

ANNEX B - IADC LIST OF A1 JACK UP EQUIPMENT

N°	EQUIPMENT	DESCRIPTION	SPECS
A.1	MAIN DIMENSIONS / TECHNICAL DESCRIPTION	Rig name	TBD Upon Completion of NDA
		Rig owner	TBD Upon Completion of NDA
		Max drill depth	20000ft with 5" DP
		Hull dimensions:	Length= 247ft 7in Width= 227ft 5in Depth= 26ft
		Transit water draft:	14ft lightship
		Min/Max operating water depth:	14ft / 300ft
A.2	STORAGE CAPACITIES	Drilling water:	10540 bbl
		Potable Water:	1294 bbl with 7500gal/day water maker
		Mud tanks:	1127.9 bbl
		Fuel:	4727 bbl
		Reserve tanks:	331 bbl
A.3	JACKUP SYSTEMS	Min leg length available below hull: 180ft	338 ft
A.4	CRANES, HOIST, AND MATERIAL HANDLING	SWL or Equivalent to API 2C specifications	1 x 44 ST + 2 x 30 ST (MLT PC-120 AS)
		pneumatic winches and certified manriding winch on the rig floor; hoist for chemical mixing; monkey board mounted work winches	2 x 5klbs pneumatic winches on drill floor + 1 x 330 lbs on drill floor mezzanine + 1 x 2klbs on Monkey Board
A.5	HELICOPTER LANDING DECK	Model	S-61 with 70ft diameter
A.6	YEAR OF CONSTRUCTION	Year of construction / rebuilt	Build on 1976 Rebuilt on 2018
A.7	CANTILEVER SYSTEM	Cantilever	N/A. Slot Rig. 7.5ft x 7.5ft port/stbd
B.1	DERRICK AND SUBSTRUCTURE	Mast:	Mast: 30'W x 170'H. Wind Capacity: 107 knots full setback, no hook load
		Derrick: Setback load:	Derrick static load: 1,500 klbs. Setback load: 450 klbs

		Pipe racking capacity:	5" DP 20,000ft 6 stands 6-1/4" DC 4 stands 8-1/4" DC
B.2	DRAWWORKS AND ASSOCIATED EQUIPMENT	Min 2000HP 36" dia Lebus grooved with min 1-1/2" drill line with crownomatic	2000 HP 30" diameter x 55" length with 1-1/2" drill line with crown-o-matic.
		Min 2 motors, 1000HP each (intermittent)	2 Motors, 1000 HP each
B.3	DERRICK HOISTING EQUIPMENT	Travelling block: 7 x 60" 1000klbs rated	6 x 60", 650 Tons
		Crown wheel. Sheaves: 7+1; 1000klbs rated Sheave diameter 60"	7+1 sheaves x 60"; 583 ST
		Drill line: One drilling line 1.5 inch diameter 6 x19 improved plow steel with independent wire rope core of at least 7,500 ft length. One spare reel required on site.	One line 1.5 inch diameter 6 x 19 improved plow steel with independent wire rope core of 7,500 ft length.
B.4	ROTATING SYSTEM	Rotary table:1,300klbs, 40,000ft-lbs (Max rotary speed: 150rpm) Driven by a minimum 1000 HP electric motor (independent of drawworks).	Rotary Table: 1,300 klbs, 25,000 ft-lbs (Max rotary speed: 125 rpm). 800 HP independent electric motor.
		Air intakes for motor to be outside zone 2 area.	Air intakes for motor, outside zone 2 area
		Two speed gearbox. Driven by an independent electric motor, two forward and two reverse speed chainbox;	2 speed gear box continuous rating 800 HP. Reverse and forward
		37-1/2" diameter	37-1/2" diameter
		Top Drive System: Canrig or equivalent; 7,500psi WP; 45,000ft-lbs @ 150rpm; 1,400klbs ratings; Pipe capacity: 2-7/8" to 6-5/8"; RPM: 150 low / 250 high	Top Drive System: TDS-4H, 50,900 ft-lbs, 1,433 klbs, Pipe capacity: 2-7/8" to 6-5/8" RPM: 130 low / 250 high
		Soft Torque system or equivalent required: eg Bentec MKIII or equivalent	N/A

		Rotating mousehole/mousehole with adjustable stopper slot to drop 30 ft Dp with a stickout length from 1-4ft	Rotating Mousehole with adjustable stopper slot
B.5	MECHANIZED CATWALK/ FIXED CATWALK	CANRIG or equiv (PowerCAT 4000) 24" csg x 65ft x 10,000lbs	Available when requested
		60ft Catwalk with pipe drop stopper	Available when requested
B.6	PIPE RACK	Capacity for 16,000 ft of 47 lbs/ft 9.5/8" casing	Capacity of 14,000 ft of 47 lbs/ft 9.5/8" casing
C.1	RIG POWER PLANT	Min 7500HP diesel engines; Min 5 x 1312kW output CAT engine or equivalent	6000 HP diesel engines. 3 AC Generators x 2625 KW, 600 vlot, 60 Hz.
		Capable of supplying 380-460volts /50-60Hz/3phase100kVA for mudlogging unit, shale shaker, etc	
		SCR: 5 X 11,000A SCR (continuous power)	SCR: 5 x 1,850A 3ph
		Submit power systems general line diagram of power distribution system	
		In the drilling mode sufficient power must be available to control and power simultaneously the mud pumps and rotary table both at full load and the drawworks at half load with one diesel generator as standby.	Yes
Emergency shutdown system installed?	Yes. Drill floor, control room, tool pusher office.		
C.3	EMERGENCY GENERATOR	Min 1 x 500kW output	1 x 500kW output
C.4	COMPRESSED AIR SYSTEM	The rig air system should have compressors c/w dryers of sufficient capacity to operate e.g. the rig floor air winch and the drillpipe spinner continuously, including 3rd party equipment whilst maintaining 120 psi minimum for other controls. There must be 100% spare compressor capacity.	Yes. 2 x 125 psi air system compressors with dryers.

		Pressure relief valves to be fitted on all vessels. All the vessels to be fitted with Pressure gauges with suitable range	Air Compressors, Bulk Tanks.
		Air driers (capable of processing max. air supply at rated pressure) Outlet dew point - 40 degF: 1 required	2 Air driers (capable of processing max. air supply at rated pressure) Outlet dew point
D.1	DRILL STRING	All NEW pipe and hoisting equipment to be in accordance with the relevant API RP7G-2 and API Spec 5DP	Available when requested
		All tubulars new or at least premium by contract commencement date	Available when requested
		All tubulars are not older than 3 years in service by contract commencement	Available when requested
		5-1/2" OD drillpipe: 20,000ft; S-135/HT-55, 21.9ppf; Range II, Armco 200 XT	Available when requested
		5-1/2" OD HWDP: 1500ft, HT-55, 58.1ppf adjusted weight	Available when requested
		5" OD drillpipe 5,000ft; S-135; NC-50; 19.5ppf;	Available when requested
		5" OD HWDP, 1,500ft; NC-50; 50ppf; Range II; Armco 200 XT	Available when requested
		3-1/2" OD DP: 5,000 ft; S-135; 15.5ppf Range II, NC38; Armco 200 XT	Available when requested
		3-1/2" OD HWDP: 700 ft; S-135; 26ppf Range II, NC38; Armco 200 XT	Available when requested

		<p>Drill collars sizes:</p> <p>9-1/2" x 3" ID x2, 7-5/8" REG connection</p> <p>8-1/4" x 2-13/16" x 400ft, 6-5/8" REG connection</p> <p>6-1/4" x 2-13/16" x 400ft x NC 46 connection</p> <p>4-3/4" x 2-1/4" x 700ft x NC38 connection</p>	Available when requested
		Sufficient number of crossovers available to make up all configurations of drill string	Available when requested
		<p>Workstring shut-off devices (FOSV, Grey valve etc) 2 each available with required crossovers for all tubular sizes.</p> <p>Must meet the requirements of API SPEC 7-1, Class 2</p> <p>10,000ps WP</p>	Available when requested
D.2	HANDLING TOOLS	2 sets each of handling tools to run workstring/tubings tubulars from 2-3/8" through 30" OD incl. power slips for all tubular sizes	Available when requested
		<p>Pipe spinner for 3-1/2" - 5-1/2" DP :</p> <p>Hawk/spinmaster 950 H or Equivalent</p>	SSW40 Pneumatic Spinning Wrench. Size range: 3.1/2" - 9.1/2".
		<p>Iron roughneck:</p> <p>Make: Varco AR 3200 or Equivalent</p>	Available when requested
		Ezy torq for heavy DCs: Varco BJ 35,000ft/lb or equivalent; 16MT max line pull	EZY Torque Model D Type I precision torque range 40,000-150,000 ft/lb with remote control. Max pull force: 35,343 lbs
		Suite of hands-free tools incl push/pull poles, snare tools, lifting straps, finger saver	Available when requested

D.3	FISHING EQUIPMENT	Spears, overshots and junk baskets for all tubulars (contractor's tubulars, standard casing and tubing) to be run in hole (18-5/8", 13-3/8", 9-5/8", 7", 4-1/2")	Overshots, Junk Basket, Mills, Spiral Grapple (9-5/8", 8", 7-7/8", 6-1/2" 5", 4-7/8".
E.1	HIGH PRESSURE BLOWOUT PREVENTERS	13-5/8", 10000psi BOP: Min of 3 ram-type BOP (1 x 3 1/2" - 7" variable rams, 1 x 5-1/2" fixed ram, 1 x blind shear ram) with Kill/Choke flanged inlet/outlet. Cameron or Hydril make.	Available when requested
E.2	OTHER BLOWOUT PREVENTERS (ANNULAR BOP)	13-5/8" 5,000psi annular BOP with hydraulic bottle. For use with 13-5/8" 10K BOP	Available when requested
		21-1/4", 2000psi BOP: Min of 2 ram-type BOP (1x 5-1/2" fixed/variable ram and 1x blind shear ram or blind ram) with drilling spool for Kill/Choke flanged inlet/outlet.	Available when requested
		Shall meet the requirements of API Standard 64. 30" nom, 1000psi WP with min 2 x 12" ID outlets and flowlines; fitted with Cameron ANSI 600 Ball Valves or Equivalent.	Available when requested
E.3	BOP CONTROL SYSTEM/ ACCUMULATOR UNIT	3000psi WP. Comply with PCM (WS 38.80.31.32-Gen. Rev. Feb 2019) Must meet the requirements of API Spec 16D	3000 psi WP. Comply with API 16D. Tested within 7.5.52 SCSDWCECSDP.
E.4	CHOKE MANIFOLD	10,000psi WP. Comply with PCM (WS 38.80.31.32-Gen. Rev. Feb 2019). Must meet the requirements of API Spec 16C	10,000 psi WP, comply with API Spec 16C.
E.5	CHOKE & KILL LINES	10000psi WP. 2 choke lines (min 3 1/16" ID) - fitted with 1 hydraulic valve + 1 one manual valve. 2 kill lines (min 2 1/16" ID) - fitted with 1 hydraulic valve + 1 one manual valve + 1 NRV.	10,000psi WP. 2 choke lines 3 1/16" fitted with 1 hydraulic valve + 1 one manual valve. 2 kill lines 3-1/16" fitted with 1 hydraulic valve + 1 one manual valve.
E.6	BOP TESTING EQUIPMENT	Must be able to test entire BOP on the stump/ offline (0.5)	Available when required.
E.7	BOP HANDLING	Certified to 1.5x full stack weight (0.7)	2 x 30MT Pneumatic BOP Hoist. Certified to +1.5x fill stack weight

