 200 |

A.10. Oil Base Mud Hoses

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6
1 Quantity No. 2
2 Size in 4
3 Connection Type CAMLOCK

A.11. CRANES, HOISTS and MATERIALS HANDLING

			Portside	Starboard
A.11. Pedestal Cranes				
1		No.	1	1
1	Quantity	:	ABS	ABS
2	Specification (API, etc.)	Make	Amclyde,NOV	Amclyde,NOV
3		type	10000 XHD	10000 XHD
4		ft	120	120
5	Boom Length	ft	TBN	TBN
6	Line Length	Mt	50	50
7	Max. Rated capacity at 25 ft Radius	Mt	7	7
8	Max. Rated capacity at max. Radius	ft/m	TBN	TBN
9	Low Gear Speed	:	Diesel	Diesel hydraulic
10	Driving system (diesel, Hydraulic, elect.)		hydraulic	
11	Automatic brake	Yes/No	YES	YES
12	Crown Saver	Yes/No	YES	YES
13	Crane Certified by	:	ABS	ABS

A.11.2 Pipe Rack overhead Crane

1 Quantity No. NONE
2 Make
3 Type
4 Rated capacity Mt

A.11.3 BOP Handling System

1 make Ingersol Rand
2 Type BHS50MA6-33-30_E
3 Rated capacity Mt 2 X 25 (Dual lift Optimal)

A.11.4 Rig Floor Hoisting Winches

1 Quantity No. 1 & 2 & 1 & 2
2 Make Ingersol rand
3 Type 4 x Utility & manrider
4 Rated capacity lbs 5000 & 10000 & 2000 & 300
5 Wire Diameter inches 5/8"-3/4"-3/8"
6 Automatic Brake Yes/No Yes
7 Overload protection Yes/No Manrider Yes
8 Automatic spooling Yes/No No
9 Safety guard Yes/No Tes
10 Certified for man-riding Yes/No Man rider yes

A.11.5 Derrickman Pltf .Working Winch

1 Quantity No. 2
2 Make Ingersol Rand
3 Type EUABPT30-P-E
4 Rated capacity lbs 2000

A.11.6 Main deck Hoisting Winches

1 Quantity No. 1
2 Make Ingersol Rand
3 Type FA2.5A-24MK1P-E

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4	lbs	5000
5	Wire Diameter	5/8"
6	Automatic Brake	Yes
7	Overload protection	No
8	Automatic spooling	No
9	Safety guard	Yes
10	Certified for man-riding	No

A.11.7 Cellar deck Hoisting Winches

1	Quantity	No.	2 & 2
2		Make	Ingersol Rand
3		Type	Manrider & utility
4	Rated capacity	Lbs	300 & 5000
5	Wire Diameter	Inches	5/8" & 3/8"
6	Automatic Brake	Yes/No	Yes
7	Overload protection	Yes/No	Man rider only
8	Automatic spooling	Yes/No	No
9	Safety guard	Yes/No	Yes
10	Certified for man-riding	Yes/No	Manrider only

A.11.8 Forklift

1	Quantity	No.	1
2		make	TBN
3		type	
4	Rated capacity	lbs	4000

A.12. HELICOPTER LANDING DECK

A.12.1 Landing deck data

1	Dimensions	ftxft	22,2 mtrs
2	Designed and certified for helicopter	type	SIKORSKI S-61
3	Perimeter safety net	type	WIRE NETTING
4	Heli-refueling system	type	NONE
5	Fuel Storage capacity	gals	NONE

A.13. AUXILIARY EQUIPMENT

A.13.1 Water Distillation Unit

1	Quantity	No.	2
2		make	ALPHA LAVAL
3		type	Dolpine 30
4	Capacity	Mt/d	2 x 30

A.13.2 Welding Machine

1	Quantity	No.	2
2		make	TBN
3		type	400 A

A.13.3 Steam Cleaning Machine

1	Quantity	No.	None
2		make	
3		type	

A.13.4 HP Water Cleaning Machine

1	Quantity	No.	None
2		make	
3		type	

A.13.5 Pile Driving Tool

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1 Quantity No. NONE
2 make
3 type

A13.6 Submersible Sea Water Pumps

1 Sea Water Pumps No. 3
2 Sea Water Pumps make Pleuger
3 Sea Water Pumps type 2300 GPM each

A13.7 Connecting Passage between Jack-Up Hull and Fixed Platform

1 No. None
2 Type

A.14. SPACES FOR UTILITIES

A.14.1 Mechanical Workshops

1 Dimensions ftxft TBN
2 Location : LOWER MACHINERY DECK
3 Complete with (main machines) : DRILL

A.14.2 Warehouses for Company material

1 Dimensions ftxft To be agree on , container on deck
2 Location :

A.15. SPACE FOR THIRD PARTY EQUIPMENT

A.15.1 Space for Well Logging Unit and Tools

1 Dimensions ftxft 40 X 20
2 Location : Port Side Top Accomodation

A.15.2 Space for Mud Logging Unit

1 Dimensions ftxft 50 x11,5
2 Location : Top of Schale Shaker

A.15.3 Space for Cementing Unit

1 Dimensions ftxft To fit
2 Location : Main deck port aft

A.15.4 Space for R.O.V. Unit

1 Dimensions ftxft No deticated space
2 Location :

A.15.5 Utilities Services for above spaces

1 Fresh Water YES
2 Air Compressed YES
3 Electrical power YES
4 Interphone YES
5 General alarm YES

A.16. ACCOMMODATION

A.16.1 Offices

1 Company Office No. 3
2 Complete with desk, filing cabinets, and YES
all necessary other furniture Yes/No
3 Unrestricted View to drill floor Yes/No Yes
4 Contractor Office No. 3

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5 Unrestricted View to drill floor Yes/No 2Yes 1 NO

A.16.2 Radio room

1 Quantity No. 1
Location 03 Level

A.16.3 Hospital

1 Number of beds No. 2
2 Complete with all first Aid tools Yes/No Yes

A.16.4 Living Quarters

1 Total persons accommodated No. 110
2 Beds Reserved to Company's People No. As per contract
3 Beds Reserved to Contractor's People As per contract

4 Single bed Rooms 4
No.
5 Complete with attached Toilet Yes/No YES
6 Two bed Rooms for Company's People No. 21
7 Complete with attached Toilet Yes/No YES
8 Four bed Rooms f No. 16
9 Complete with attached Toilet Yes/No NO
10 Main Mess seating capacity No. 50
11 Smoking Room, Deck & 02/03 Level No. 2
12 Recreation Rooms No. 2
13 Other rooms : 3

A.17 EMERGENCY & SAFETY EQUIPMENT

All safety equipment comply with any regulation : As per IMO MODU CODE

A.17.1 Life boats

1 Quantity No. 2
2 make Jiangyin Neptune
3 type .NPT95F
4 People capacity of each No. 2 x 110
5 Comply with any Regulation SOLAS
6 Certified by ABS

A.17.2 Life Rafts

1 Quantity No. 4 + 1
2 make TBN
3 type
4 Capacity of each No. 4 x25 + 1 x 10
5 Comply with any Regulation Solas
6 Certified by ABS

A.17.3 Rescue Boat

1 Quantity No. 1
2 make Jiangyin Neptune
3 type NPT 60 RB

A.17.4 Life Jackets

1 Quantity No. 160
2 make TBN

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3 type | TBN |

A.17. Survival Suits

5
1 Quantity No. NONE
2 make
3 type
4 Certified by

A.17.6 Working vests

1 Quantity No. 10
2 make TBN
3 type

A.17.7 Life Buoys

1 Quantity No. 10
2 make TBN
3 type

A.17.8 Escape Breathing Apparatus

1 Quantity No. As per Solas/Panama
2 make
3 type

A.17.9 Air Breathing Apparatus

1 Quantity No. 4
2 make TBN
3 type
4 Spare air bottles No. 4

A.17.10 Air Bottles Recharging system

1 Quantity No. 1
2 make TBN
3 type TBN

A.17.11 Emergency Escape Rigid Ladders

1 Yes/No YES/2
2 type JACOBS

A.17.12 Emergency Escape Knotted lines

1 Yes/No YES / 2
2 type MANILA ROPE

A.17.13 Escape Line for Derrickman

1 Yes/No YES
2 type TBN

A.17.14 Personnel Protective means

1 Fire Man outfits No. 4
2 Safety Helmets Yes/No YES
3 Safety Gloves Yes/No YES
4 Safety Boots Yes/No YES
5 Ears Protection Yes/No YES
6 Eyes Protection Yes/No YES
7 For welding Yes/No YES
8 For handling chemicals Yes/No YES
9 For Oil Base Mud Yes/No YES

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- 10 Safety Belts Yes/No YES
11 Explosion proof hand-torches Yes/No YES

A.17.15 Emergency Storing area for Explosive Container

- 1 Available Yes/No
2 Location : To be Named

A.17.16 Emergency Storing area for Radioactive material Container.

- 1 Available Yes/No
2 Location : To be Named

A.18 H₂S/FLAMABLE GAS MONITORING SYSTEM

A.18.1 H₂-S Monitoring System

- | | | | |
|----|--|--------|------------------------------|
| 1 | | make | TBN |
| 2 | | type | TBN |
| 3 | Calibration Kit | Yes/No | YES |
| 4 | H ₂ -S Sensors installed | No. | 10 |
| 5 | H ₂ -S Sensors | type | |
| 6 | H ₂ -S Sensors location point | : | Port Side Accommodation |
| 7 | H ₂ -S Sensors location point | : | Stbd. Side Accommodation |
| 8 | H ₂ -S Sensors location point | : | Engine Room |
| 9 | H ₂ -S Sensors location point | : | Return through Mud Pit Room |
| 10 | H ₂ -S Sensors location point | : | Shaker Area |
| 11 | H ₂ -S Sensors location point | : | Bell Nipple |
| 12 | H ₂ -S Sensors location point | : | MUD PUMP ROOM |
| 13 | H ₂ -S Sensors location point | : | Port Accommodation Bulk Head |
| 14 | H ₂ -S Sensors location point | : | Drill Floor |
| 15 | H ₂ -S Sensors location point | : | HVAC Unit |