E.8	ADDITIONAL PRESSURE CONTROL EQUIPMENT	Mud gas separator: mud seal u-tube >5ft; vent line 10" diameter; vessel body ID 48" - 58"	Mud Gas separator tank, Full Vacuum. Vent 10". Vessel body ID: 48"
		Vaccum Degasser: Burgress or Equivalent; be able to handle at least 50% of flowrate	D255 MI Swaco Single-Stage, Two-Cylinder Compressor Degasser.
		Trip tank: 2 x 25bbl each with centrifugal pump, alarm and strip chart recorder	2 x 56.9bbl each with centrifugal pump, alarm and strip chart recorder
		Strip tank: 6bbl	N/A
E.9	DRILLED CUTTINGS MANAGEMENT	Centrifuge and Cuttings drier capable of drying POBM cuttings to less than 5% oil on cutting, with feed capacity of 35metric tones per hour. Brandt or King Cobra.	Available when requested
F.1	HIGH PRESSURE MUD SYSTEM	3 x 1600HP, 5000psi WP triplex mud pumps with 5" - 7" liner size; 600gpm flowrate for each pump	2 x 1600HP, 5000psi WP triplex mud pumps (600 gpm) + 2 x 600 HP 10,000 psi WP triplex pumps (420 gpm) available on cement unit
		HP circulation system (HP lines, standpipe manifold, kelly hose, cementing hose) to be rated min 5000psi WP.	HP circulation system: min 5000psi WP.
F.2	LOW PRESSURE MUD SYSTEM	Desilter: Demco, Brandt or Equivalent; 20 x 4" OD cones (max flow rate 1000GPM)	Desilter: MI Swaco 8T4 16 x 4" OD Cones (max Flow rate: 1,200 GPM)
		Desander: Brandt or Equivalent; 3 x 10" OD cones with pressure gauge on inlet manifold (max flowrate 1200GPM)	Available when requested
		Centrifuge: 440gal/min throughput. Brandt or Equivalent	Available when requested
		Shale shakers: Min 3; 7G linear motion; 1200 GPM for 60/80 sec/qt MFV mud; Brandt or King Cobra or Equivalent	4 + 1 (Mud Cleaner) x MI Swaco Mongoose Pro Shakers: 7.5G, elliptical motion. 1,500 GPM
		1 x mud cleaner with 16 x 4" cones	Indicated on desilter.

		Min 2 x 75kW transfer and mixing pumps	2 x 8x6x14 Mixing Pumps. 100 HP, 1750 RPM, 1500 GPM each
		Mud pits with agitators and level sensors; all agitators capable of being independently electrically isolated	Mud pits with agitators and level sensors; all agitators capable of being independently electrically isolated
F.3	BULK SYSTEM	Hold min 100MT of Barite/bentonite (2 silos) and 100MT G-cement (3 silos). Surge tank for bulking system	100 MT Barite and 100 MT Cement
G.1	CASING EQUIPMENT		
		Casing stabbing board: adjustable from 28ft - 60ft	Casing stabbing board: adjustable from 28ft - 60ft
H.1	DRILLING INSTRUMENTATION AT DRILLER'S POSITION	Integrated electronic information and control system with joystick draw works control.	Conventional Manual Driller Control
		Emergency shut down	Emergency Shut Down located in Driller Console, Control Room, Toolpusher office
		Crownomatic and anti collision sensor	Crownomatic and anti collision sensor
		Auto-driller	N/A
		Rotary soft torque system: Mark III Required: eg Bentec MKIII	N/A
H.2	DRILLING PARAMETER RECORDER	Electronic real-time drilling parameter recorder, transmitted to Company man and OIM offices, with 800hr storage capability.	Electronic real-time drilling parameter recorder, transmitted to Company man and OIM offices, with 800hr storage capability.
		Capable of transmitting WITS data for all drilling parameters	Capable of transmitting WITS data for all drilling parameters
H.3	RIG COMMUNICATION SYSTEMS	Minimum 3 cameras: Derrick (Monkey board, stabbing boards) and Shale shaker (controls and monitor located in Doghouse)	Available when requested
		2-way talk back system with derrick man	Available when requested

		PA system with 40 stations. Gaitronics or equivalent	Available
		Base radio between rig and camp	Available when requested
		EX-rated two-way radios x 10	Available when requested
H.4	COMMUNICATIONS EQUIPMENT	Satellite communication equipment for data transmission, audio and video communication between rig and town	Available when requested
		Hi-speed broadband internet with WiFi available in office, accommodation and recreation areas. Minimum 8/8Mbps speed Unlimited access	Available when requested
I.1	PREVENTIVE MAINTENANCE SCHEDULE	Preventive Maintenance Schedule (PMS) with an auto prompt in addition to clear evidence of relationship with Original Equipment manufacturer. Provide evidence of 80% compliance with PMS	Available when requested
K.1	OFFICES/ STORAGE	Offices for Company man, safety coach, mud lab, 10 sq. m airconditioned storage for Company items	Available
K.2	LIVING QUARTERS	Accommodation and catering	Accommodation and catering for 88 POB
		Safe haven purpose built for emergencies	Yes
		Lockdown facility for all living quarters	Yes
		Gym/ recreation	Yes
		A/C refrigerants CFC and Halons free	Yes
L.1	GENERAL SAFETY EQUIPMENT	ESD switches for complete power systems (AC/DC) at Driller's console, RM/OIM Office, and Engine Room (switch classified for zone)	Yes
M.1	SEWAGE TREATMENT	Sufficient to cater for 150 personnel on board. To meet requirements of Table II-6 of EGASPIN	Sufficient to cater for 88 personnel on board.

P.	RIG AVAILABILITY MMM/YYYY	Q1 2021	Available NOV/2019
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APPENDIX 1 – CONTRACTOR EQUIPMENT LISTING

RIG EQUIPMENT LIST

Unit specifications	Standard requirement	SPECS
A. Jack-up		
A1 Jack-up		A1 Jack Up
Company:		TBD
Unit name:		TBD
Registered number:		TBD
Rated depth ft		20,000 ft with 5” drill pipe
Year construction:		1976
Construction yard:		Vicksburg, Mississippi, USA
Unit MODU Code :		1979
List Code Non-Compliances (if any)		N/A
Unit shape/design:		MLT 84S
Present Status Operations / Date:		Warm Stack
Mobilisation time to SPDC		Immediately available
Actual location :		USA
Availability :		Immediately
A1.1 Main dimensions		
Area overall ft ²		30829 ft ²
Length of hull overall ft		247ft 7inch
Breadth of hull overall ft		227ft – 5.1/2 inch
Depth of hull ft		26ft
Design draft ft		15ft 6inch
Transit displacement No.		17 ft
Maximum operating water depth ft (m)		300 ft
Minimum operating water depth ft (m)		17 ft
Transit water draft		14 ft (lightship)
Maximum variable deckload - jacking MT		2,209 MT
Maximum variable deckload - drilling MT		3,484.5 MT
Maximum variable deckload - transit MT		2,638.5 MT
Maximum variable deckload - survival MT		2,638.5 MT
Fuel consumption MT/day		2000 gal/day (6.5 MT/day)
Accommodation for minimum No. people No.		88

Size of helideck Ft x Ft		70 x 70
Capacity of helideck MT		8.6
Designed for Type		Sikorsky S-61
Total No. of deck cranes No.		3
Type specify :		PCM-120
Capacity main hook MT:		30 / 30 / 40
Capacity whipline MT:		-
Working radius of main hook at 60 MT load FT		(40 MT) 24 ft
Working radius of whipline at 10 MT load FT		-
Hoisting speed of whipline at 10 MT load ft/sec		-
A1.2 Legs		
Leg shape triangular/square		Square
Leg spacing m		Longitudinal: 129ft, transverse: 142ft.
Leg Length available below hull (including reserve above jack tower) ft		358 ft
Number of legs No.		3
Spud can shape :		Diamond
Spud can area sq/ft		1,585 sq ft each
Pre-loading :		9,711 cu.ft (each)
Jetting system :		Yes
A1.3 Jacking system		
Type :		Electric Rack and Pinion
Manufacturer :		Marathon Letourneau
Number of pinions per leg No.		16
Capacity per pinion jacking MT		153 MT
Capacity per pinion holding MT		317.5 MT
Jacking speed up m/min.		1.2 m/min
Jacking speed down m/min.		1.5 m/min
Fixation system YES/NO		Yes
Number of fixations per leg No.		8
Capacity per rack MT		612.34 MT
A1.4 Cantilever Capability		
Maximum reach, i.e. distance from transom to center of the well, ft		25 ft
Skid either side of centre line, ft		7.5 ft
Load rating: drilling condition Kips / ST		7,682Kips / 3,841 ST

Provide a Specification table with max drilling load on cantilever for whole of drilling envelope. Drilling load is understood to mean the sum of hook, rotary, setback and any tensioner / support loads that may be supported by the cantilever.		N/A (Slot Type)
Load rating: survival condition Kips / ST		N/A (Slot Type)
Provide a Specification table with max survival load on cantilever for whole of drilling envelope. Survival load is understood to mean the sum of hook, rotary, setback and any tensioner / support loads that may be supported by the cantilever.		N/A (Slot Type)
A1.5 Storage capacities		
Fuel BBLs		4727
Drilling water BBLs		10540
Potable water BBLs		1294
Active liquid mud BBLs		812.7
Reserve liquid mud BBLs		491.5
Brine storage BBLs		N/A (Available when requested)
Base Oil storage BBLs		563
Bulk barite / bentonite CU FT		3120 cu. ft
(separate from cement storage system)		Barite (379 MT) / Bentonite (195 MT)
Bulk cement CU FT		3120 cu. ft

(separate from barite / bentonite storage) MT		273
Sack storage SQ FT/ Sacks		2,500 sxs
Pipe racks Storage area:		
Supply information on number of (42 ft) JOINTS of casing which can be racked on pipe racks:		2285 ft2
Capacity for 47 lbs/ft 9.5/8" casing JTS		294
Capacity for 68 lbs/ft 13.3/8" casing JTS		150
Skip and Ship deck storage area SQ/FT		
A1.6 Operational limits		
Limits given for water depth (Min/Max) FT		17 / 300
Maximum wind speed knot		70
Maximum wave height FT		43
Related wave period sec.		13
Surface current speed knot		0
A1.7 Survival limits		
Limits given for water depth (Min/Max) FT		200 / 300
Maximum wind speed knot		100
Maximum wave height FT		41 / 43
Related wave period sec.		13
Surface current speed knot		0
Unit specifications		
A. Jack-up		
A1.8 Mooring system		

The unit shall be fitted with a complete mooring system including anchor winches, anchor lines, fair leads, tension recorders, anchor pennant lines, buoys and all necessary associated equipment. All parts of the anchoring system should be suitable for temporary and emergency anchoring, in compliance with the classification rules.		Fair leads available on bow, port-aft and stbd-aft.
a) Anchor winches		
Electrically driven two speed anchor winches or windlasses having hauling and veering speeds of approximately 6 m per minute in low and 40 m per minute in high gear, and the following corresponding line pulls:		N/A
- In low gear 50% of the proof load of the chain or elastic limit of the wireline.		N/A
- In high gear sufficient to haul in the full length of the anchor line and an anchor-handling vessel which is holding the anchor off bottom.		N/A
Anchor winches or windlasses shall be equipped with the following:		N/A
1. Friction brake (application and release) on each drum. Brakes to have a capacity of 80% of the breaking strain of the anchor line.		N/A
2. Mechanically operated clutch and change speed gear.		N/A
3. Provision for free-wheeling.		N/A
4. Anchor line tension indicator at winch control panel and remote tension recorder.		N/A
5. Remote reading Odometer.		N/A
All functions to be capable of being operated locally. Any remote controls for friction brakes, emergency release system and anchor line tension recorders to be located in a central control room.		N/A
Quantity No.		N/A
Make :		N/A
Type :		N/A
Rated pull MT		N/A
Brake capacity MT		N/A
Fairleaders make :		N/A
Chain chaser :		N/A
Make :		N/A
Test load MT		N/A

b) Anchors		
Anchors to be of design and construction approved by the classification society to sustain maximum anchor forces developed under survival conditions as defined in A4.7. One back-up anchor with necessary lines and associated equipment for each anchor. Two spare anchors complete with shackle.		N/A
Quantity (installed + spare) No.		N/A
Make :		N/A
Type :		N/A
Weight MT		N/A
c) Anchor lines		
Chain or cables of preformed galvanised steel wire rope of approved size and make complete with all necessary galvanised sockets, thimbles, shackles, swivels, tested to the requirements by the classification society. Test certificates should be made available. The length and weight of the anchor lines to be such that no vertical pull is exerted on the anchors under survival conditions. Two spare anchor lines.		N/A
Quantity (installed + spare) No.		N/A
Type (wire or chain) :		N/A
Make :		N/A
Model :		N/A
Diameter mm		N/A
Weight kg/m		N/A
Useful length m		N/A
Classification :		N/A
Date last survey :		N/A
Breaking strength MT		N/A
d) Pennant lines		

Preformed galvanised steel with wire rope complete with galvanised thimbles, shackles and other necessary fittings. Pennant lines to be made up in a number of different lengths with suitable connectors.		N/A
Spare pennant lines, shackles, swivels, connectors to form one single length for maximum water depth. Additional fittings and line to allow running of the back-up anchors in case main anchors drag during testing.		N/A
Quantity No.		N/A
Make :		N/A
Type :		N/A
Length :		N/A
Diameter mm		N/A
e) Anchor buoys		
Necessary anchor buoys of the horizontal cylindrical type, capacity to be such that the buoys are half submerged when maximum pennant line length is used. Two spare anchor buoys.		N/A
Quantity No.		N/A
Make :		N/A
Type :		N/A
Foam filled :		N/A
f) Towing gear		
A towing bridle, acceptable to the towing company and, where appropriate, to the marine advisors of the barge insurers. Necessary gear to pass the bridle to and recover from the towing vessel. One spare bridle ready for use during the tow. With self propelled or propulsion assisted rigs, one towing bridle or two single towing lines are adequate.		Available when requested
Towing bridle size mm		Available when requested
Hook-up :		Available when requested
Rating MT		Available when requested
Bollard Pull required for Infield tow BP		83
Min No. of boats required for infield tow:		2
Bollard Pull required for Ocean tow BP		83
Min No. of boats required for Ocean tow:		2

g) Mooring lines		
Quantity No.		N/A
Rating MT		N/A
A1.9 Marine loading hoses		
All hoses complete with the end connections specified below for on and offloading of water, fuel, dry mud, and cement, etc., on both sides of the rig.		Available when requested
Potable water hose		Available when requested
Size inch		Available when requested
Make/type :		Available when requested
Colour coding :		Available when requested
Make/type connection :		Available when requested
Drilling water hose		Available when requested
Size inch		Available when requested
Make/type :		Available when requested
Colour coding :		Available when requested
Make/type connection :		Available when requested
Gas/Fuel oil hose		Available when requested
Size inch		Available when requested
Make/type :		Available when requested
Colour coding :		Available when requested
Make/type connection :		Available when requested
Barite /Bentonite chemical hose		Available when requested
Size inch		Available when requested
Make/type :		Available when requested
Colour coding :		Available when requested
Make/type connection :		Available when requested

Cement hose		Available requested	when
Size inch		Available requested	when
Make/type :		Available requested	when
Colour coding :		Available requested	when
Make/type connection :		Available requested	when
Oil-based mud hose		Available requested	when
Size inch		Available requested	when
Make/type :		Available requested	when
Colour coding :		Available requested	when
Make/type connection :		Available requested	when
Brine hose		Available requested	when
Size inch		Available requested	when
Make/type :		Available requested	when
Colour coding :		Available requested	when
Make/type connection :		Available requested	when
B. General rig specifications			
B.1 Derrick and substructure			
B.1.1 Derrick/mast			
Make type :		Dreco / Beam Leg	
Mast specification as per API Spec 4F		Comply	
General requirements: Mast clear height should be enough for safely tripping and racking triples of range 2 drillpipe, with the contractor provided top drive.		Comply	
Height ft		170	
Width of base ft x ft		30ft x 30ft	
Width of top ft x ft		14ft x 14ft	
Gross nominal capacity LBS		1,500,000	
Max Number of lines No.		12	
Ladders with safety cages and rest platform with climbing aid YES/NO		YES	
Counter balance, system for rig tongs and pipe spinning tong YES/NO		YES	
Flare line installed size 8" YES/NO		YES	

Derrick to be fitted with heavy duty, vapour tight, fluorescent lighting system <ul style="list-style-type: none"> Certified for use in division 1 or division 2 areas as required by IP, API or other national codes 		YES
Derrick to be fitted with adjustable intrinsic safe camera for driller to check top drive makeup and derrickman position, mud pumps flowline, cellar/BOPs, shale shaker, stabbing board. <ul style="list-style-type: none"> Remote VDO display to Company Man, TP and Driller's console 		Available when requested
A certified derrickman escape line - Stop Chute system or equivalent.		Available when requested
Fast line guide for drilling line.		
Dead line guide for drilling line		
B.1.2 Racking platform		
General: Racking platform, fitted with belly belt and 'fall arrestor', and with locks on fingers		Comply
Make/type :		Dreco 23909000
Racking platform capacity of 5-1/2" DP FT		20,000 ft (220 stds 5" DP)
Racking platform capacity of 6-1/4" DC FT		560
Racking platform capacity of 8" DC FT		370
Racking platform capacity of 9" DC FT		No
B.1.3 Automatic Iron Roughneck		
Quantity No.		Available when requested
Make :		Available when requested
Type :		Available when requested
Range size inch		Available when requested
Makeup Torque Ft-lbs		Available when requested
Breakout Torque Ft-lbs		Available when requested
Mousehole makeup deg		Available when requested
B.1.4 Casing stabbing board		
Make/type :		Dreco 23995006
Adjustable from/to height ft		28 - 60
Access platform to stabbing board YES/NO		YES
B.1.5 Substructure		

One set of mast substructures with flooring having sufficient clear height to permit easy installation of CONTRACTOR furnished BOP stacks and COMPANY furnished wellhead equipment with sufficient room for installation of an RCH, RBOP or emergency hangers		YES
Make/type :		MLT
Height ft		26
Width ft		
Setback capacity Lbs		450,000
Simultaneous setback-hookload capacity Lbs		1,310,000
Clear height below R/table beams ft		
BOP Trolley handling system (specify)		YES, 2 x 30ST Pneumatic Hoist
B.1.6 Drill Floor		
Drill floor “impact resistant” design		YES
Drill floor designed for “total containment”		N/A
B. General rig specifications		
Drill floor c/w dog house, flush set-back area, anti-slip mat surface over the entire working area with zero discharge system i.e. mat & light mud bucket, a gate to close off the top of the V door ramp, pad-eye for a lower logging sheave rated to 10,000 daN (23,000lbs), recessed into the rig-floor and the recess provided with a cover. Toe boards for all rig floor railings. Two/three access ways with none alongside the 'V' door ramp unless stairway is already in place and cannot be moved/removed because it is part of rig superstructure. Rigs with stairs alongside the 'V' door shall strictly control their access.		Drill floor with dog house, flush set-back area, a gate to close off the top of the V door ramp, pad-eye for a lower logging sheave. Two access stairways as part of rig superstructure.
B.1.7 Weather proofing		
Rig floor windbreaks height ft		Available when requested
Derrickman windbreaks height ft		Available when requested
B.2 Drawworks and associated equipment		
B.2.1 Drawworks		
Make/type :		NOV / 1320-UE
Drum type :		Lebus Grooved
Spinning cathead type :		T17567
Breakout cathead type :		T17567
Crown block safety device make :		Crown-O-Matic
Crown block safety device model :		Crown-O-Matic
Input power continuous HP		2000
Input power maximum HP		3000
Drum diameter Inch		30

Maximum line pull 14 lines lbs		-
Maximum line pull 12 lines lbs		940,000
Maximum line pull 10 lines lbs		805,000
Independent fresh water cooling system for drawworks and electric brake		Yes
Asbestos free brake blocks		Yes
B.2.2 Drawworks power		
Number of electric motors No.		2
Electric motor make :		EMD
Electric motor model :		D79
Output power continuous HP		2000
Output power intermittent (max.) HP		3000
B.2.3 Auxiliary brake		
Make :		NOV
Model :		7838 Eddy Current Brake
Independent back-up system :		Yes
Alarm device to indicate activation of independent emergency back-up power supply		Yes
B.2.4 Sandline		
Make :		N/A
Length capacity ft		N/A
Line size/type Inch		N/A
Braking strength Lbs		N/A
Safe working load lbs(MT)		N/A
B.2.5 Automatic driller		N/A
Make/Type :		N/A
B. General rig specifications		
B.3 Hoisting equipment		
B.3.1 Crown block		
Make/type :		NOV / 760FA
Rated capacity Lbs		1,500,000
No. of sheaves No.		7+1
Sheave diameter Inch		60
Sheave grooved for line size Inch		1.5
Crown-O-Matic Type YES/NO		Yes
Fitted with jumper bars such that no section of more than 100 deg of arc is unprotected.		Yes
B.3.2 Traveling block		
Make/type :		Continental Emsco / 760H

Rated capacity MT		650
No. of sheaves No.		6
Sheave diameter Inch		60
Sheave grooved for line size Inch		1.5
B.3.3 Hook		
Make/type :		NOV
Rated capacity MT		650
Complete with spring assembly/hook locking device :		Dynaplex
B.3.4 Swivel		
Make/type		NOV /P650
Rated capacity MT		650
Test/working pressure Psi		10,000 / 5,000
C/W gooseneck and washpipe minimum ID Inch		3"
C/W 6 5/8" reg left hand pin connection YES/NO		Yes
C/W access fitting for wireline entry on top of gooseneck YES/NO		Yes
B.3.5 Drilling line		
Size (min.) Inch		1.5
Type :		6 x 19 RL
		IWRC, IPS
Length (min.) ft		7,500
C/W support frame for drum/cover :		Yes
Drilling line drum power driven YES/NO		Yes
Spare reel drilling line YES/NO		Available when requested
B. General rig specifications		
B.3.6 Anchor dead line		
Make/type :		NOV / EB
C/W weight sensor :		Yes
B.3.7 Drill string motion compensator (if applicable)		N/A
Make :		N/A
Type :		N/A
Stroke m		N/A
Capacity - compensated MT		N/A
Capacity - locked MT		N/A
B.3.8 Block guidance system (if applicable)		
Make/type :		Dreco / 23992001
C/W dolly/rails		Yes