A.18.2 Combust. Gas Monitoring System

- | | | | |
|----|--|------|---------------------------|
| 1 | | make | TBN |
| 2 | | type | |
| 3 | Combust. Gas Sensors installed | No. | 8 |
| 4 | Combust. Gas Sensors | type | |
| 5 | Combust. Gas Sensors location point | : | Moon Pool area |
| 6 | Combust. Gas Sensors location point | : | Rig floor |
| 7 | Combust. Gas Sensors location point | : | Shale shaker room |
| 8 | Combust. Gas Sensors location point | : | Active Mud Pit Room |
| 9 | Combust. Gas Sensors location point | : | Living quarter air intake |
| 10 | Combust. Gas Sensors location point | : | Machinery deck air intake |
| 11 | Combust. Gas Sensors location point | : | MUD PUMP ROOM |
| 12 | Combust. Gas Sensors location point | : | Engine Room |
| 13 | Combust. Gas Monitor Main Panel Location | : | Into a 24 hrs manned area |
| 14 | Combust. Gas Monitor Repeat Panel Location | : | Rig Floor |
| 15 | Combust. Gas Aud/ Visual Alarm location | : | Shale shaker room |
| 16 | Combust. Gas Aud/ Visual Alarm location | : | Active Mud Pit Room |
| 17 | Combust. Gas Aud/ Visual Alarm location | : | Engine room |
| 18 | Combust. Gas Aud/ Visual Alarm location | : | |
| 19 | Combust. Gas Aud/ Visual Alarm location | : | |

A.18.3 H₂-S Portable detectors

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1 No. 2
2 make TBN
3 type

A.18.4 MultiGas Portable detectors

1 No. 2
2 make TBN
3 type TBN

A.18.5 Personal Electronic H2S Detectors

2 No. NONE
3 make
type

A.19 VENTILATION INTO ENCLOSED HAZARDOUS AREA

A.19.1 Shale shaker room

1 Air change rate No/m NOT ENCLOSED

A.19.2 Mud pit room

1 Air change rate No/m. 1

A.19.3 Mud Pump room

1 Air change rate No/m. 1

A.19.4 Engine room

1 Air change rate No/m. 0,5

A.19.5 Living quarters

1 Air change rate No/m. TBN

A.19.6 Air blowers

1 No. 2
2 make TBN
3 type
4 Blowing rate ft³/mi
5 Classified for Hazardous area Yes/no Yes

A.20. FIRE MONITORING & FIGHTING SYSTEM

A.20.1 Smoke/Heat/Fire monitoring System

1 make TBN
2 type
3 Sensors installed type SMOKE / HEAT
4 Area monitored : LIVING QUARTERS
5 Area monitored : ENGINE ROOM
6 Area monitored : MUD PUMP ROOM
7 Area monitored : MUD PIT ROOM
8 Area monitored : SCR ROOM
9 Area monitored : SACK ROOM
10 Area monitored : Main Deck
11 Area monitored Emergency enginee Room
12 Area monitored Ware House
13 Area monitored Control Room
14 Area monitored Auxilery Room
15 Area monitored Co2 Room

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- 16 Area monitored Floor & Shaker
17 Area monitored Transformer

A.20.2 Fire water Pumps

- 1 No. 2
2 make Hamworthy
3 type B125 HEC 1
4 Flow rate of each gals/m 600
5 pressure head ft 230
6 Are they located in separated zones Yes/No

A.20.3 Fire Fighting system on rig floor

- 1 Fire Water Hydrants Yes/No YES
2 Water Deluge Yes/No NO
3 Portable Extinguishers Yes/No YES

A.20.4 Fire Fighting system in Moon Pool area

- 1 Fire Water Hydrants Yes/No YES
2 Water Deluge Yes/No NO
3 Portable Extinguishers Yes/No NO

A.20.5 Fire Fighting system in Shale shaker Room Not room, Open area

- 1 Fire Water Hydrants Yes/No YES
2 Water Deluge Yes/No NO
3 Portable Extinguishers Yes/No YES

A.20.6 Fire Fighting system in Mud pit Room

- 1 Fire Water Hydrants Yes/No YES
2 Water Deluge Yes/No No
3 Portable Extinguishers Yes/No YES

A.20.7 Fire Fighting system in Mud Pump Rooms

- 1 Fire Water Hydrants Yes/No YES
2 Water Deluge Yes/No No
3 Portable Extinguishers Yes/No YES

A.20.8 Fire Fighting system in Engine Room

- 1 Fire Water Hydrants Yes/No YES
2 Fixed CO2 remote controlled Yes/No Fixed CO2 system
3 Portable Extinguishers Yes/No YES

A.20.9 Fire Fighting system in VFD room

- 1 Fire Water Hydrants Yes/No NO
2 Fixed CO2 remote controlled Yes/No Fixed CO2 system
3 Portable Extinguishers Yes/No YES

A.20.10 Fire Fighting system in Other Rooms

- 1 Room name : ACCOMMODATION
2 Fire Water Hydrants Yes/No YES
Fixed CO2 remote controlled Yes/No NO
3
4 Portable Extinguishers Yes/No YES

A.20.11 Fire Fighting system on Helideck

- 1 Fire monitors No. 2

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- | | | | |
|---|---|--------|-------------------|
| 2 | Fire Hydrants | No. | 2 |
| 3 | Portable Extinguishers | No. | 4 |
| 4 | Fire Fighting system comply with rules | : | Modu 1989 CAP 437 |
| 5 | Emergency Rescue tool box complete with all requested tools | Yes/No | YES |

A.21 POLLUTION PREVENTION SYSTEM

A.21.1 General

- | | | | |
|---|--------------------------------------|--------|------------|
| 1 | The Unit is " Zero Pollution" fitted | Yes/No | YES Partly |
| 2 | The Unit is Zero Discharge" fitted | Yes/No | NO Partly |

- | | | |
|-------------------------------------|--------|---------------------------|
| A.21.2 Rotary Table drainage | Yes/No | YES |
| 1 Draining Fluids discharging into | : | COLLECTION TANK |
| A.21.3 Rig Floor drainage | Yes/No | YES |
| 1 Draining Fluids discharging into | : | COLLECTION TANK |
| A.21.4 Main Deck drainage | Yes/No | YES |
| 1 Draining Fluids discharging into | : | Overboard/Collecting Tank |
| A.21.5 Helideck drainage | Yes/No | No |
| 1 Draining Fluids discharging into | : | OVERBOARD |
| A.20.6 Sand Traps drainage | Yes/No | YES |
| 1 Draining Fluids discharging into | : | MUD PITS |
| A.21.7 Trip Tank drainage | Yes/No | YES |
| 1 Draining Fluids discharging into | : | MUD PITS |
| A.21.8 Mud Tanks drainage | Yes/No | Yes |
| 1 Draining Fluids discharging into | : | Collecting Tank |
| A.21.9 Bilge System | | |
| 1 Bilge System into Engine rooms | Yes/No | YES |
| 2 Bilge System into Mud pump rooms | Yes/No | YES |
| 3 Bilge System into Cementing Room | Yes/No | N/A |
| 4 Bilge System into Other rooms | : | MUD MIX AREA |
| 5 Bilge System into Other rooms | : | |

- | | | |
|------------------------------|------|------|
| A.21.10 Skimmer tanks | No. | 1 |
| 1 Skimmer tanks capacity | gals | 1050 |

- | | | |
|------------------------------------|------|-----------------------------|
| A.21.11 Water Oil separator | | For engine room (IOPP) only |
| 1 | make | Ompipure |
| 2 | type | TBN |

- | | | |
|---|--------|----|
| A.20.12 Collection system of drilling cuttings | | |
| 1 From Shake Shakers | Yes/No | No |
| 2 Drilling cuttings Discharging into | : | No |
| 3 From Desander/Desilter | Yes/No | No |
| 4 Drilling cuttings Discharging into | : | No |
| 5 From Mud Cleaners | Yes/No | No |
| 6 Drilling cuttings Discharging into | : | No |
| 7 From Decanting centrifuges | Yes/No | No |
| 8 Drilling cuttings Discharging into | : | NO |

A.21.13 Treatment System of Blue and grey waters discharging from

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accommodations.

- | | | | |
|---|-----------------------|------|------------------|
| 1 | Sewage treatment Unit | No. | 1 |
| 2 | Sewage treatment Unit | make | Omnipure |
| 3 | Sewage treatment Unit | type | 12MX 110 persons |

A.22 HAZARDOUS AREAS CLASSIFICATION.

- | | | | |
|---|--|---|-----|
| 1 | Which Rules the UNIT follows | : | ABS |
| 2 | Regulation applicable for electrical equipment installed in areas classified "HAZARDOUS" | : | ABS |

A.23 OBSTRUCTION MARKING FOR AIR NAVIGATION

- | | | | |
|----------|------------------------|---|------------|
| a | Day-Signaling | : | TBN |
| 1 | Consisting of : | | |
| b | Night Signaling | : | TBN |
| 1 | Consisting of : | | |

B. DRILLING RIG SPECIFICATIONS:

B.1 DERRICK & SUBSTRUCTURE.

B.1.1 Derrick/Mast

- | | | | |
|----|---|--------|---------------|
| 1 | Derrick or Mast | : | Derrick |
| 2 | | Make | Loadmaster |
| 3 | | Type | 1,500,000 lbs |
| 4 | Rated for wind speed with full setback load | Knots | 50 |
| 5 | Built as per Rules | : | API 4F & 8 C |
| 6 | Clear height | Ft | 160 |
| 7 | Dimension of the base | Ftxft | 32 X 35 |
| 8 | Dimensions of the top (crown) | Ftxft | 14 x 14 |
| 9 | Gross Nominal Capacity | Lbs | 1500000 |
| 10 | Static Hook Load capacity | Lbs | 1000000 |
| 11 | with max.of lines | No. | 14 |
| 12 | Ladders with safety cages | Yes/No | YES |
| 13 | Ladders with rest platforms | Yes/No | YES |
| 14 | Counterbalance for rig tongs | Type | WEIGHT BUCKET |
| 15 | Lighting system Explosion Proof | Yes/No | YES |

B.1.2 Racking Platform

- | | | | |
|---|--|------|------------|
| 1 | | make | Loadmaster |
| 2 | | type | TBN |
| 3 | Racking Platform capacity of 5 ½" D.P. | ft | 29760 |
| 4 | Racking Platform capacity of 9.1/2" D.C. | ft | 651 |
| 5 | Rack. Platform capacity of 8"D.C. | ft | 930 |

B.1.3 Automatic Drill Pipe Racking system

- | | | | |
|---|------------------------|--------|------|
| 1 | | Make | NONE |
| 2 | | Type | |
| 3 | Derrickman racking arm | Yes/No | |
| 4 | Rig Floor Racking arm | Yes/No | |