B.3.9 Retraction system for TR block (if fitted)		
Make/type		Keems / 4800TBC
B. General rig specifications		
B.4 Rotation system		
B.4.1 Rotary table		
Make/type :		NOV / C-375
Maximum opening Inch		37-1/2
Rated capacity MT		650
Driven by an independent electric motor, two speed gearbox and emergency chain drive electric motor type/make :		D79 EMD Motor, two speed gearbox
Output power KW		800
Maximum continuous torque ft lbs		25,000
Maximum RPM		250 at 12,000 ft.lbs & 125 at 25,000 ft.lbs
Driller's full adjustable torque limit switch.		Yes
Mud Collection Drip pan below Rotary Table		Available when requested
B.4.2 Master Bushings (split type)		
Make :		NOV
Type		MPCH
Full range of inserts bowls to suit running all casing sizes :		Insert bowl No. 3 and optional 1 & 2.
B.4.3 Kelly bushing		
Make :		Available when requested
Type :		Available when requested
C/W lock down assembly YES/NO		Available when requested
B.4.4 Top drive		
Make :		Varco
Type :		TDS-4H
Rated capacity MT		650
Test/working pressure Psi		10
Remote operated kelly cock YES/NO		Yes
Driven by electric motor YES/NO		Yes
Make :		
Type :		1130 HP
Quick remove/install washpipe		Yes
Rotary Soft Torque System Mark III or Equivalent		N/A
Output power KW		
Continuous operating torque ft lbs		45,500

Two-speed gearbox YES/NO		Yes
Maximum rotary speed RPM		150
Mudline diameter inch		3
B.4.5 Rotating Mouse Hole		
Offline tubular makeup plan needed, including safety case		Yes
B. General rig specifications		
B.5 Derrick winches		
B.5.1 Rig floor winches		
Quantity :		2
Make :		Ingersoll Rand
Type :		
Capacity Lbs		5,000
Wire diameter mm		
Automatic brakes YES/NO		Yes
Overload protection YES/NO		Yes
Automatic spooling YES/NO		Yes
B.5.2 Monkey board work winch		
Minimum No. :		1
Make :		Ingersoll Rand
Type :		
Capacity Lbs		2,200
Wire diameter Inch		½
Automatic brakes YES/NO		Yes
Overload protection YES/NO		Yes
Automatic spooling YES/NO		Yes
B.5.3 Rig floor 'man-riding' winch		
Make :		INGERSOLL-RAND LS500RLP OR EQUIV.
Type :		Pneumatic
Capacity lbs		1100
Wire diameter/non-twist wire mm		13
Automatic brakes Y/N		YES
Overload protection Y/N		YES
Automatic spooling Y/N		YES
Certified for man-riding Y/N		YES
B.5.4 Utility winch (i.e. deck winch)		
Make :		Ingersoll Rand
Type :		Pneumatic
Capacity Lbs		5000
Wire diameter mm		19
Automatic brakes YES/NO		Yes

Overload protection YES/NO		Yes
Automatic spooling YES/NO		Yes
Located at :		Drill floor mezzanine
B.5.5 Automated Catwalk		
Make		Available when requested
Type		Available when requested
Maximum Tubular Size Capacity		Available when requested
Maximum Tubular Length Capacity		Available when requested
Maximum Tubular Weight Capacity		Available when requested
C. Power supply systems		
C.1 Rig power plant		
Complete power system comprising of diesel driven generator sets supplying DC and AC power (or alternatively using a SCR system)		Comply
C.1.1 Diesel Engine plant		
Quantity No:		1
Make :		Caterpillar
Type :		3412-TA
Maximum continuous power HP:		719
At rotation speed of RPM:		1800
Equipped with spark arrestors YES/NO		Yes
Mufflers installed YES/NO		Yes
Fuel gauges YES/NO		Yes
Auto shut down system installed YES/NO		Yes
Diesel purifying and centrifuging unit (including spares and consumables) sized to suit consumption rate during full operations.		Yes
C.1.2 DC – Generator		
In the drilling mode sufficient power must be available to control and power simultaneously two mud pumps and Top Drive both at full load and the drawworks at half load with a minimum of one diesel engine generator as a stand-by. Provide evidence of calculations		Comply
Quantity No:		3
Make :		GM
Type :		EMD 16-645-E8
Continuous power kW:		6600 HP
At rotation speed of RPM:		900
Output volts Volts:		600

C.1.3 AC- Generator		
Generator sets of 500 to 1000 kW according to the size of the unit. One generator set shall be capable of taking the peak demand, with a second as a 100% stand-by. Provide evidence of calculations		Comply
Quantity No:		3
Make :		GM
Type :		EMD AB20-N6
Continuous power kW:		2625 KVA
At rotation speed of RPM:		900
Output volts Volts:		600
C. Power supply systems		
General: All electrical switches to be clearly labelled with functions, and be appropriate for external use and in accordance with I.P. code classification and provided with lock out.		Comply
All engines capable of operating continuously at ambient temperatures.		Comply
All surface cables must be protected from UV light and oil based mud, and be adequately supported by cable trays. All underground cables and piping to be protected by steel cowling.		Comply
C.1.4 SCR system		
Number of SCR No:		5
Make :		Emerson
Type :		MP1850A5
Maximum continuous power kW:		
Output volts Volts:		575
Submit power systems general line diagram of power distribution system :		Yes
C.1.5 Transformer system		
Quantity No:		2
Make :		Wicc LTD
Type :		PT2660-05
Continuous power KVA:		750
Output volts Volts:		600 / 480
Frequency HZ:		60
C.1.6 Emergency shutdown		
Required emergency shutdown switches for the complete power system (AC and DC), located at the driller's position and power plant.		Drill floor, Tool Pusher Office, Control Room
		Lifeboats, Helideck
C.1.7 Auxiliary power supply		

a) Provision for power supply for mud logging / MWD / Electric Logging units with a typical power requirement of 220 Volt, 60 Hz, kVA.		Comply
C.1.8 Rig service air system		
General: The rig air system should have compressors c/w dryers of sufficient capacity to operate e.g. the rig floor air winch and the drillpipe spinner continuously, including 3rd party equipment whilst maintaining 120 psi minimum for other controls.		Comply
There must be 100% spare compressor capacity.		Comply
Pressure relief valves to be fitted on all vessels. All the vessels to be fitted with Pressure gauges with suitable range		Comply
Air driers (capable of processing max. air supply at rated pressure) Outlet dew point - 40 degF: 1 required		Comply
Air compressors		
Quantity No:		2 + 1 (Auxiliar)
Make :		Quincy / Airdyne
Model :		QSI-500i
Rated capacity :		495 CFM @ 150 psi
Working press :		125 psi
Powered by electric motor :		Yes
Make :		Weg
Type :		44415TSC
Air driers -		
Quantity No		2
Make :		Quincy
Type :		QHD-1050
Capacity :		1050 SCFM @ 1000 psig
C2 Emergency generator		
One emergency generator set of 200 to 500 kW complete with its own switch board and wiring. The emergency system shall be completely independent of the main system and shall power the following functions:		Comply
a) Emergency lights throughout the unit including quarters, engine room, derrick floor and navigation lights.		Yes
b) Salt water cooling pumps, fire pumps and equipment needed to keep all fire fighting equipment in operating condition.		Yes
c) PA system, radio and fog horn.		Yes
d) Ballast pumps and ballast valves.		Yes

e) Abandonment systems when dependent on power.		Yes
f) Electric pumps and controls of BOP operating unit.		Yes
g) One mud mixing pump.		Yes
h) Production testing pipe work/flare line		Yes
i) One rig air compressor		Yes
j) Cooling system of brakes		Yes
k) Cement unit, if electrically driven		Available when requested
C2.1 Engine		
Quantity No:		1
Make :		Caterpillar
Type :		3412-TA
Maximum output kW:		500
At rotation speed RPM:		1800
C2.2 AC-generator		
Quantity No:		1
Make :		Caterpillar
Type :		3412
Maximum output kW:		500
At rotation speed RPM:		1800
C3 Distribution centres arranged to control simultaneously:		
C3.1 Propulsion motors (if any) No:		N/A
Power of each kW:		N/A
Total power kW:		N/A
C3.2 Thrusters motors (if any) No:		N/A
Power of each kW:		N/A
Total power kW:		N/A
C3.3 Drilling motors No:		N/A
Power of each kW:		N/A
Total power kW:		N/A
C3.4 Mooring winch motors (if any) No:		N/A
Power of each kW:		N/A
Total power kW:		N/A
C3.5 Unit service motive and lighting total power kW:		
C4 Auxiliary equipment		
C4.1 Water distillation		

Quantity No:		1
Make :		Neptune
Type :		NH75463+APC
Capacity (total) MT/day:		7500 gal/day
C4.2 Boilers		
Quantity No:		3
Make :		Rheem Ruud Commercial
Type :		E120-18-G
Capacity kg/hr:		420 Gal/hr (each) @ 80°F
C4.3 Air conditioning		
Quantity No:		12
Make :		Carrier
Type :		38ARZ008C601 / 38AUZA08A0A6A0A0 A0
Capacity kW/hr:		7 – 10 TON
D. Drill string/handling tools		
CONTRACTOR shall ensure that Drillpipe, other related Downhole Equipment (drill-collars, stabilisers, fishing tools, substitutes etc.) and related Surface Equipment (upper and lower kelly cocks, kellies, swivel, Top Drive and all relevant connections etc.) that are provided by the CONTRACTOR under the AGREEMENT are supplied in accordance with the requirements of North Sea Drillstring Manufacturing Standard, NS-1 and are subsequently inspected by a recognised inspection contractor to comply with, and to be carried out at the intervals specified in, the latest edition of the North Sea Drillstring Inspection Standard, NS-2.		Available when requested
All Drillpipe, BHA Components and Related Surface Equipment shall be inspected more often if frequent failures occur or when requested by COMPANY. CONTRACTOR shall furnish all inspection reports and certificates of last periodic inspection of the equipment to COMPANY's representative. The cost of any such additional inspections shall be met by CONTRACTOR.		Available when requested
Hard facing shall be of a chrome alloy type and meet the requirements specified in NS1 and NS-2. Build-up (weld repair) of Tool Joints after O.D. wear has occurred shall not be permitted.		Available when requested
D.1 Tubulars		
D.1.1 Kellies		

a) Nominal size OD inch:		Available requested	when
Quantity No:		Available requested	when
Shape type (hexagonal or square or triangular) :		Available requested	when
Total/working length ft (m):		Available requested	when
Connection :		Available requested	when
:			
API classification :		Available requested	when
b) Nominal size OD inch:		Available requested	when
Quantity No:		Available requested	when
Shape type (hexagonal or square or triangular) :		Available requested	when
Total/working length ft (m):		Available requested	when
Connection :		Available requested	when
:			
API classification :		Available requested	when
c) Nominal size OD inch:		Available requested	when
Quantity No:		Available requested	when
Shape type (hexagonal or square or triangular) :		Available requested	when
Total/working length ft (m):		Available requested	when
Connection :		Available requested	when
:			
API classification :		Available requested	when
ALL hardware need to be available at the rig site to drill with Kelly with 5-1/2" drillpipe (e.g. Kelly, Kelly swivel, Kelly cocks, Kelly bushing, etc) in case of topdrive failure.		Available requested	when
c) Kelly saver subs for 5 1/4" nom Kelly c/w csg protector		Available requested	when
Quantity :		Available requested	when
Connection :		Available requested	when