B.1.4 Casing Stabbing Board

- | | | | |
|---|--|------|-------------|
| 1 | | make | Load Master |
| 2 | | type | TBN |

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- 3 Adjustable from ft
4 Adjustable to ft

B.1.5 Substructure/Rig Floor

- 1 Built as per API specification No. 4fF& 8C
2 make Load master
3 type SKIDDING
4 Simultaneous setback and hook load 1500000
capacity LBS
5 Clear height below Rotary Table Beams ft TBN
6 Rig Floor Dimensions ftxft 32 x 35
7 Rig floor Antislipping pad make TBN
8 type TBN

B.1.6 Weather Proofing Provision

- 1 Rig floor windbreaks height ft Drawworks only
2 Rig floor windbreaks type
3 Derrickman windbreaks height ft
4 Derrickman windbreaks type STEEL PLATE

B.1.7 Derrickman Pltf-TV Camera System

- 1 Camera No. 1
2 Make TBN
3 Type
4 Camera Located At : TBN
5 Zoom/Pan/Tilt function Yes/No Yes
6 Monitors Located At : TBN

B.2. DRAWWORKS & ASSOCIATED EQUIPMENT

B.2.1 Drawworks

- 1 make NOV
2 type ADS 10D
3 Rated Input Power HP 2800
4 Main Drum dimensions (O.D.xLength) inches
5 Main Drum type LEBUS GROOVED
6 Main drum rated pull (fast line) Mt
7 Low speed Main Drum Clutch make AIRFLEX
8 Low speed Main Drum Clutch type MODEL 42 VC 1200
9 Low speed Main Drum Clutch rated Pull Mt
10 Main Drum Brake type
11 Spinning Cathead make No
12 Spinning Cathead type No
13 Breakout Cathead make max 170.000(5'tong)
14 Breakout Cathead type
15 Independent Fresh water cooling system for Drawworks and Auxiliary brake NOV HC 26EV
Yes/No YES
16 Crown Block Safety device make NOV,Ampion
17 Crown Block Safety device type NOV,Ampion

B.2.2 Drawworks Power

- 1 Number of Electric Motors No. 2
2 Electric motors make TBN
3 type
4 Continuous Output Power Hp 1400
5 Each Motor Max Output Torque ft.Lbs

Subject	Equipment list F&G Super M2.				
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- 6 Electric Motor Cooling system type FORCED AIR
7 Cooling system Air intake point (If applicable) ABS rules,RIG FLOOR
:

B.2.3 Drawworks Auxiliary Brake

- 1 Make Part of Drawworks design
2 Type
3 Battery back-up system Yes/No

B.2.4 Sandline

- 1 Sandline Drum Capacity ft
2 Sandline size inche
s
3 Sandline Length Ft
4 Sandline type
5 Sandline Breaking Strength Mt

B.2.5 Automatic Driller

- 1 make Part of Drawworks design
2 type NOV

B.3 . DERRICK HOISTING EQUIPMENT

B.3.1 Crown Block

- 1 make Load master
2 type
3 : API 8-C
4 Crown Block Rated Capacity Mt 750
5 Crown Block Sheaves No. 60
6 Crown Block Sheaves grooved for OD 1 -5/8"
Line in

B.3.2 Travelling Block

- 1 make Load Master
2 type
3 : 8C
4 Travelling Block Rated Capacity Mt 750
5 Travelling Block Sheaves No. 7
6 Travelling Block Sheaves grooved for 1-5/8"
OD Line in
7 Travelling Block Upper Limit Switch type NOV,Ampion
8 Travelling Block Lower Limit Switch type NOV,Ampion

B.3.3 Hook Block

- 1 make NONE
2 type
3 :
4 Hook Block Rated Capacity Mt

B.3.4 Swivel Head

- 1 Make NONE
2 Type
3 :
4 Rated Capacity Mt
5 Rated working pressure Psi

Subject	Equipment list F&G Super M2.				
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- 6 Washpipe Minimum Inside diameter In
7 Access Fitting for Wireline on Gooseneck Yes/No

B.3.5 Drilling Line

- 1 Type IWRC – EIPS
2 Drilling Line specification : 6 X 19
3 Drilling Line Size Inche 1-5/8”
s
4 Drilling Line breaking strength Mt **TBN**

B.3.6 Dead Line Anchor

- 1 make **Load Master**
2 type **TBN**
3 API specification :
4 Rated Capacity Mt
5 Weight sensor type

B.3.7 Block Guidance System

- 1 TopDrive Guidance System Yes/No Yes
2 Travelling Block Retraction System Yes/No No
3 Top Drive Guidance System Yes/No Yes
4 Top Drive Retraction System Yes/No No

B.3.8 Link Elevators

- 1 No. 2
2 API specification :
3 Nominal size O.D. in 2-3/4 - 3-1/2
4 Total length in 132 180
5 Rated Load capacity Mt 350 500

B.4 . ROTATION SYSTEM

B.4.1 Rotary Table

- 1 make NOV
2 type RST 49 1/2 ”
3 Maximum Opening in 49-1/2
4 Rated capacity Mt 750
5 Rotating Capacity (100 RPM) Mt
6 R.T. driven by an Independent Motor make **TBN 3 ea Hydr motors**
7 type
8 Output Power Ftlbs 45000/120000 lock
9 Two speed Gear box Type Yes/No

B.4.2 Master Bushing

- 1 make 49 1/2”
2 type MPCH
3 Insert Blow size : 1, 2, 3, & 20 scg.

B.4.3 Kelly Bushing

- 1 make NONE
2 type
3 For Kelly size :

B.4.4 Top Drive

- 1 make NOV
2 type TDS-8SA AC System
3 API specification : API-8-C

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4	Static Rated Load Capacity	Mt	750
5	Driven by motor	make	GE
6	Driven by motor	type	20 AC 1150
7	Electric Motor Cooling system	type	FORCED AIR
8	Cooling system Air intake point (If applicable)		BACK OF TOP DRIVE Outside
9	Top drive max output torque	:	hazardous area
10	At max rotation speed	ft.lbs	94,000
11	Top Drive Pipe Handling system	RPM	209
12		make	NOV
13	Max break-Out Torque	type	PH-100
14	Top Drive Remote operated Inside BOP	ft.lbs	+ 100 k
15		make	NOV
16	Inside Diameter	type	TBN
17	Max.working pressure	inches	3-1/16
18	Top Drive Manual operated Inside BOP	psi	10000
19		make	NOV
20	Inside Diameter	type	
21	Max.working pressure	inches	3-1/16
		psi	10000

C. POWER SUPPLY SYSTEM

C.1 POWER AVAILABLE

C.1.1 Max. Power available

1	Max power available for drilling Operations	:	Enough power to run at full load:	YES
			- 2 mud pumps	
			- Top Drive	
			- All A.C. Users	
			- still have 1 main generator standing-by ?????	

C.2 UNIT POWER PLANT

C.2.1 Engine Room

1	Engine room walls	type	Fireproof	STEEL PLATE
2	Engine Room positive Pressurized	:		YES

C.2.2 Diesel Engines

1	Quantity	No.	5	
2		make	CATERPILLER	
3		type	MODEL 3516 BHD	
4	Max. Continuous Power of Each	hp	2150	
5	Diesel engine water proof type	:	Requested	YES
6	Diesel Engines air intake point	:	Outside area classified hazardous	As per rules
7	Diesel Engines exhaust discharge point	:	Outside area classified hazardous	As per Rules

C.2.3 AC Generators

1	Quantity	No.	5
2		make	CATO
3		type	
4	Max. Continuous Power of Each	KVA	1750KW
5	Frequency	Hz	60
6	Output Volts	V	600

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C.2.4 SCR System

1	Quantity	No.	None NOV VFD Drive
2		make	
3		type	
4	SCR Output Voltage	V	
5	SCR Output Amperage	A	
6	No. of motors that SCR can run simultaneously	No./kw	

C.2.5 Transformer System

1	Quantity	No.	6
2	Max Output Power	KVA	2x 2000,2 x400,2 x 150
3	Max Output Voltage	V	600/480,480/220,480/220
4	Max Output Amperage	A	
5	Frequency	Hz	60

C.2.6 Auxiliary power Supply

1	Power available for third party Equipment		TBN
		Kw	
2	Max Output Voltage	V	
3	Max Output Amperage	A	

C.3 D.C. MOTORS INVENTORY

C.3.1 For Drawworks

1	Quantity	No.	N/A
2		make	

3		type	
---	--	------	--

C.3.2 For each Mud Pump

1	Quantity	No.	N/A
2		make	
3		type	

C.3.3 For Rotary table

1	Quantity	No.	N/A
2		make	
3		type	

C.3.4 For Top Drive

1	Quantity	No.	N/A
2		make	
3		type	

C.3.5 For Cementing Unit (if Applicable)

1	Quantity	No.	N/A
2		make	
3		type	

C.3.6 For Propellers (if any)

1	Quantity	No.	N/A
---	----------	-----	-----

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2 make
3 type

C.4. EMERGENCY POWER GENERATOR SYSTEM

1 Location : PORT SIDE MAIN DECK

C.4.1 Diesel engine

1 make CATERPILLER
2 type 3412C
3 Max. Continuous Power hp

C.4.2 AC Generator

1 make Cato
2 type TBN
3 Max. Continuous Power KVA 550
4 Max Output Voltage V 480
5 Max Output Amperage A

C.4.3 Emergency Generator starting system

1 Starting automatically in case of Main Power supply failure Yes/No YES

C4.4 Main Users connectected with :

a Emergency Lighting YES
1 At every Embarkation Station : YES
2 In Living Quarters : YES
3 In Machinery Spaces : YES
4 In Control Rooms : YES
5 In all other Essential Spaces : YES
6 On Helicopter Deck : YES

b Navigation Signals

1 Navigation Lights : YES
2 Sound Signals : YES

c Communication System

1 Radio-telecommunication : YES
2 All internal Communication Equipment : YES

d Equipment related to Drill Operations

1 BOP control system : NOV
2 BOP accumulator Recharging pump : NOV

e Safety Monitoring and alarm system

1 Fire Monitoring and alarm system : YES
2 Gas Monitoring and alarm system : YES
3 H2-S Monitoring and alarm system : YES

f Other Safety System

1 One Fire water Pump : YES
2 Personal Lifts : YES
3 Bilge Pump : YES
4 Electrical air compressor : YES
5 One Mud Transfer Pump : YES
6 Electrical Battery Charger : YES

C4.5 Diesel Engine Fuel tank

1 Fuel tank capacity bbls 600

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2 Time of feeding of all the above Users Hr **TBN As per Rules**