API classification :		Available requested	when
d) Kelly saver subs for 51/4" nom Kelly c/w csg protector		Available requested	when
Quantity :		Available requested	when
Connection :		Available requested	when
API classification :		Available requested	when
e) Kelly saver subs for 4-1/4" nom Kelly c/w csg protector		Available requested	when
Quantity :		Available requested	when
Connection :		Available requested	when
API classification :		Available requested	when
D.1.2 Drill pipe		Available requested	when
a.1) 5-1/2" OD drill pipe		Available requested	when
Grade :S135		Available requested	when
Total length ft:		Available requested	when
Range :		Available requested	when
Weight lbs/ft:		Available requested	when
Internally plastic coated :		Available requested	when
Tool joint OD inch:		Available requested	when
Tool joint ID inch:		Available requested	when
Tool joint pin length inch:		Available requested	when
Tapered shoulder tool joints degree:		Available requested	when
Internal Upset Profile		Available requested	when
Type of connections :		Available requested	when
Type of hardfacing (see note below) :		Available requested	when
Actual API classifications: (new/premium)		Available requested	when
Date of last inspection :		Available requested	when
By whom :		Available requested	when
a.2) 5" OD drill pipe		Available requested	when
Grade (Length of each grade)		Available requested	when

Total length of S135 ft:		Available requested	when
Range :		Available requested	when
Weight lbs/ft:		Available requested	when
Internally plastic coated :		Available requested	when
Tool joint OD inch:		Available requested	when
Tool joint ID inch:		Available requested	when
Tool joint pin length inch:		Available requested	when
Tapered shoulder tool joints degree:		Available requested	when
Type of connections :		Available requested	when
Type of hardfacing :		Available requested	when
Actual API classifications :		Available requested	when
Date of last inspection :		Available requested	when
By whom :		Available requested	when
Maximum number of years in use		Available requested	when
a.3) 3 1/2" OD drill pipe		Available requested	when
Grade :		Available requested	when
Total length ft:		Available requested	when
Range :		Available requested	when
Weight lbs/ft:		Available requested	when
Internally plastic coated :		Available requested	when
Tool joint OD inch:		Available requested	when
Tool joint ID inch:		Available requested	when
Tool joint pin length inch:		Available requested	when
Tapered shoulder tool joints degree:		Available requested	when
Type of connections :		Available requested	when
Type of hardfacing :		Available requested	when
Actual API classifications :		Available requested	when
Date of last inspection :		Available requested	when

By whom :		Available requested	when
b.2) 5-1/2" OD drill pipe pup joints		Available requested	when
Quantity No:		Available requested	when
Grade :		Available requested	when
Length ft:		Available requested	when
Weight lbs/ft:		Available requested	when
Type connection :		Available requested	when
b.2) 5" OD drill pipe pup joints		Available requested	when
Quantity No:		Available requested	when
Grade :		Available requested	when
Length ft:		Available requested	when
Weight lbs/ft:		Available requested	when
Type connection :		Available requested	when
b.3) 3-1/2" OD drill pipe pup joints		Available requested	when
Quantity No:		Available requested	when
Grade :		Available requested	when
Length ft:		Available requested	when
Weight lbs/ft:		Available requested	when
Type connection		Available requested	when
NOTE FOR ALL DRILL PIPE AND PUP JOINTS			
a) Plastic lining, acceptable coatings: i) AMF-Tuboscope TK 34 ii) Plastic Applicators USA, type Plasticap 200. iii) Vetco, Type CW - 106. Other types to be approved in advance by COMPANY. Minimum thickness: 125 micron. Maximum thickness: 225 micron.		Available requested	when
b) Friction welded tool joints with hardfacing in accordance with Specifications. Internal Upset Profile: BoTn3000 Tapered Tool Joint pin length: 8 inch		Available requested	when
c) FH connections.		Available requested	when

c) Hardbanding techniques acceptable: Armcor M, Arnco 100XT/300XT, Platinum and TCS 8000. Hardbanding height is flush to max 3/32" for all components. Note: Hardbanding should be applied to both pin and box upsets in accordance with Shell SQAIR specifications.		Available requested	when
b.4) Non-Rotating Drill Pipe protectors		Available requested	when
D.1.3 Drill collars		Available requested	when
a.1) Drill collars		Available requested	when
Quantity No:		Available requested	when
OD body inch:		Available requested	when
ID body inch:		Available requested	when
Length of each joint ft (av):		Available requested	when
Drill collar body (slick/spiral) :		Available requested	when
W/recess for "zip" elevator (not recommended by SIPM) :		Available requested	when
W/recess for slips :		Available requested	when
W/stress relief pin groove :		Available requested	when
W/boreback on box :		Available requested	when
Type of connections :		Available requested	when
a.2) Drill collars		Available requested	when
Quantity No:		Available requested	when
OD body inch:		Available requested	when
ID body inch:		Available requested	when
Length of each joint ft (av):		Available requested	when
Drill collar body (slick/spiral) :		Available requested	when
W/recess for "zip" elevator (not recommended by SIPM) :		Available requested	when
W/recess for slips :		Available requested	when
W/stress relief pin groove :		Available requested	when

W/boreback on box :		Available requested	when
Type of connections :		Available requested	when
D.1.4 Hevi-wate drill pipe		Available requested	when
Quantity No:		Available requested	when
Nominal size OD inch:		Available requested	when
Weight lbs/ft:		Available requested	when
Range :		Available requested	when
Tool joint OD inch:		Available requested	when
Tool joint ID inch:		Available requested	when
Type of hardfacing :		Available requested	when
Internally plastic coated :		Available requested	when
Connection :		Available requested	when
D.1.5 Inside BOP valve			
Quantity No:		Available requested	when
Make :		Available requested	when
Size inch:		Available requested	when
Min. drill pipe ID required inch:		Available requested	when
Connections (type) :		Available requested	when
Connections OD :		Available requested	when
Working pressure rating Psi:		Available requested	when
D.1.6.a) Float valves		Available requested	when
Quantity No:		Available requested	when
Make :		Available requested	when
Type :		Available requested	when
For OD drill collar inch:		Available requested	when
Floatsubs		Available requested	when
Quantity No:		Available requested	when

Size inch:		Available requested	when
Connection (box-box) :		Available requested	when
D.1.6.b) Float valves		Available requested	when
Quantity No:		Available requested	when
Make :		Available requested	when
Type :		Available requested	when
For OD drill collar inch:		Available requested	when
Floatsubs		Available requested	when
Quantity No:		Available requested	when
Size inch:		Available requested	when
Connection (box-box) :		Available requested	when
		Available requested	when
D.1.6.c) Float valves		Available requested	when
Quantity No:		Available requested	when
Make :		Available requested	when
Type :		Available requested	when
For OD drill collar inch:		Available requested	when
Floatsubs		Available requested	when
Quantity No:		Available requested	when
Size inch:		Available requested	when
Connection (box-box) :		Available requested	when
		Available requested	when
NOTE: For all float valves in D.1.6, two types each of flapper and plunger valves with repair kits must be available.		Available requested	when
D.1.7 Swivel Type Circulation head (Integral or Welded Coupling)		Available requested	when
a) Quantity No:		Available requested	when
Make :		Available requested	when
Type :		Available requested	when

Valve make :		Available requested	when
Valve type :		Available requested	when
Valve size inch:		Available requested	when
Valve working pressure Psi:		Available requested	when
Bottom connection :		Available requested	when
Top connection :		Available requested	when
b) One King circulating head model 4-5C with wireline stripper NC50 connection, 10,000 PSI WP,		Available requested	when
c) Quantity No: (Swivel Type)		Available requested	when
Make :		Available requested	when
Type :		Available requested	when
Valve make :		Available requested	when
Valve type :		Available requested	when
Valve size inch:		Available requested	when
Valve working pressure psi:		Available requested	when
Bottom connection :		Available requested	when
Top connection :		Available requested	when
D.1.8 Kelly cocks		Available requested	when
a) Upper Kelly cocks		Available requested	when
Quantity No:		Available requested	when
Make :		Available requested	when
Type :		Available requested	when
Working pressure Psi:		Available requested	when
Max. OD body inch:		Available requested	when
Min. ID body inch:		Available requested	when
Type of connection :		Available requested	when
b) Lower Kelly cocks		Available requested	when
Quantity No:		Available requested	when

Make :		Available requested	when
Type :		Available requested	when
Working pressure Psi:		Available requested	when
Max. OD body inch:		Available requested	when
Min. ID body inch:		Available requested	when
Type of connection :		Available requested	when
D.1.9.1 Cup type testers		Available requested	when
Quantity No:		Available requested	when
Make :		Available requested	when
Size test cup for casing weight :		Available requested	when
2 each		Available requested	when
		Available requested	when
Size test cup for casing weight :		Available requested	when
1 each		Available requested	when
		Available requested	when
Connection :		Available requested	when
D.1.9.2 Plug type testers		Available requested	when
Quantity No:		Available requested	when
Make :		Available requested	when
Size test plugs inch:		Available requested	when
Connection :		Available requested	when
DCB Tester Plug C/W Spare Seals :		Available requested	when
D.1.9.3 Drop-in valves		Available requested	when
Quantity No:		Available requested	when
For nom. OD drillpipe inch:		Available requested	when
Make :		Available requested	when
Type :		Available requested	when

Max. OD of dart. inch:		Available requested	when
Landing sub OD		Available requested	when
D.1.10 Cross-over subs		Available requested	when
Enough cross-over subs to make up all possible drill and fishing string configurations.		Available requested	when
The cross-overs will include the following;		Available requested	when
- short X-over from drill collar connections to inside blow-out preventers (0.3 m);		Available requested	when
- at least three X-overs from drill collar connections to drill pipe connections;		Available requested	when
- near bit subs of at least 0.7 m length for fishing operation and receptacle for float valve for the 9 1/2", 8" drill collar sizes;		Available requested	when
- X-over subs from drill pipe to 3 1/2" HCS, 2 7/8" and 2 3/8" HCS tubing.		Available requested	when
List of subs to be submitted with bid.		Available requested	when
D.2 Handling tools			
D.2.1a Drillpipe elevators		Available requested	when
(center latch elevators for 18° tapered tool joints)		Available requested	when
Quantity No.		Available requested	when
Make :		Available requested	when
Model :		Available requested	when
Size inch		Available requested	when
Rated capacity MT		Available requested	when
D.2.1a.2 Drillpipe elevators Air Operated		Available requested	when
(center latch elevators for 18° tapered tool joints)		Available requested	when
Quantity No.		Available requested	when
Make :		Available requested	when
Model :		Available requested	when
Size inch		Available requested	when
Rated capacity MT		Available requested	when