C.5. EMERGENCY POWERED BATTERY SYSTEM

1 Location : Roof, jack control

C.5.1 Batteries system starting system

1 Automatically in case of Power supply failure

Yes/ YES
No

C.5.2 Main Users connected with :

a Emergency Lighting

1 At Every Embarkation Station : YES
2 : YES

Yes/No YES

In Living Quarters (escape way)

3 In Machinery Spaces (escape ways) : YES
4 In Control Rooms : YES
5 In All Other Essential Spaces : YES
6 On Helicopter Deck : YES

b Navigation Signals

1 Navigation Lights : YES
2 Sound Signals : YES

c Communication System

1 Radio-telecommunication : YES
2 Essential Internal Communication Equipment : YES

d Equipment related to Drill Operations

1 BOP control system :

e Safety Monitoring and alarm system

1 Fire Monitoring and alarm system : YES
2 Gas Monitoring and alarm system : YES
3 H2-S Monitoring and alarm system : YES

f Time of feeding of all the above Users Hr **TBN as per rules**

C.6. Emergency Shut-Down

1 Shut Down Switch for AC power No 3
2 Located at the points : RIG FLOOR,VFD ROOM, MAIN DECK

1 Shut Down Switch for AC power No 2
2 Located at the points : RIG FLOOR, VFD ROOM, MAIN DECK

C.7. Rig Service Air System

1 Air Compressors No. 3
2 make **TBN**
3 type

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4	Rated Flow Rated Capacity	ft ³ /hr	500
5	Max. service pressure	psi	130
6	Driving motor	type	TBN
7	Driving motor	Hp	
8	Air Dryers	No	TBN
9	Rated Capacity	ft ³ /hr	

D. HIGH PRESSURE MUD/CEMENT CIRCULATING SYSTEM

1 Mud pumps installed No. 3

D.1. Mud Pumps

		M.P. No. 1	M.P. No.2	M.P. No. 3
1	Make	NOV	NOV	NOV
2	Type	12-P-160	12-P-160	12-P-160
3	Rated input power	Hp	1600	1600
4	fluid end	Type	7500	7500
5	Discharge Pulsation Dampener	Make	Retco 7500	Retco 7500
6	Discharge Pulsation Dampener	Type	TBN	TBN
7	Discharge Relief Valve	Make	TBN	TBN
8	Discharge Relief Valve	Type	TBN	TBN
9	Mud Pump Discharge filters	Yes/No	YES	YES
10	Size of liners available	Inches	AS per Contract	

D.1.a Mud Pumps driving motors

1	Q.ty of motors installed	No.	2	2	2
2		Make	Baylor	Baylor	Baylor
3		Type	DM 26	DM 26	DM 26
4	Motor Output Power	Hp	1230	1230	1230
5	Motor certified for Hazardous area	:	Yes	Yes	Yes

D.1.b Mud Pumps surcharging pump

1		Make	MISSION	MISSION	MISSION
2		Type	MAGNUM	MAGNUM	MAGNUM
3	Impeller Diameter	Inches	12	12	12
4	Stuffing box seal	Type	mechanical seal : YES		
5	Driving motor	Hp	100	100	100
6	Driving motor speed	Rpm	1750	1750	1750

D1.4 Lines from Mud pumps To Rig floor Mud Manifold

		Flexible Section	Rigid Section
1	Lines	No. 2	2
2	Inside Diameter / working pressure	In/psi 5"-7500 psi	5 "7500 psi
3		make TBN	STEEL
4		type TBN	HIGH PRESS
5	API specification	:	

D.1.5 Stand-Pipes

1	Stand-Pipes	No. 2
2	Inside Diameter / working pressure	In/psi YES, 4"- 7500

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D.1.6 Rotary Hoses

1	Rotary Hoses	No.	2
2	Inside Diameter / working pressure	In/psi	YES, 4-7500
3	Rotary Hoses		TBN
4	Rotary Hoses length	ft	80
5	API specification	:	

D.1.7 Rig Floor Mud manifold Valves

1	Quantity	No.	10
2		make	Anson
3		type	TBN
4	Size	In/psi	6/7500

Rig Floor Mud manifold Auxiliary Outlets

D.1.8

1	Fill-Up Well Outlet size	In/psi	3 X 150PSI
2	Casing Fill-Up Outlet size	In/psi	3 X 150PSI
3	Bleed-off line Outlet	In/psi	
4	Pressure Sensor Outlets	No.	2
5	Pressure Sensor Outlets	In/psi	2 1/16/10000
6	Pressure Transmitter Outlets	No.	2
7	Pressure Transmitter Outlets	In/psi	2
8	Mud Logging Sensor Outlet	In/psi	2 1/16/10000
9	MWD Sensor Outlet	In/psi	TBN
10	Choke Manifold Outlet Connection	In/psi	TBN
11	Cementing Manifold Outlet Connection	In/psi	TBN
12	All outlets complete with isolation Valve	Yes/N o	YES

D.1.9 CEMENTING UNIT

1	Cementing Unit Owner	:	TBN(Third Party Free placement)
2	Cementing Unit	make	
3	Cementing Unit	type	
4	Cementing Unit Driven by motors	type	DIESEL

D.1.10 Cementing Unit accessories

1	Recirculating system	Type ?	
2	Recirculating tank capacity	Bbl	
3	Batch Mixer Tank capacity	Bbl	

D.1.11 Lines from Cement. Unit to Rig Floor Cement. Manifold.

			Flexible Section	Rigid Section
1	Lines	No.	2	2
2	Inside Diameter / working pressure	In/psi	3 X 10000	3X 10000
3		Make	TBN	
4		Type	RUBBER	STEEL

D.1.12 Rig Floor Cement Manifold

1	Inside Diameter / working pressure	In/psi	3" 10000
---	------------------------------------	--------	----------

D.1.13 Cementing Hose

1		No.	1
2	Inside Diameter / working pressure	In/psi	3 X 10000
3		make	TBN
4	Length	ft	25

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D.1.14 Rig Floor Cementing manifold

Valves

1	Quantity	No.	2
2		make	Anson
3		type	
4	Size	In/psi	3" 10000

D.1.15 Rig Floor Cement. manifold Auxiliary Outlets

1	Kill-Line Outlet size	In/psi	3 X 10000
2	Pressure Sensor Outlets	No.	1
3	Pressure Sensor Outlets	In/psi	2 X 10000
4	Pressure Transmitter Outlets	No.	TBN
5	Pressure Transmitter Outlets	In/psi	TBN
6	Choke Manifold Outlet Connection	In/psi	TBN
7	All outlets complete with isolation Valve	Yes/No	YES

E- LOW PRESSURE MUD & CEMENT SYSTEM

E.1 Mud Tanks

1	Mud tanks installed	No.	8 incl slug tank
2	Mud tanks covered	Yes/No	TBN
3	Mud Tank system total capacity	Bbl	2900

E.1.1 Mud Tank No.1 & 2

		Mud Tank No.1	Mud Tank No.2
1	Capacity	bbl 526	167
2	divided in compartment	No. NO	NO
3	Capacity of each Compartment t	bbl 526	167
4	Mud tank dimension	ft-ft-ft TBN	
5	Electric. Agitator	No. 1	1
6	Electric. Agitator	make Brandt	Brandt
7	Electric. Agitator	type TBN	TBN
9	Driven by motor	hp 30	30
10	Bottom guns	No None	None
11	Bottom guns	type None	None

E.1.2 Mud Tank No.3 & 4

		Mud Tank No.3	Mud Tank No.4
1	Capacity	bbl 371	489
2	divided in compartment	No. NO	NO
3	Capacity of each Compartment t	bbl 371	489
4	Mud tank dimension	ft-ft-ft	
5	Electric. Agitator	No. 1	1
6	Electric. Agitator	make	
7	Electric. Agitator	type Brandt	Brandt
9	Driven by motor	hp 30	30
10	Bottom guns	No None	None
11	Bottom guns	type None	None

E.1.3 Mud Tank No.5 & 6

		Mud Tank No.5	Mud Tank No.6
1	Capacity	bbl 408	408
2	divided in compartment	No. NO	NO
3	Capacity of each Compartment t	bbl 408	408
4	Mud tank dimension	ft-ft-ft	
5	Electric. Agitator	No. 1	1
6	Electric. Agitator	make Brandt	Brandt
7	Electric. Agitator	type TBN	TBN
9	Driven by motor	hp 30	30
10	Bottom guns	No None	None

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11 Bottom guns type | None | None |

E.1.4 Mud Tank No.7 & 8

		Mud Tank No.7	Mud Tank No.8
1 Capacity	bbl	489	54
2 divided in compartment	No.	NO	NO
3 Capacity of each Compartment t	bbl	489	54
4 Mud tank dimension	ft-ft-ft		
5 Electric. Agitator	No.	1	1
6 Electric. Agitator	make	Brandt	Brandt
7 Electric. Agitator	type	TBN	TBN
9 Driven by motor	hp	30	10
10 Bottom guns	No		
11 Bottom guns	type		

E.2 Mud Pumps suction Lines

1 No. 1 header
2 size in-psi 12 X 500PSI

E.3 Mud Pumps suction Dampener

1 No. TBN
2 type TBN

E.4 Mud mixing system

1 Mud mixing Unit No 2
2 The mud mixing system shall allow the simultaneous operation of:
A mixing new mud YES
B Weighing active or reserve mud. YES

E.5 Mud Mixing Pumps

1 Mud Mixing Pumps No. 2
2 make MISSION
3 type MAGNUM
4 Impeller Diameter in 11"
5 Stuffing box seal type YES, Mechanical
6 Driving motor hp 100
7 Driving motor speed rpm 1750

E.6 Mud Hoppers

1 No. 3 (one on Main Deck)
2 make LOW PRESSURE, incl shearing
3 type JET

E.7 High Pressure Mud Shearing device

1 None
2 make
type

E.8 Chemical Mixing Tank

1 Capacity Gals TBN
2 Complete electrical mixer Yes/No

E.9 MUD Return system

1 Flow Line size Inch 14"

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- | | | | |
|---|---------------------|--------|----------|
| 2 | Flow Line Shape | : | STRAIGHT |
| 3 | Gumbo Trap tank | Yes/No | NO |
| 4 | Gumbo Trap capacity | Bbls | NO |

E.10 DRILL SOLID REMOVAL SYSTEM

E.10.1 Sand Trap

- | | | | |
|---|---------------------|------|-----|
| 1 | Sand Traps Quantity | No. | TBN |
| | Sand Trap capacity | Bbls | |