D.2.1a.3 BX Hydraulic Universal elevators		Available requested	when
(center latch elevators for 18° tapered tool joints)		Available requested	when
Quantity No.		Available requested	when
Make :		Available requested	when
Model :		Available requested	when
Size inch		Available requested	when
Rated capacity MT		Available requested	when
D.2.1b.1 Drill collar elevators		Available requested	when
Quantity No.		Available requested	when
Make :		Available requested	when
Model :		Available requested	when
Size inch		Available requested	when
Rated capacity MT		Available requested	when
D.2.1b.2 Drill collar elevators		Available requested	when
Quantity No.		Available requested	when
Make :		Available requested	when
Model :		Available requested	when
Size inch		Available requested	when
Rated capacity MT		Available requested	when
D.2.1c Tubing elevators		Available requested	when
Quantity No.		Available requested	when
Make :		Available requested	when
Model :		Available requested	when
Size inch		Available requested	when
Rated capacity Tons		Available requested	when

D.2.2a Drillpipe hand slips (API extra long)		Available requested	when
Quantity No.		Available requested	when
Make :		Available requested	when
Size inch		Available requested	when
Type :		Available requested	when
D.2.2b Semi-automatic DP slips		Available requested	when
Quantity No.		Available requested	when
Make		Available requested	when
Size inch		Available requested	when
Type :		Available requested	when
D.2 Handling tools			
D.2.2c.1 Drill collar slips			
Quantity No.		Available requested	when
Make :		Available requested	when
Size inch		Available requested	when
Type :		Available requested	when
D.2.2c.2 Drill collar slips		Available requested	when
Quantity No.		Available requested	when
Make :		Available requested	when
Size inch		Available requested	when
Type :		Available requested	when
D.2.2d Drill collar safety clamps (manual & hydraulic)		Available requested	when
Quantity No.		Available requested	when
Range inch		Available requested	when
D.2.2.e.1 Tubing slips		Available requested	when

Quantity No.		Available requested	when
Make :		Available requested	when
Size inch		Available requested	when
Type :		Available requested	when
D.2.3.a DC lifting subs		Available requested	when
Quantity No.		Available requested	when
For OD DC inch		Available requested	when
D.2.3.b DC lifting subs		Available requested	when
Quantity No.		Available requested	when
For OD DC inch		Available requested	when
D.2.3.c Liner Lifting Subs		Available requested	when
x for 4 1/2, 5 1/2, 4" LTC		Available requested	when
Xover from 3 1/2" D.P		Available requested	when
D.2.4 Bit breakers		Available requested	when
Quantity No.		Available requested	when
For bit sizes inch		Available requested	when
D.2.5 Elevator links			
Quantity of sets No.		6	
Make :		Varco	
Type :		Weldless Links	
Size inch		2 3/4 3 1/2 3 1/2	
Length inch:		132 144 192	
Rated capacity MT		350 500 500	
D.2.6 Kelly spinner		Available requested	when
Make :		Available requested	when
Type :		Available requested	when

D.2.7 Drillpipe spinner		
Make :		Varco
Type :		SSW-40
Size inch		3-1/2 – 9-1/2
D.2.8 Mud saver bucket		Available when requested
Make		Available when requested
Size inch		Available when requested
D.2.9 Ezy torque		
Make :		TSC
Type :		T17567
Maximum linepull Lbs (MT):		16
D.2.10 Rotary rig tongs		
a. Manual tongs primarily designed for use with drillpipe up to 5" and capable of handling 6-5/8 reg. conn.		
Quantity No.		1 set
Make :		Varco
Type :		HT-100
Range size inch		4 – 17
b. Manual extra heavy tongs with a torque rating of 100,000 ft.lbs		
Quantity No.		1 set
Make :		Varco
Type :		HT-100
Range size inch		4 - 17
D.2.11 Automatic Iron Roughneck		
Quantity No.		Available when requested
Make :		Available when requested
Type :		Available when requested
Range size inch		Available when requested
Makeup Torque Ft-lbs		Available when requested
Breakout Torque Ft-lbs		Available when requested

Mousehole makeup deg		Available when requested
D.3 Fishing equipment		
D.3.1 Overshots		
CONTRACTOR to provide Overshots, Spears, grapples and all necessary accessories for fishing all the CONTRACTOR's downhole equipment and COMPANY'S standard casings (13-3/8", 10-3/4", 9-5/8", 7", 5-1/2" & 4-1/2") and tubing (4-1/2", 3-1/2", 2-7/8" & 2-3/8", 1.9").		Overshots, Junk Basket, Mills, Spiral Grapple (9-5/8", 8", 7-7/8", 6-1/2", 5", 4-7/8").
D.3.2 Fishing jar (c/w repair kits)		
A1. Hydraulic fishing jar		Available when requested
Quantity No.		Available when requested
Make :		Available when requested
Model :		Available when requested
OD body inch		Available when requested
Connection :		Available when requested
Min. ID inch		Available when requested
A2. Hydraulic fishing jar 4-3/4" jars NC38		Available when requested
B1. Jar intensifier		Available when requested
Quantity No.		Available when requested
Make :		Available when requested
Model :		Available when requested
OD body inch		Available when requested
Connection :		Available when requested
Min. ID inch		Available when requested
B2. jar intensifier 4-3/4" NC38		Available when requested
D.3.3 A1. Fishing bumper subs		Available when requested
Quantity No.		Available when requested
Make :		Available when requested
Model :		Available when requested

OD body inch		Available requested	when
Connection :		Available requested	when
Min. ID inch		Available requested	when
A2. Fishing bumper sub 4-3/4" NC38		Available requested	when
D.3.4 a1. Safety joints		Available requested	when
Quantity No.		Available requested	when
Make :		Available requested	when
Model:		Available requested	when
OD body inch		Available requested	when
Min. OD inch		Available requested	when
Connection :		Available requested	when
A2. safety joint 4-3/4" NC38		Available requested	when
D.3.5 Junk baskets (reverse circulation)		Available requested	when
Quantity No.		Available requested	when
Make :		Available requested	when
Model :		Available requested	when
For hole size inch		Available requested	when
OD body inch		Available requested	when
Connection :		Available requested	when
Mill shoes type B :		Available requested	when
D.3.6 Junk subs		Available requested	when
Quantity No.		Available requested	when
Make :		Available requested	when
Model :		Available requested	when
For hole size inch		Available requested	when
OD body inch		Available requested	when
Connections :		Available requested	when
D.3.9 Taper taps		Available requested	when

Quantity No.		Available requested	when
Make :		Available requested	when
Minimum OD inch		Available requested	when
Maximum OD inch		Available requested	when
Length mm		Available requested	when
Connection :		Available requested	when
OD body inch		Available requested	when
D.3.10 Lead Impression Block		Available requested	when
Quantity No		Available requested	when
Make		Available requested	when
O.D. Inch		Available requested	when
Connection		Available requested	when
D.3.11 Mud Ditch Magnets		Available requested	when
Quantity No		Available requested	when
Type :		Available requested	when
ID inch		Available requested	when
WP Psi		Available requested	when
E. Well control equipment			
All equipment shall be in accordance with the "Shell Pressure Control Manual for Drilling and Workover Operations" WS38.80.31.32 Rev. 2, on general considerations) and NACE standard MR-01-75 sour service.		Available requested	when
Certificates of Conformance (COC) and Certificates of Service (COS) must be maintained in accordance with "Shell Pressure Control Manual for Drilling and Workover Operations" Pressure Control Manual WS38.80.31.32 Rev. 2		Available requested	when
All Well Control equipment certification must be renewed at the COMMENCEMENT DATE of the CONTRACT.		Available requested	when
All Well Control equipment to be compatible with the use of OIL BASED MUD.		Available requested	when
All control hoses shall be fire resistant.		Available requested	when
Only genuine OEM or OEM approved spares/replacement parts shall be used in the maintenance of well control equipment. No		Available requested	when

alternations shall be made to any well control equipment without the written approval of the OEM or OEM approved facility. 1-Re-certification that includes repairs or modifications are to be carried out by an OEM or OEM- approved facility.			
Transportation skids for the BOPs c/w test stump facility. Test stump to enable complete testing of supplied BOP stacks c/w provision to install test single into test stump.		Available requested	when
Suitable adjustable BOP anchor/centering lines.		Available requested	when
Some means to allow safe working at height when working on the BOP; adjustable work platforms and fixed fall arrestors below the drillfloor.		Available requested	when
Drawings giving detailed engineering data on pressure ratings and dimensions of BOP stacks and its components.		Available requested	when
All elastomers will have to be rated for OBM and appropriate temperature (350 Deg F) environment.		Available requested	when
E1 BOP stack			
E1.1 One 13 5/8" 10,000 psi WP BOP in accordance with COMPANY's Pressure Control Manual WS38.80.31.32,			
- 5,000psi WP 13 5/8 bag type preventer c/w 5 gallon stripping bottle as close as possible to closing chamber		Available requested	when
- 13 5/8 double ram type preventer.		Available requested	when
- 13 5/8 single ram type preventer.		Available requested	when
In addition the following rams must be supplied:		Available requested	when
- one set of sealing shear rams; capable of shearing 5-1/2" 21.9# grade S drillpipe and sealing the wellbore thereafter.		Available requested	when
Two Booster for shear rams		Available requested	when
- three sets of 5-1/2" rams		Available requested	when
- three set of 3 1/2" rams		Available requested	when
- two sets variable rams 5-1/2" to 2-7/8"		Available requested	when
- two sets of 5" rams		Available requested	when
- two sets variable rams 5-1/2" to 7"		Available requested	when
- two sets of 9 5/8" casing rams		Available requested	when
- two sets of 7 5/8" casing ram		Available requested	when
- two sets of 7" rams.		Available requested	when
One set of 4 1/2" pipe/tubing ram		Available requested	when

one set of 2 7/8" tubing ram		Available when requested
- two sets variable rams 2-3/4" to 4-1/2"		Available when requested
E1.2 – One 21 1/4" 2000 psi WP BOP in accordance with COMPANY's Pressure Control Manual WS38.80.31.32		
<p>a) Bag type preventer Make: Hydril or Shaffer (or equivalent) Type: Annular Size: 21-1/4 inch WP: 2,000 psi:</p> <p>b) Ram type preventer (if used) Make: Hydril (or equivalent) Type: Single: Size: 21-1/4 inch WP: 2,000 psi</p> <p>c) Pipe Rams available for above Shear/Blind rams: 1 set 5-1/2" DP rams: 1 set 13-3/8" rams: 1 set</p>		<p>a) Make: Shaffer Type: Annular Size: 21-1/4" inch WP: 2,000 psi</p> <p>b) Available when requested</p> <p>c) Available when requested</p>
E1.3 – One 21 1/4" 500 psi WP Diverter in accordance with COMPANY's Pressure Control Manual WS38.80.31.32		
<p>Make: Axon Type 70 diverter system (or equivalent) Type: Diverter Size: 21-1/4 inch WP: 500 Psi Hydrostatic test pressure of 750psi Max hydraulic operating pressure of 1,500psi for sealing element closure Two (2) Diverter ball valve (hydraulically controlled): 12" ANSI class 600 Ball valve Remote controlled from: One station</p>		<p>Make: Type: Diverter Size: 21-1/4 inch WP: 600 psi Two (2) Diverter ball valves (hydraulically controlled) 10" x 600 psi, remote controlled</p>
E1.4 Wellhead and BOP adaptor spools & risers		
a) All necessary adapter spools to connect CONTRACTOR BOP equipment to COMPANY furnished wellhead equipment with the choke and kill lines above the cellar (API flanges 7.1/16" 5K/10K/15K, 11" 3K/5K/10K/15K, 13.5/8" 3K/5K/10K/15K).		Available when requested
b) Flow risers for use with BOP's, CHH's (API flanges or fastlock 20.3/4" 3K, 13.5/8" 5K, 13.3/8" 10K) and the 26" or 30" conductor (bell nipple, mud pitcher). ID to permit mandrel casing hangers to be run.		Available when requested
c) All necessary clamps, bolts, nuts and gaskets for above BOP's and spools, including gasket between WH and BOP.		Available when requested