E.10.2 Primary Shale shaker

- | | | | |
|---|----------------------|------|-----------------|
| 1 | Primary Shale Shaker | No. | 4 Triple tandem |
| 2 | | make | Brandt |
| 3 | | Type | VSM 300t |
| 4 | Screen | make | Brandt |
| 5 | | Type | As per contract |
| 6 | Screen size | Mesh | |
| 7 | | Type | |
| 8 | Screen size | Mesh | As per contract |

E.10.3 Secondary Shale shaker

- | | | | |
|---|-----------------------------------|------|--|
| 1 | Secondary Shale shaker | No. | |
| 2 | Connected mode to primary shakers | : | |
| 3 | | make | |
| 4 | | type | |
| 5 | Screen | make | |
| 6 | | type | |
| 7 | Screen size | Mesh | |
| 8 | | type | |
| 9 | Screen size | Mesh | |

E.10.4 Desander system

- | | | | |
|---|---------------------|--------|------|
| 1 | Desander | No. | None |
| 2 | | make | |
| 3 | | type | |
| 4 | Mud feed pump | make | |
| 5 | | Type | |
| 6 | Impeller Diameter | inches | |
| 7 | Stuffing box seal | Type | |
| 8 | Driven by motor | Hp | |
| 9 | Driving motor speed | Rpm | |

Desilter system

E.10.5

- | | | | |
|---|---------------------|--------|-----------------------------|
| 1 | Desilter | No. | 1 |
| 2 | | make | Brandt incl. in shaker no 1 |
| 3 | | Type | |
| 4 | Mud feed pump | make | MISSION |
| 5 | | Type | MAGNUM |
| 6 | Impeller Diameter | inches | 11 1/2" |
| 7 | Stuffing box seal | Type | MECHANICAL |
| 8 | Driven by motor | Hp | 100 |
| 9 | Driving motor speed | Rpm | 1750 |

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E.10.6 Mud Cleaner system

1	Mud Cleaner	No.	None
2	Mud Cleaner	Make	
3	Mud Cleaner	Type	
4	Mud feed pump	Make	
5	Mud feed pump	Type	
6	Impeller Diameter	Inches	
7	Stuffing box seal	Type	
8	Driven by motor	Hp	
9	Driving motor speed	Rpm	
10	Screen	Make	
11		Type	
12	Screen size	Mesh	

Decanting Centrifuges

:

E.10.7

1	Decanting Centrifuges	No.	NONE
2		Make	
3		Type	

E.10.8 Degasser system

:

1	Degasser	No.	1
2		Make	Brandt
3		Type	DT 10
4	Gas discharging line size O.D.	inches	4"
5	Gas discharging line running to	:	Top of derrick, AFT OF RIG
6	Mud feed pump	make	MISSION
7	Mud feed pump	Type	MAGNUM
8	Impeller Diameter	In	111/2"
9	Stuffing box seal	Type	YES, Mechanical seal
10	Driven by motor	Hp	100
11	Driving motor speed	Rpm	1750

E.8.9 Mud Gas Separator

1	Mud Gas Separator	Make	MIS
2	Mud Gas Separator	Type	VERTICAL
3	Mud Inlet Connection size (from Choke manifold.)	in/psi	8 "/2000
4	Mud Outlet connection (to shaker) size	in/psi	8 "/1000
5	Mud Liquid Seal Height	Ft	As per calculation TBN
6	Gas discharging line running to	:	TOP OF DERRICK
7	Gas discharging line size	In	10"
8	Mud Gas Separator pressure sensor	Yes/No	Yes
9	Mud Gas Separator Temperature sensor	Yes/No	Yes

E.8.10 Trip tank

1	Trip tank Location	:	Cantilever
2	Trip tank capacity	(bbl)	2 x50
3	Linear volume change	gal/in	TBN
4	Trip tank level indicator	Make	NOV
5	Trip tank level indicator	Type	Electronic
6	Level indicator location	:	NOV,AMPION
7	Trip tank level recorder	Type	NOV,AMPION
8	Mud feed pump	Make	Mixing Pump to feed
9	Mud feed pump	Type	4 x3 25 HP

E.10.1' Stripping tank

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- | | | | |
|---|----------------------------------|--------|------------|
| 1 | stripping tank Location | : | Cantilever |
| 2 | Stripping tank capacity | Bbl | 3 |
| 3 | Linear volume change | gal/in | TBN |
| 4 | Equalizing system with Trip Tank | Yes/No | TBN |

F. BULK CEMENT & MUD STORAGE AND TRANSFER SYSTEM

F.1. Silos For Cement

- | | | | |
|---|------------------|-----------------|------|
| 1 | Quantity | No. | 3 |
| 2 | Capacity of Each | ft ³ | 1800 |
| 3 | Weight Indicator | Yes/No | Yes |

F.2. Silos For Barite/Bentonite

- | | | | |
|---|------------------|-----------------|------|
| 1 | Quantity | No. | 3 |
| 2 | Capacity of Each | ft ³ | 1800 |
| 3 | Weight Indicator | Yes/No | Yes |

F.3. Surge Tank For Cement

- | | | | |
|---|------------------|-----------------|-----|
| 1 | Quantity | No. | 1 |
| 2 | Capacity of Each | ft ³ | 70 |
| 3 | Weight Indicator | Yes/No | YES |

F.4. Surge Tank For Barite/Bentonite

- | | | | |
|---|------------------|-----------------|-----|
| 1 | Quantity | No. | 1 |
| 2 | Capacity of Each | ft ³ | 70 |
| 3 | Weight Indicator | Yes/No | YES |

F.5. Bulk Transfer system

- | | | |
|---|---|------------------------|
| 1 | System Independent from Rig air Service | NO |
| | | Yes/No |
| 2 | Air Compressor | Make |
| 3 | | Type |
| 4 | Barite Transfer feed rate | ft ³ /min ? |
| 5 | Cement Transfer feed rate | ft ³ /min ? |

G. WELL CONTROL EQUIPMENT

H.

G.1 BOP DIVERTER SYSTEM

YES

G.1.1 BOP Diverter

- | | | | |
|---|---------------------------|--------|-----------------|
| 1 | Make and type | : | Shaffer |
| 2 | Size and working pressure | in-psi | 30 X 1000PSI |
| 3 | Top connection type | : | Studded WP R95 |
| 4 | Top connection size | in-psi | 30 X 1000 |
| 5 | Bottom connection Type | : | Flanged WP R 95 |
| 6 | Bottom Connection Size | in-psi | 30 X 1000 |

b BOP Diverter Spool

- | | | | |
|---|------------------------|--------|-----------------|
| 1 | Quantity | | 1 |
| 2 | Top connection type | | Flanged WP R 95 |
| 3 | Top connection size | in-psi | 30 x 1000 |
| 4 | Bottom connection Type | : | Flanged WP R 95 |
| 5 | Bottom Connection Size | in-psi | 30 x 1000 |
| 6 | Outlets | : | 2 |
| | Outlets size | in-psi | |

Subject	Equipment list F&G Super M2.				
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G.1.2 BOP Diverter Valves

1	Diverter flow line valves	No.	2
2	Diverter flow line valves make type	:	BALL
3	Diverter flow line valves size	in-psi	12 – 1000

G.1.3 BOP Diverter Discharging Lines

1	Diverter flow lines	No.	2
2	Diverter flow lines type	:	TBN
3	Diverter flow lines size	in-psi	12
4	Diverter flow lines running to	:	Shakers
5	Diverter flow lines running to	:	

G.2 20 3/4" NOMINAL BOP STACK SYSTEM

G.2.1 203/4" bag preventer

1	Make and type	:	
2	Size and working Pressure	in-psi	203/4"-3000
3	H2S service	:	YES
4	Top connection type	:	TBN
5	Top connection size	in-psi	3000 WP R 74
6	Bottom connection Type	:	3000 WP R 74
7	Bottom Connection Size	in-psi	3000 R 74
8	Built as per API specification	:	16 A

G.2.2 20 3/4" Ram preventer

		SINGLE	DOUBLE
1	Quantity	No.	1
2	Make and type	:	Schaffer
3	Size and working Pressure	in-psi	20 3/4 3000
4	H2S service	:	Yes
5	Ram lock Type	:	Yes
6	Top connection type	:	R 74
7	Top connection size	in-psi	R 74 3000
8	Bottom connection Type	:	R 74 3000
9	Bottom Connection Size	in-psi	R 74 3000
10	Outlets	No.	2
11	Outlets Connection Type	:	
12	Outlets Connection size	in-psi	TBN
13	Shear Rams can be installed in any Ram cavity	:	YES
14	Built as per API specification	:	16 A

6.2.3 203/4" BOP Pipe Rams Available

1	Quantity	No.	As per Contract
2	Size	in	
3	Ram packer	type	

6.2.4 203/4" BOP Variable Rams Available

1	Quantity	No.	As per Contract
2	Size	in	
3	Ram packer	type	

6.2.5 203/4" BOP Shear/Blind Rams Available

1	Quantity	No.	As per Contract
2		type	

G.2.6 203/4" drilling/Spacer/Riser spool:

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1	Quantity	No.
2	H2S service	:
3	Top connection type	:
4	Top connection size	in-psi
5	Bottom connection Type	:
6	Bottom Connection Size	in-psi
7	Outlets	No.
8	Outlets Connection Type	:
9	Outlets Connection size	in-psi
10	Total Height	ft

G.3.0 13.5/8" NOM. BOP STACK SYSTEM.

G.3.1 13.5/8" bag preventer	No.	1
1	Make and type	: NL SHAFFER
2	Size and working Pressure	in-psi YES, 13.5/8" – 5000
3	H2S service	: YES
4	Top connection type	: Studded
5	Top connection size	in-psi 13-5/8 X 10000
6	Bottom connection Type	: Studded
7	Bottom Connection Size	in-psi 13-5/8 X 10000
8	Built as per API specification	: 16A

G.3.2 13.5/8" Ram preventer

		SINGLE	DOUBLE
1	Quantity	No. 1	2
2	Make and type	: NL SHAFFER	NL SHAFFER
3	Size and working Pressure	in-psi 13-5/8 X 10000	13-5/8 X 10000
4	H2S service	: YES	YES
5	Ram lock Type	: TBN	TBN
6	Top connection type	: Studded	Studded
7	Top connection size	in-psi 13-5/8 X 10000	13-5/8 X 10000
8	Bottom connection Type	: Studded	Studded
9	Bottom Connection Size	in-psi 13-5/8 X 10000	13-5/8 X 10000
10	Outlets	No. 2	4
11	Outlets Connection Type	: Flanged	FLANGE
12	Outlets Connection size	in-psi 3 1/16" x 10000	3-1/16 X 10000
13	Shear Rams can be installed in any Ram cavity	: Yes	YES
14	Built as per API specification	No. 16 A	16A

6.3.3 13.5/8" BOP Pipe Rams Available

1	Quantity	No.	As Contract		
2	Size	in			
3	Ram packer	type			

6.3.4 13.5/8" BOP Pipe Rams Available

1	Quantity	No.	AS per Contract		
2	Size	in			
3	Ram packer	type			

6.3.5 13.5/8" BOP Variable Rams Available

1	Quantity	No.	As per Contract		
2	Size	in			
3	Ram packer	type			

6 13.5/8" BOP Shear/Blind Rams Available

.

3

Subject	Equipment list F&G Super M2.				
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6

1 Quantity

2

No. | 1
type

| BLIND / SHEAR
SHAFFER

6.3.7 13.5/8" drilling/Spacer/Riser spool:

1	Quantity	No.	NONE
2	H2S service	:	
3	Top connection type	:	
4	Top connection size	in-psi	
5	Bottom connection Type	:	
6	Bottom Connection Size	in-psi	
7	Outlets	No.	
8	Outlets Connection Type	:	
8	Outlets Connection size	in-psi	
10	Total Height	ft	

G.3.8 Company's Well Head Connections

1	Wellhead Connection type	:	To be specified by Operator
2	conductor Pipe Connection type	:	To be specified by Operator
3	Casing head connection. type	:	To be specified by Operator
4	1st casing spool connection size	in-psi	To be specified by Operator
5	2nd casing spool connection size	in-psi	To be specified by Operator
6	3rd casing spool connection size	in-psi	To be specified by Operator
7	Tubing spool connection size	in-psi	To be specified by Operator

G.3.9 Adapter spool to connect BOP with Well Head spools.

a	Adapter spools studded or flanged			
1	Quantity	No.		
2	Top connection size	in-psi		
3	Bottom Connection Size	in-psi		
b	Adapter spools studded or flanged			
1	Quantity	No.		
2	Top connection size	in-psi		
3	Bottom Connection Size	in-psi		
c	Adapter spools studded or flanged			
1	Quantity	No.		
2	Top connection size	in-psi		
3	Bottom Connection Size	in-psi		
d	Adapter spools studded or flanged			
1	Quantity	No.		
2	Top connection size	in-psi		
3	Bottom Connection Size	in-psi		

G.4. Choke and Kill Valves on BOP Stack

G.4.1 Choke valves

		Hydraulic Operated	Manual Operated	Hydraulic Operated	Manual Operated
1	Quantity	No.	2		
2	Make and type	inc	Shaffer B		
B	H2S service	:	Shaffer DB		
4	Built as per API specification	:	Yes		
5	Choke valves connection type	:	6A		
6	Choke valves connection size	in-psi	Flanged		
			3.1/16" 10000		
			Hydraulic	Manual	Hydraulic
					Manual

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G.4.2 Kill valves

			Operated	Operated	Operated	Operated
1	Quantity	No.	2	2		
2	Make and type	inc	As above	As above		
3	H2S service	:	yes	Yes		
4	Built as per API specification	:	6-A	6-A		
5	Choke valves connection type	:	Flanged	Flanged		
6	Choke valves connection size	in-psi	3.1/16" 10000	3.1/16" 10000		

6.5 KILL & CHOKE LINES

G.5.1 Kill line

			Flexible Section	Rigid Section	Flexible Section	Rigid Section
1	Kill line	No.	2	2	1	1
2	Kill line type	:			RUBBER	RUBBER
3	Built as per API specification	:				
4	H2S service	:			YES	YES
5	Kill line Inside diameter-W.P.	in-psi	3"-10000	3"-10000	YES	YES
6	Kill connected with	:	Choke manifold		YES	
7	Kill connected with	:	Cement-manifold& mud manifold		YES	

G.5.2 Choke line

			Choke line No.1	Choke line No.2	Choke line No.1	Choke line No.2
1	Choke line	No.	2	2		
2	Choke line type	:	Rubber	Rubber		
3	Built as per API specification	:	TGBN	TBN		
4	H2S service	:	yes	yes		
5	Choke line Inside diameter-W.P.	in-psi	3"-10000	3"-10000		
6	Choke line connected with		Choke manifold	Choke manifold		

G.6 CHOKE MANIFOLD:

1	Choke manifold assembled by	:	Shaffer	
2	Choke manifold H2-S service	yes/no	Yes	
3	Built as per API specification	:	16-C	
4	All Connection ends not Threaded	yes/No	Requested	

G.6.1 Choke Manifold High Pressure Section

1	Inside diameter-W.P.	in-psi		3 1/16" X 10000
2	Inlet Points	No.		4
3	Provision to connect the pressure Sensor of Mud Logging Unit	yes/no	Requested	YES
4	With independent exclusion valve	yes/no	Requested	YES

G.6.2 Power adjustable Choke valve

1	Quantity	No.	2	2
2	Make type	:		Shaffer
3	Size and W.P.	in-psi		3-1/16 X 10000

G.6.3 Manual adjustable Choke valve

1	Quantity	No.	1	2
2	Make type	:		Shaffer
3	Size and W.P.	in-psi		3-1/16 X 10000

G.6.4 Valve Upstream each choke valve

			Hydraulic Operated	Manual Operated	Hydraulic Operated	Manual Operated
1	Quantity	No.			2	
2	Make type	:			SHAFFER	
3	Size and W.P.	in-psi			3-1/16 X 10000	

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G.6.5 Choke Manifold Lower Pressure Section

- | | | | |
|---|--------------------------------|--------|---------------|
| 1 | Inside diameter-W.P. | in-psi | 4-1/16 X 5000 |
| 2 | Outlet points | No. | 3 |
| 3 | each with exclusion valve size | yes/No | YES |

G.6.6 Outlet to mud gas Separator

- | | | | |
|---|----------------------|--------|----------------|
| 1 | Quantity | No. | 2 |
| 2 | Valve Size and W.P. | in-psi | 4 1/16" X 5000 |
| 3 | Connecting Line Type | : | FLANGE |

G.6.7 Outlet to Flare Lines

- | | | | |
|---|---------------------|--------|-----------|
| 1 | Quantity | No. | 2 |
| 2 | Valve Size and W.P. | in-psi | 10 X 1000 |

G.6.8 Flare lines

- | | | | |
|---|--------------------------------------|--------|----------|
| 1 | Quantity | No. | 1 |
| 2 | Fire Line OD x ID x length | in-ft | 10"X 140 |
| 3 | Complete with remote Ignition system | yes/no | NO |
| 4 | Ignition system type | : | |

G.7 CHOKE MANIFOLD ACCESSORIES

G.7.1 Power Choke control panel

- | | | | |
|---|-----------|---|-----------|
| 1 | Make type | : | ????? |
| 2 | Location | : | RIG FLOOR |

G.9 H.P. AUXILIARY TOOLS

G.9.1 Chicksan joints

- | | | | |
|---|--------------------------------|--------|-----------|
| 1 | Chicksan joints | No. | TBN |
| 2 | Make and type | : | 2 X 10000 |
| 3 | Built as per API specification | No | |
| 4 | H2-S service | yes/No | YES |

G.9.2 Casing Cup testers:

- | | | | | |
|---|----------------------|----|--|--|
| 1 | Quantity | No | | |
| 2 | Make and type | : | | |
| 3 | Cups for casing size | : | | |
| 4 | Cups for casing size | : | | |

G.9.3 X-Over to test BOP casing pipe rams in conjunction with Cup tester

- | | | | | |
|----------|---------------------------|----|---------------|---------------|
| a | For 13.3/8" casing | No | 1 | 1 |
| 1 | Top connection type | : | To be advised | To be advised |
| 2 | Bottom Connection type | : | To be advised | To be advised |

- | | | | | |
|----------|--------------------------|----|---------------|---------------|
| b | For 9.5/8" casing | No | 1 | 1 |
| 1 | Top connection type | : | To be advised | To be advised |
| 2 | Bottom Connection type | : | To be advised | To be advised |

- | | | | | |
|----------|------------------------|----|---------------|---------------|
| c | For 7" casing | No | 1 | 1 |
| 1 | Top connection type | : | To be advised | To be advised |
| 2 | Bottom Connection type | : | To be advised | To be advised |

G.9.4 X-Over to test lower Kelly cock

- | | | | | |
|---|------------------------|----|--|--|
| | | No | | |
| 1 | Top connection type | : | | |
| 2 | Bottom Connection type | : | | |

G.9.5 BOP testing pumps:

Power Operated	Manual Operated
----------------	-----------------

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1	BOP testing pumps:	No	1	
2	Make and type	:	Shaffer	
3	Maximum working pressure	psir	15000	
4	High flow rate	lt/min	60:1	
5	Low flow rate	lt/min	30:1	
6	Chart recorder type	:	YES	

G.9.6 Powered Torque Wrench for Bop and W.H. Flanges

Quantity	No. TBN
Make and type	:
Complete with Torque Indicator	yes/No

H BOP CONTROL SYSTEM

H.1 ACCUMULATOR UNIT

1	Make and Type	:	KOOMEY 2T60000-3S
2	Oil reservoir capacity	gal	700
3	Total bottle Installed	no	16 + 10
4	Nominal capacity of each	gal	11
5	Total nominal capacity	gal	240
6	Max. working pressure	psi	3000
7	Accumulator unit installation site	:	CANTILEVER STBD SIDE

H.1.1 Electrical recharging pump

1		No	2
2	Make type	:	T360-60-3
3	Flow rate	gal/mi	28.6
		n	
4	Max working Pressure	psi	3000
5	Pump driving by motor power	hp	60
6	Motor driven also by emergency Generator	yes/No	YES (one)

H.1.2 Air-driven recharging pump

1		No	None
2	Make type	:	
3	Flow rate	gal/m	
		in	
4	Max working Pressure	psi	
5	Air Supplying pressure	psi	
6	Air supplying sources	No	
7	Air Supplying from	:	
8	Air Supplying from	:	

H.1.3 Accumulator Unit Control Manifold

1	Make and type	:	KOOMEY MGBK8EP-DIV
2	Number of Control Valves	No	8
3	Control valve type	:	4 WAY
4	Low/High pressure by-Pass valve	yes/No	YES
5	Annular Pressure regulator type	:	TBN
6	Manifold Pressure regulator type	:	TBN