d) Drilling spool, 13 5/8" 10,000psi WP with two side outlets, 4 1/16" and 2-1/16".		Available when requested
e) Drilling spool, 13 5/8" 10,000psi WP with two side outlets, 3-1/16" and 2 1/16".		e) Drilling spool, 13 5/8" 10,000psi WP with two side outlets, 3-1/16" and 3- 1/16".
f) Locking flange : 13-5/8" 5,000 psi WP, 11"; 5,000 psi WP.		Available when requested
Contractor to provide stack up drawings and dimensions for the risers and spools proposed for drilling each section of Company's well types for Company approval.		Available when requested
E1.5 Kill & Choke Outlets		
a) Choke outlet c/w a 3 1/16" or 4 1/16" manual operated valve, a 3 1/16"(1 each) or 4 1/16" hydraulic operated valve and a 3 1/16" or 4 1/16" (2 each)connection flange to choke line. WP: 10,000 psi.		a) Choke outlet c/w a 3 1/16" manual operated valve, a 3 1/16" hydraulic operated valve and a 3 1/16 connection flange to choke line. WP: 10,000 psi.
b) Kill outlet c/w a 2 1/16" or 3 1/16" non-return valve and a connection to 2 1/16" or 3 1/16" fig 1502 Weco. Qty: 2 sets each. WP: 10,000 psi.		b) Kill outlet c/w a 3 1/16" non-return valve and a connection to 3 1/16" fig 1502 Weco. Qty: 2 sets each. WP: 10,000 psi.
E1.6 Choke line		
3 1/16" or 4 1/16" 10,000 psi WP Coflex hose with flanged or clamp connections on both ends. Suitable for OBM and appropriate temperature- 350 Deg F.		Available when requested
E1.7 Kill line		
2 1/16" or 3 1/16" 10,000 psi WP Coflex hose with fig 1502 Weco unions. Suitable for OBM and temperature- 350 Deg F		Available when requested
Both choke and kill line should be adjustably suspended from the stack to avoid bending forces at connections.		Available when requested
1x Spare kill and choke hose to be available on site.		Available when requested
E1.8 Choke manifold.		
One 10,000 psi WP choke manifold in accordance with Pressure Control Manual WS38.80.31.32 Rev. 2. Drawing giving detailed data on pressure ratings and dimensions of the choke manifold to be submitted.		10000 PSI Choke and Kill Manifold with 16 x 3 1/16" 10000 psi Type B Gate Valves; 2 Ajustable Manual Valves and 2 Ajustable Remote Valves.
Must meet the requirements of API Spec 16C		
Choke manifold should have hydrate inhibitor injection system with injection point up-stream of the choke.		Available when requested

Nominal size: 3-1/16"		Nominal size: 3-1/16"
WP" 10000psi		WP" 10000psi
E.1.8.1 Manual adjustable choke valve:		
Qty: Minimum 1		2
Type		B
Size: 3-1/16"		Size: 3-1/16"
WP: 10,000psi		WP: 10,000psi
E.1.8.2 Hydraulic actuated choke valve:		
Qty: Minimum 2		2
Type		B
Size: 3-1/16"		Size: 3-1/16"
WP: 10,000psi		WP: 10,000psi
E1.9 BOP stack handling system		Yes
BOP lifting device to be provided for safe handling of COMPLETE Contractor provided BOP stacks.		
Trolley beams and hoisting equipment to be certified.		
Make lifting device :		BOP Hoist
Type lifting device (hydraulic/mechanical) :		Pneumatic
Rated capacity MT		2 x 30 MT
BOP transport skid with test stump :		Yes
Ability to fully Pressure Test BOP's offline		Yes
General remarks		
1. All necessary adapter spools to connect contractor BOP equipment to company furnished wellhead equipment. List spools and X-overs as per E1.9.		Available when requested
2. Flow risers for use with BOPs and for the stovepipe (bell nipple, etc.)		Available when requested
3. Transportation skids for the BOPs.		Available when requested
4. All necessary clamps, bolts, nuts and gaskets for above BOPs and spools.		Available when requested
5. Summit drawings giving detailed data on pressure ratings, layout and dimensions of BOP stacks and its components.		Available when requested
6. All rams to be equipped with hand wheels and extensions		Available when requested
Contractor To List Non-Compliance with E.1.9, E.1.10, & E.1.11		Available when requested
E2 BOP control system		
One 20,700 kPa (3000 psi) WP automatic pump accumulator unit with control manifold, three air-driven pumps (50:1 ratio), one 15 KW electrically driven pump, and fluid reservoir.		BOP Control System, 7 stations (3-way valves), 24 bottles (3000 psi, 11 Gallons). Accumulator with 360 gallon oil reservoir tank, 20 HP

		Driven BX-10 Triplex Pump with 7/8@ plungers, and three (3) 8-1/2@ 60:1 pneumatic over hydraulic pumps, pressure switches, gauges readings. The unit is PLC controlled and includes one (1) HMI Touchscreen Driller's Remote Panel and one (1) HMI Touchscreen Tool Pusher's Remote Panel.
The unit to be capable of closing and opening all preventers and closing again the bag type and one ram type preventer without reloading and holding them closed against rated working pressure of the preventers. (End Pressure : 1200 psi, WS 38.80.31.32-GEN).		Yes
The unit shall be fitted with a regulator, similar to the Koomey type TR-5		Yes
Unit to be equipped with audible and flashing low pressure and low level alarms.		Yes
E2.1 Accumulator unit (must comply with WS 38.80.31.32-GEN)		Yes
Make :		USA Pressure Controls
Model/type :		Style 2000 BOP Control System
Installation site :		Main Deck
Soluble oil reservoir capacity gal (liter)		360 gal (1362 liter)
Oil/water mix. capacity GPM (l/min.)		
No. of bottles installed gal (liter)		24
Total bottles capacity gal		264
Bottle working pressure Psi		3000
Control manifold model :		
Serial (No.) :		5745
Must meet the requirements of API Spec 16D		Comply
E2.2 Triplex pumps		
Quantity No.		1
Make :		TSC
Model :		BX-10
Each driven by motor of HP (KW)		20
Flow rate of each pump GPM (liter)		
At max. operating pressure Psi		3000
E2.3 Air pumps		
Quantity No.		3
Make :		TSC
Model :		60:1 ratio
Flow rate of each pump GPM		

At max. operating pressure Psi		3000
E2.4 Driller's control panel		
Panel showing all functions and controls		Yes
Make :		Siemens
Model :		HMI Touchscreen
Serial No. :		
Low acc. pressure warning :		Yes
Low reservoir level warning :		Yes
Low rig air pressure warning :		Yes
Pressure regulator for annular :		Yes
Flowmeter :		Yes
Quantity of pressure gauges :		
E2.5 Remote control panel		
The remote panel is to operate the main closing unit valves direct and not through the derrick floor unit so that the latter be destroyed by a blow-out and fire, the remote unit can still be used. The main closing unit should be located in a safe area away from the cellar and derrick floor.		Yes
Quantity No.		2
Make :		Siemens
Model :		HMI Touchscreen
Location site :		Tool pusher Office / Driller Console
E. Well control equipment		
E3.1 Choke manifold		
One 69,000 kPa (10,000 psi) WP choke manifold in accordance with WS 38.80.31.32-GEN. Submit drawing giving detailed data on pressure ratings and dimensions of the choke manifold to be submitted with the bid.		10000 PSI Choke and Kill Manifold with 16 x 3 1/16" 10000 psi Type B Gate Valves; 2 Adjustable Manual Valves and 2 Adjustable Remote Valves.
Make :		Shaffer
Size x WP inch x Psi		3-1/16" x 10,000 psi
H2S service :		Yes
Quantity of valves No.		16
Make :		Shaffer
Model :		Type B Gate Valves
Size inch		3-1/16"
Quantity of adjustable (Manual) chokes No.		2
Make/type :		Shaffer
Quantity of power(Hydraulic) chokes No.		2
Make/type :		Shaffer
Power choke remote control panel :		Yes
Make/type :		TSC / Dual Control

Summit detailed drawing of choke manifold with tender bid :		
E3.2 Hydraulic BOP test pump		
Make :		Freemyer
Model :		Cementing Unit
Pressure rating Psi:		15000
Chart recorder Yes/No.:		Yes
E3.3 Test stumps		
Quantity No.		Available when requested
Size and Rating inch x Psi		Available when requested
Test Stumps to be capable of fully pressure testing all BOP's offline with all side-outlet valves fitted (prior to being installed on the wellhead).		Available when requested
E4 103,500 KPa (15,000 psi) WP BOP		
Blow-out preventer system in accordance to WS 38.80.31.32-GEN		Available when requested
E5 Tools		
Suitable impact wrench and hi-torque wrench for nipping up BOP and risers safely.		Available when requested
Thread chaser for all BOP bonnet bolts.		Available when requested
All BOP test tools as per COMPANY's Pressure Control Manual WS 38.80.31.32 – Gen.		Available when requested
1 pc of 10,000 psi Test stump capable of fully pressure testing all BOPs offline with side outlet valves fitted (prior to being installed on the wellhead).		Available when requested
E6 Shooting Nipple		
One shooting nipple fabricated from 7" casing joint with New VAM connection. Designed for 7,000 psi WP, certified and MPI tested every 6 months.		Available when requested
One shooting nipple fabricated from 9-5/8" casing joint with New VAM connection. Designed for 7,000 psi WP, certified and MPI tested every 6 months.		Available when requested
F. Mud system/bulk storage		
F1 High pressure mud system		

All components of the high pressure mud system must have a working pressure of at least 34,500 kPa (5000 psi) and a test pressure of 69,000 kPa (10,000 psi) and be designed and constructed in accordance with ANSI B31.3.		Comply
F1.1 Mud pumps		
Three triplex pumps, each equipped with an independently driven centrifugal charging pump. Each pump driven by two 600 KW electric motors. Pump power rating 1150-1275 KW, minimum output of 600 GPM each at 90% of maximum SPM.		2 x 1600HP, 5000psi WP triplex mud pumps (600 gpm) + 2 x 600 HP 10,000 psi WP triplex pumps (420 gpm) available on cement unit
		Triplex Pumps
Complete with:		
a) Forged steel fluid ends :		Yes
b) Quick change system for liners and pistons :		Yes
c) Quick change valve covers :		Yes
d) Cooling/lube oil system for liners type		Yes
e) High pressure pulsation dampener type		Yes
f) Reset relief valve (flanged) type		Yes
g) Suction and discharge filter with fast lock cover:		Available when requested
h) Full range of liners and pistons to operate each pump at 500gpm @ 4,000 psi		Available when requested
i) Each pump equipped with a pressure gauge before isolation valve.		Yes
j) Dedicated centrifugal charge pump for each pump.		Yes
k) Drip tray to contain spills.		Yes
l) Isolation switch and lock-out mechanism on electric drive motors.		Yes
m) Ceramic liners		Available when requested
a) Mud pump No. 1		
Make :		NOV
Model :		12P-160
Mud pump driven by motors No. x type		2
Continuous rating power of each motor HP		800
Fluid end type		8476-A
Cylinders/valves cover :		Yes
Equipped with		6-1/2" Liner
Pump stroke counter type		Yes
Liner sizes available inch		Available when requested
Supercharging pump type		TS-8646460XP1840
Driven by motor (HP)type x KW		750 HP
Discharge/suction line dia (ID x ID) inch		12"
Working flowrate GPM		600 GPM