H.2. BOP Control hoses

		Rigid type	Flexible type
1		no	NONE
2	Inside diameter	inch	16 & 2
3	Certified Fire resistant	yes/No	1 & 2
			YES

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H.3 Diverter Control hoses

1		no	2
2	Inside diameter	inch	2
3	Certified Fire resistant	yes/No	yes

H.4 B.O.P. Driller's control panel:

1	Make and type	:	Electric MGBK8EP-DIV
2	Installation site	:	DRILLERS WORK STATION
3	Graphic display of BOP configuration	yes/No	GRAPHIC
4	With Lights for activated functions	yes/No	YES
5	Explosion proof	yes/No	Yes

H.5 Alarms at Driller's site

1	Low oil pressure alarm type	:	NO
2	Low air pressure alarm type	:	YES
3	Low fluid level alarm type	:	YES

H.6 B.O.P. Tool-Pusher control panel:

1	Make and type	:	KOOMEY GERC-9_DIV
2	Installation site	:	TOOLPUSHERS OFFICE
3	Graphic display of BOP configuration	yes/No	Electric panel w/ graphic display
4	With Lights for activated functions	yes/No	Yes

H.7 Timing of Closing Bag Preventers

1	Closing time of 30" Diverter	sec	TBN
2	Closing time of 20" Bag BOP	sec	TBN
3	Closing time of 13.5/8" Bag BOP	sec	TBN

I. DOWN HOLE TUBULAR MATERIAL

I.1 Tubulars

I.1.1 Kellies

1	Kellies	No.	
2	Shape	type	
3	Nominal size O.D. x I.D.	inch	
4	Total length	ft	

I.1.2 Kelly saver Subs

1	Kelly saver Subs	No.	
2	API classifications	type	

I.1.3 5" OD Drill Pipes

1	API specification	:				
2	API steel grade	:				
3	Total Length	ft.				
4	Length of each (range)	:				
5	Nominal Weight	lb/ft				
6	Internal Plastic Coating	type				
7	Connection between pipe & tool joint	type				
8	Tool joint Outside diameter	in				
9	Tool Joint Inside diameter	in				

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10	Outside taper of Box connection	deg				
11	Tool Joint hardfacing	type				
12	Tool Joint API connections	type				
13	Actual API NDE classification	type				

I.1.5 5" OD Drill Pipes Pup Joints

1	Quantity	No.				
2	API steel grade	type				
3	Length	ft				
4	Nominal Weight	lb/ft				

I.1.7 Heavy Wall Drill Pipes

1	Nominal O.D.	inc				
2	API steel grade	type				
3	Quantity of Joints	No.				
4	Length of each	ft				
5	Nominal Weight	lb/ft				
6	Internal Plastic Coating	type				
7	Connection between pipe & tool joint	type				
8	Tool joint Outside diameter	inc				
9	Tool Joint Inside diameter	inc				
10	Outside taper of Box connection	deg.				
11	Tool Joint hardfacing	type				
12	Tool Joint API connections	type				
13	Actual API N.D.E. classification	type				

I.1.8 Drill Collars

1	Outside Diameter	No.				
2	Inside Diameter	in				
3	Length of each joint	ft				
4	Outside body	type				
5	Elevator recess	Yes/No				
6	Slip recess	Yes/No				
7	API connection	type				
8	"Bore-back" on box	Yes/No				
9	Stress Relief Groove on pin	Yes/No				

I.1.9 Short Drill Collars

1	Outside Diameter	No.				
2	Inside Diameter	in				
3	Length of each joint	ft				
4	Outside body	type				
5	Elevator recess	Yes/No				
6	Slip recess	Yes/No				
7	API connection	type				
8	"Bore-back" on box	Yes/No				
9	Stress Relief Groove on pin	Yes/No				

I.1.9a Short Drill Collars

1	Outside Diameter	No.				
2	Inside Diameter	in				
3	Length of each joint	ft				
4	Outside body	type				
5	Elevator recess	Yes/No				
6	Slip recess	Yes/No				
7	API connection	type				

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8	"Bore-back" on box	Yes/No					
9	Stress Relief Groove on pin	Yes/No	y				
I.1.10	Non Magnetic Drill Collars	No.					
1	Outside Diameter	in					
2	Inside Diameter	in					
3	Length of each joint	ft					
4	Outside body	type					
5	Elevator recess	Yes/No					
6	Slip recess	Yes/No					
7	API connection	type					
8	"Bore-back" on box	Yes/No					
9	Stress Relief Groove on pin	Yes/No					
I.2.	DRILL STRING PRESSURE CONTROL TOOLS						
I.2.1	Drill String Circulating Head	No.					
1	For DP outside diameter	inc					
2	Bottom connection	type					
3	Top connection	type					
4	Top valve	type					
5	Working pressure	in-psi					
I.2.2	Upper Kelly Cock	No.					
1	For Kelly size	in					
2		make					
3		type					
4	Outside diameter	inc					
5	Working pressure	in psi					
I.2.3	Lower Kelly Cock	No.					
1		type					
2	For DP connection	make					
3		type					
4		inc					
5	Outside diameter	inc					
6	Inside diameter	psi					
7	Working pressure						
I.2.4	Drop-In Valve	No.					
1	For DP connection	type					
2		make					
3		type					
4	Min. Inside drill string diameter	inc					
5	Landing Sub	No.					
6	Complete with retrieving tool	Yes/No					
I.2.5	Float Valves	No.					
1	For DC connection	type					
2		make					
3		type					
I.3.	BIT AND X-OVER SUBS						
1	Quantity of each X-Over sub to connect and run in hole all the Contractor's furnished drill and fishing strings	:					
2	All X-Overs with Boreback on box	Yes/No					
3	Stress Relief groove on pin	Yes/No					

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a Other X-overs	No.				
1 Connections	type				
b Other X-overs	No.				
1 Connections	type				
I.4. CORE BARREL	No.				
1	make				
2	type				
3 O.D. Body	inc				
4 I.D. Body	inc				
5 Body length	ft				
6 Top connection	type				
I.5. HOLE OPENER	No.				
1	make				
2	type				
3 O.D. body	inc				
4 O.D. body	inc				
5 For Hole size	inc				
6 Top connection	type				
7 Bottom connection	type				
8 cutters for formation	type				
I.6. STABILIZERS	No.				
1	make				
2	type				
3	type				
4 Outside diameter of blades	inc				
5 Blades Hardfacing	type				
6 O.D. body	inc				
7 I.D. body	inc				
8 Total Length	ft				
9 Top connection	type				
10 Bottom connection	type				
11 Bottom connection float valve bore	type				
I.6a Stabilizers	No.				
1	make				
2	type				
3	type				
4 Outside diameter of blades	inc				
5 Blades Hardfacing	type				
6 O.D. body	inc				
7 I.D. body	inc				
8 Total Length	ft				
9 Top connection	type				
10 Bottom connection	type				
11 Bottom connection float valve bore	type				
I.6b Stabilizers	No.				
1	make				
2	type				
3	type				
4 Outside diameter of blades	inc				
5 Blades Hardfacing	type				
6 O.D. body	inc				
7 I.D. body	inc				

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8	Total Length	ft				
9	Top connection	type				
10	Bottom connection	type				
11	Bottom connection float valve bore	type				

I.6c Stabilizers

1		No.				
2		make				
3		type				
4	Outside diameter of blades	inc				
5	Blades Hardfacing	type				
6	O.D. body	inc				
7	I.D. body	inc				
8	Total Length	ft				
9	Top connection	type				
10	Bottom connection	type				
11	Bottom connection float valve bore	type				

J. D. P./D. C. HANDLING TOOLS

J.1. Hydraulic cathead (Ezy Torque)

1		make	NOV			
2		type	H6-26EV			
3	Max line pull	lbs				

J.2 Iron Roughneck

1		make	NOV			
2		type	IR3080 extended arm 88 "			
3	For O.D. Tubulars	inc	3 ½" - 8"			
4	Max. rating Torque	ft.lbs	60,000			

J.3 Kelly Spinner

1		make				
2		type				

J.4 Spinning Wrench

1		make	Grayspin			
2		type	Mark 30			
3	For O.D. Tubulars	inc				

J.5 Manual Rotary Tongs

1		No.				
2		make				
3		type				
4	For O.D. Tubulars	in				
5	Max. rating Torque	ft.lbs				

J.5.1 Manual Rotary Tongs

1		No.				
2		make				
3		type				
4	For O.D. Tubulars	in				
5	Max. rating Torque	ft.lbs				

J.6 Drill Pipes Elevators

1		No.				
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2		make					
3		type					
4	For O.D. Drill pipes	inc					
5	Max. rating Load Capacity	Mt					
6	API specification	:					

J.7 Drill Pipes Slips

1		Make					
2		Type					
3							
4	For O.D. Drill pipes						

J.7 1 Drill Pipes Power Slips

1		make	NOV				
2		type	PS 21				
3	For O.D. Drill pipes	Inc					

J.8 Drill Collars Quick Lift Elevators

1		No.					
2		Make					
3		Type					
4	For O.D. Drill Collars	inc					
5	Max. Rating Load Capacity	Mt					
6	API specification	:					

J.9 Drill Collars Lift Sub Elevators

1		No.					
2	For O.D. Drill Collars	Inc					
3	Bottom connection	Type					

J.9a Drill Collars Lift Sub Elevators

1		No.					
2	For O.D. Drill Collars	Inc					
3	Bottom connection	Type					

J.10 Drill Collar Slips

1		No.					
2		Make					
3		Type					
4	For O.D. Drill Collars	Inc					

J.10a Drill Collar Slips

1		No.					
2		Make					
3		Type					
4	For O.D. Drill Collars	Inc					

J.11. Safety Clamps

1		No.					
2		Make					
3		Type					
4	For O.D. range	Inc					

J.12. Bit Breaker

1	For Bit size	Inc					
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J.12.a Bit Breaker

1	For Bit size	inc						
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J.13. Tri-point caliper

1	For O.D. Blade stabilizers	Inc						
2	Accuracy	Inc						

J.13a Tri-point caliper

1	For O.D. Blade stabilizers	Inc						
2	Accuracy	Inc						

K CASING HANDLING EQUIPMENT

K. 1. Side Door Casing Elevators

1		No.						
2		Make						
3		Type						
4	For O.D. Casing	Inc						
5	Rated Load Capacity	Mt						

K.1.a Side Door Casing Elevators

1		No.						
2		Make						
3		type						
4	For O.D. Casing	Inc						
5	Rated Load Capacity	Mt						

K.2. Hinged Casing Spiders

1		No.						
2		Make						
3		Type						
4	For O.D. Casing	Inc						
5	Rated Load Capacity	Mt						

K.3. Casing Elevator/Spider

1		No.						
2		Make						
3		Type						
4	For O.D. Casing	Inc						
5	Rated Load Capacity	Mt						

K.3a. Casing Elevator/Spider

1		No.						
2		Make						
3		Type						
4	For O.D. Casing	Inc						
5	Rated Load Capacity	Mt						

K.4. Casing Bushing

1		No.						
2		Make						
3		Type						
4	For O.D. Casing	Inc						

K.5. Casing Slips for Rotary table

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1		No.						
2		Make						
3		Type						
4	For O.D. Casing	Inc						
K.5.a Casing Slips for Rotary table								
1		No.	1	1	1	1	1	1
2		Make						
3		Type						
4	For O.D. Casing	inc						
K.6. Single Joint Casing elevators								
1		No.						
2		Make						
3		Type						
4	For O.D. Casing	Inc						
K.6.a Single Joint Casing elevators								
1		No.						
2		Make						
3		Type						
4	For O.D. Casing	Inc						
K.7. Manual Casing tongs								
1		No.						
2		Make						
3		Type						
4	For O.D. Casing	Inc						
5	Max Rated Torque	lb/ft						
K.8. Power Casing tongs								
1		No.						
2		Make						
3		Type						
4	For O.D. Casing	Inc						
5	Max Rated Torque	lb/ft						
K.9. Casing Circulating heads								
1		No.						
2	Top connection	Type						
3	Bottom connection	Type						
4	For O.D. Casing	Inc						
K.9.a Casing Circulating heads								
1		No.						
2	Top connection	Type						
3	Bottom connection	Type						
4	For O.D. Casing	Inc						
K.10 Casing Thread Protectors								
1		No.						
2		Make						
3	For O.D. Casing	type Inc						
K.10a Casing Thread Protectors								
1		No.						
2		Make						
3	For O.D. Casing	type Inc						

Subject	Equipment list F&G Super M2.				
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K.11. Casing Drift

- 1
- 2 For O.D. Casing
- 3 For Casing Nominal weight

K.11a Casing Drift

- 1
- 2 For O.D. Casing
- 3 For Casing Nominal weight

K.12 Casing Scrapers

- For O.D. Casing
- For Casing Nominal weight

K.13 X-Over To handle casing with DP

- 1
- 2 Top Connection
- 3 Bottom connection

L TUBING EQUIPMENT

L.1 Tubing spiders:

- 1 Tubing spiders quantity
- 2 Make and -type
- 3 For O.D. tubing
- 4 Rated load Capacity

L.2 Tubing Elevators:

- 1 Tubing elevators quantity
- 2 Make and -type
- 3 For O.D. tubing
- 4 Rated load Capacity

L.3 Manual tubing tongs:

- 1 Manual tubing tongs
- 2 Make and -type
- 3 For O.D. tubing

L.4 Powered tubing tong

- 1 Powered tubing tong
- 2 Make and -type
- 3 For O.D. tubing

L.5 Tubing Slips for rotary table:

- 1 Tubing Slips for rotary table:
- 2 Make and -type
- 3 For O.D. tubing

M FISHING EQUIPMENT

M.1 Overshots

- 1
- 2
- 3
- 4 O.D. Body
- 5 Spiral/Basket Grapples

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6	Spiral/Basket Grapples	inc				
7	Spiral/Basket Grapples	inc				
8	Spiral/Basket Grapples	inc				
9	Spiral/Basket Grapples	inc				
10	Spiral/Basket Grapples	inc				
11	Oversize Guide	No.				
12	Oversize Guide O.D.	inc				
13	Extension sub	inc				
14	Top sub Connection	Type				
15	Top sub lock-ring	:				
M.2	Fishing Jars	No.				
1		Make				
2		type				
3	O.D. body	inc				
4	I.D. body	inc				
5	Connections	Type				
M.3	Drilling Jars	No.				
1		Make				
2		Type				
3	O.D. body	inc				
4	I.D. body	inc				
5	Connections	Type				
M.4	Fishing Bumper subs	No.				
1		Make				
2		Type				
3	O.D. body	inc				
4	I.D. body	inc				
5	Connections	Type				
M.5	Bumper sub safety joints	No.				
1		Make				
2		Type				
3	O.D. body	inc				
4	I.D. body	inc				
5	Connections	Type				
M.6	Safety joints	No.				
1		Make				
2		Type				
3	O.D. body	inc				
4	I.D. body	inc				
5	Connections	Type				
M.7	Junk subs	No.				
1		Make				
2		Type				
3	O.D. Body	inc				

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4	I.D. body	inc				
5	For Hole size	inc				
6	Connections	Type				
M.7a	Junk subs	No.				
1		Make				
2		Type				
3	O.D. Body	inc				
4	I.D. body	inc				
5	For Hole size	inc				
6	Connections	Type				
M.8.	Junk basket (reverse circulat.)	No.				
1		Make				
2		Type				
3	Mill Shoe	Type				
4	O.D. Body	inc				
5	I.D. body	inc				
6	For Hole size	inc				
7	Connections	Make				
M.8.a	Junk basket (reverse circulat.)	No.				
1		Make				
2		Type				
3	Mill Shoe	Type				
4	O.D. Body	inc				
5	I.D. body	inc				
6	For Hole size	inc				
7	Connections	Make				
M.9.	Junk Mill	No.				
1		Make				
2		Type				
3	O.D. Body	Type				
4	I.D. body	inc				
5	Connections	Type				
M.10.	Fishing Magnet	No.				
1		Make				
2		Type				
3	O.D. Body	Type				
4	I.D. body	inc				
5	Connections	Type				
M.11	Taper Taps	No.				
1		Make				
2		Type				
3	Smallest wicker Diameter	inc				
4	Largest wicker Diameter	inc				
5	Connections	type				
M.12	Impression Block	No.				
1		Make				
2		Type				
3	O.D. Body	inc				

N INSTRUMENTATIONS

N. 1. INSTRUMENTATION AT DRILLER'S CONSOLE

Subject	Equipment list F&G Super M2.				
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N. 1.1 Weight Indicator

1	Weight Indicator	Make	NOV AMPION	
2		Type		
3	Weight Indicator sensor type	Type		

N. 1.2 Stand pipe Pressure Gauges

1	Stand pipe pressure Gauge	No.	NOV NOV AMPION	
2		Make		
3		Type		
4	Pressure range indicator	psi		

			For Rotary Table	For Top Drive	For Rotary Table	For Top Drive
N. 1. Torque indicator						
c						
1		Make	NOV NOV AMPION	NOV AMPION		
2		Type				
3	Range	ft.lbs				
N. 1. Speed indicator						
d						
1	Speed Indicator	Make				
2		Type				
3	Range	RPM				
4	Speed Indicator sensor	Type				

N. 1.5 Tongs pull indicator

1		Make	NOV NOV AMPION	
2		Type		
3	Pull indicator sensor	Type		
4	Max. rated load	lbs		

N. 1.6 Mud Pump Stroke Counter Indicator

1		Make	NOV NOV AMPION	
2		Type		
3	Sensor	type		

N. 1.7 Mud Pump Stroke Totalizer

			NOV NOV AMPION	
1		Make		
2		Type		
3				

N. 1.8 Mud Pits Volume Totalizer

1		Make	NOV NOV AMPION	
2		Type		
3	Pit level sensors	Type		
4	Pit level sensors installed in tanks	No.		
5	Pit Volume Gain/loss alarm	Type		

N. 1.9 Mud Flow rate Indicator

1	Mud Flow rate Indicator	Make	NOV NOV AMPION	
2		Type		
3	Flow rate sensor	Type		
4	Flow rate gain/loss alarm	Type		

N. 1.10 Trip tank volume indicator

			NOV AMPION	
1		Make	NOV AMPION	
2		Type	NOV AMPION	

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3	Pit Volume Gain/loss alarm	Type	NOV AMPION
4	Recorder	Yes/No	NOV AMPION

N. 2. INSTRUMENTATION ON RIG FLOOR

N. 2a Drilling Parameter recorder

1		Make	NOV AMPION
2	Pens	Type	
3	Pens	No.	
4	Parameter Recorded	Type	
5	Parameter Recorded	Type	
6	Parameter Recorded	Type	
7	Parameter Recorded	Type	
8	Parameter Recorded	Type	
9	Parameter Recorded	type	
10	Parameter Recorded	Type	
11	Parameter Recorded	Type	

N. 2b Drilling Deviation Measuring Device

1		No	1
2		Make	Totco
3		Type	
4	Deviation Range	Deg.	0 – 8 0 - 16

N. 2.3 Wire Line winch

1		Make	Mathey
2		Type	Surveyer II series
3	Wire Line	Type	
4	Wire Line O.D.	inc	
5	Wire Line Length	ft	20000
6	Wire Line depth indicator	Yes/No	
7	Wire Line pull indicator	Yes/No	

N. 3. INSTRUMENTATION IN CONTROL ROOM

N.3.1 Environmental Instruments

1	Air temperature indicator	Yes/No	Yes
2	Sea water temperature indicator	Yes/No	Yes
3	Wind speed /direction Indicator	Yes/No	Yes
4	Wind speed /direction Recorder	Yes/No	YES
5	Weather facsimile recorder	Yes/No	

O UNIT COMMUNICATION SYSTEM

O. 1 GMDSS

1		No.	1
2		Make	
3		Type	
4	Output Power	Watt	

O. 2. VHF-Radio Telephone

1		No.	TBN
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2		Make	TBN	
3		Type		
4	Output Power	Watt		
O. 3. RADIO Beacon Transmitter				
1		Make	TBN	
2		Type		
O. 4. Satellite Communication system				
1		Make	TBN	
2		Type		
O. 5. SATELLITE UNIT POSITIONING SYSTEM				
1		Make		
2		Type		
O.6. RIG INTERCOMMUNICATION SYSTEM				
O. 6.1 Telephone system				
1		Make	TBN	1 lot
2		Type		
3				
		:		
		:		
		:		
		:		
		:		
O. 5.b Closed circuit TV Monitoring system				
1	Camera Located to monitor the following areas	:	6	
		:		Pan/tilt cctv, monkeyboard
		:		,Crown
		:		BOP Area, 2ea Cranes
		:		Flowline