F. Mud system/bulk storage		
b) Mud pump No. 2		
Make :		NOV
Model :		12P-160
Mud pump driven by motors No. x type		2
Continuous rating power of each motor HP		800
Fluid end type		8476-A
Cylinders/valves cover :		Yes
Equipped with		6-1/2" Liner
Pump stroke counter type		Yes
Liner sizes available inch		Available when requested
Supercharging pump type		TS-8646460XP1840
Driven by motor (HP) type x KW		750 HP
Discharge/suction line dia (ID x ID) inch		12"
Working flowrate GPM		600 GPM
b) Mud pump No. 3		Cementing Unit
Make :		Well Services Pump
Model :		TWS 600S
Mud pump driven by motors No. x type		2
Continuous rating power of each motor HP		1000 HP
Fluid end type		
Cylinders/valves cover :		Yes
Equipped with		4-1/2" & 3-1/2"
Pump stroke counter type		Yes
Liner sizes available inch		4-1/2" & 3-1/2"
Supercharging pump type		
Driven by motor (HP) type x KW		
Discharge/suction line dia (ID x ID) inch		3-1/2"
Working flowrate GPM		2 x 350 GPM
F1.2 Mixing pumps		
Make and number :		2 x Mission
Model :		8x6x14
Driven by motor RPM x HP		Frame 405T x 75 HP
F1.3 Transfer pumps/shearing pump		Base Oil Transfer Pump
Number :		1
Make :		Mission
Model :		4x3x13
Type :		Impeller Size 10
Driven by motor type		Electrical
Power output HP		20
F1.4 a) Standpipe manifold		
Two 4" ID standpipes with goosenecks connected to a H-type standpipe manifold		Two 4" ID standpipes with goosenecks

		connected to a H-type standpipe manifold
c/w kill line outlet :		Yes
fill-up/bleed-off line outlet (i.e. manual choke) :		Yes
Two 2" outlets complete with hammer		Yes
Lug wing unions (Fig. 1502) type connections :		Yes
Dimensions OD x ID inch x inch		5" x 4"
Working pressure Psi		5000
Test pressure Psi		75000
No screwed connections on manifold		Comply
F1.4 b)		
Two separate lines of 4" ID installed in derrick for production testing and separate cement usage		Comply
Dimensions OD x ID inch x inch		5 x 4
Working pressure psi		5000
Test pressure psi		7500
F1.5 Rotary hoses		
Make and number :		2
Type :		FSL Grade D Spec 4774PE
ID x length Inch x ft (inch x meter)		3-1/2" x75ft
Working pressure Psi		5000
Test pressure Psi		7500
c/w snubbing lines		
F.1.6 Casing wash down hose		
Type (i.e. Coflexip) :		Available when requested
Length :		Available when requested
ID inch		Available when requested
Working pressure Psi		Available when requested
F1.7 Chiksan steel hoses		
Sufficient chiksans and T-pieces for hook-up of well annuli. The chiksans must be of an integral non-screwed type. All chiksan/temporary pipe work to meet the standards as per Shell Global standard for Temporary Pipework EP 2006-5393 Feb 2010.		Available when requested
Make/size inch		Available when requested
Make sweep swivels		Available when requested

Type/nom. size :		Available requested	when
Fittings :		Available requested	when
		Available requested	when
		Available requested	when
Suitable for H2S service YES/NO.:		Available requested	when
All chiksans and temporary pipework must have sufficient continuous restraints and anchor points provided.		Available requested	when
Straight and swivel sections to be fitted with Weco fig 1502 hammer lug wing unions. The chicksans should be fitted with snubbing line loops to speed up the hook-up and tear down of chicksan runs. Chicksans to meet NACE specifications (i.e. MR-01-75 sour service).		Available requested	when
<p>Minimum requirement:</p> <p>At least 60 ft of 2" nominal FMC chiksan steel consisting of 6 ft to 10 ft straight sections with forged or welded ends only.</p> <p>b) At least 8 FMC chiksan style 50 HPTL 2" nominal sweep swivels.</p> <p>c) A minimum of 3 lo-torque valves suitable for Fig 1502 chicksan.</p> <p>d) A fixed 2" HP cement line, 10000 psi working pressure, fitted with Fig 1502 connections, running up to the drillfloor, and properly secured to the substructure at different points.</p> <p>e) 2 nos. 2inch ID (50 ft length each) minimum 10,000 psi rated steel reinforced rubber hoses with the following flange connections and pressure rating:</p> <p>i) 2-1/16" (5k) x 3-1/16" (10k)</p> <p>ii) 2-1/16" (5k) x 4-1/16" (10k)</p> <p>iii) 2-1/16" (10k) x 3-1/16" (10k)</p> <p>iv) 2-1/16" (10k) x 4-1/16" (10k)</p> <p>f) 4 nos. adapter flanges with the following connections and pressure rating:</p> <p>i) 2-1/16" (5k) x 3-1/16" (10k)</p> <p>ii) 2-1/16" (10k) x 3-1/16" (10k)</p> <p>iii) 2-1/16" (5k) x 4-1/16" (10k)</p> <p>iv) 2-1/16" (10k) x 4-1/16" (10k)</p> <p>g) 3 nos. adapter flanges x WECO 1502 hammer union crossovers with the following connections and pressure rating:</p> <p>i) 2-1/16" (5k) x Fig 1502 hammer union</p> <p>ii) 2-1/16" (10k) x Fig 1502 hammer union</p> <p>iii) 3-1/16" (10k) x Fig 1502 hammer union</p> <p>iv) 4-1/16" (10k) x Fig 1502 hammer</p>		Available requested	when
F. Mud system/bulk storage			
F2 Low pressure mud system			

Submit with the bid, a line diagram of the HP/LP mud system showing tanks (capacities of each tank), mixing facilities and the various treating systems.		Available
F2.1 Mud tank system		
The active and reserve (excluding treatment/shaker area) mud tanks to have a total capacity of 3,500 bbls. Each tank to be equipped with a mud mixer giving a turnover time of 45-75 sec and with at least one agitator (20-25 HP, 4 blade impeller to match tank width). The active tank to be dimensioned such that a volume change of 5 Bbl is indicated by a level change of at least 4 inches.		Active and reserve mud tanks have a total capacity of 1,304 bbls, each tank equipped with a 20 HP agitator, 4 blade impeller. Two mixer pumps available to 3 mud tanks and, level change +/- 1.5 inches each 5 bbls.
a) Active mud tanks		
Number No.		2
Total capacity bbl		812.7 bbl
Height Ft (m)		10 ft (3.05 m)
Capacity No. 1 bbl (m3)		
Capacity No. 2 bbl (m3)		428.3 (68.09 m3)
Capacity No. 3 bbl (m3)		331.5 (52.7 m3)
Capacity No. 4 bbl (m3)		-
Capacity Pill / Slug tank bbl (m3)		
		52.9 (8.41 m3)
b) Reserve tanks		
Number No.		1
Total capacity bbl		491.5
Height Ft (m)		10 ft (3.05 m3)
Capacity No. 1 bbl (m3)		491.5 (78.14 m3)
Capacity No. 2 bbl (m3)		-
Capacity No. 3 bbl (m3)		-
Capacity No. 4 bbl (m3)		-
Capacity No. 5 bbl (m3)		-
Capacity No. 6 bbl (m3)		-
c) Total Active/Reserve tank vol bbl		1,304.2
F. Mud system/bulk storage		
F2.2 Settling tank		
One setting tank of about 100 Bbl capacity with sloping bottom and two quick acting dump valves with 1/2 m2 openings. For collection of underflows from Desander and Desilter to be processed by centrifuges.		Yes

Quantity No.		1
Total capacity Bbl (m3)		155.2 (24.67 m3)
F2.3 Base Oil Storage tank		
C/W mud mixer as detailed in F2.1 and 4" chicksan line with top mounted swivel, independent piping and recessed suctions :		Available when requested
Quantity No.		1
Capacity Bbl		563
Subsurface gun YES/NO.		Yes
F2.4 Trip tank		
Capacity Bbl		2 x 56.93 bbl
Capacity/feet BBL/Ft		8.13
Level indicator YES/NO.:		Yes
Electric pump make YES/NO.:		Yes
Model/type YES/NO.:		MCM 178
Motor output (HP) KW		40 HP
Alarm and strip chart recorder :		Yes
Facility for casing fill-up YES/NO.:		Yes
F2.5 Stripping tank		N/A
Capacity Bbl		N/A
Capacity/meter Bbl/Ft		N/A
Equalising facility with triptank YES/NO.:		N/A
Transfer pump (dedicated, not combined with Trip-tank) YES/NO.:		N/A
F2.6 Degasser tank		
Capacity Bbl (m3)		900 GPM
Chemical mixer type :		Yes
Subsurface Gun YES/NO.:		Yes
F2.7 Brine Storage Tank		N/A
Capacity Bbl		N/A
F. Mud system/bulk storage		
F2.8 Shale shaker		
Independently driven shale shakers capable of handling 1200 gals/min of 50/60 seconds Marsh Funnel viscosity mud through API mesh 60 screens.		Yes
A full range of screens must be available by CONTRACTOR and shall be provided by CONTRACTOR at own cost from 20 MESH up to and including 120 MESH (screens above 120 MESH shall be provided on a reimbursable basis).		Available when requested

a) Linear Motion Shakers (capable of handling 1200 gal per min of 50/60 sec/qt. Marsh funnel viscosity mud through API 60 mesh screens) producing minimum of 7G force :		
Quantity No.:		4
Size screens		Available when requested
Make and number		MI Swaco
Type :		Mongoose Pro
Driven by No. of electric motors :		Yes
Max. flowrate GPM		1500
A cuttings auger transport system shall be in place transporting all WBM and SOBM cuttings to cuttings skips.		Yes
b) Linear Motion Shakers (to process underflow of desilter and desander) :		
Quantity No.:		1
Make and number :		MI Swaco
Type :		Mongoose Pro
Driven by No. of electric motors :		Yes
Max. flowrate GPM		1200
F2.9 Desander		
Make :		Available when requested
Number of cones x sizes No. x inch		Available when requested
Type/size centrifugal pump :		Available when requested
Driven by electric motor of HP (KW)		Available when requested
Min. flowrate GPM		Available when requested
F2.10 Desilter		
Make :		MI Swaco
Number of cones x sizes No. x inch		16 x 4"
Type/size centrifugal pump :		6 x 5 x 14
Driven by electric motor of HP (KW)		60
Max. flowrate GPM		1200
F2.11 Mud cleaner		
Make :		Indicated above
Number of cones x sizes No. x inch		Indicated above
Type/size centrifugal pump :		Indicated above
Driven by electric motor of HP (KW)		Indicated above

Max. flowrate GPM		Indicated above
F2.12 Mud/gas separator (poor boy)		
Make/type :		Superior
A vertical vessel with 48" diameter and a vent line of 10" diameter with as few bends as possible. The vessel shall have a liquid seal height of at least 5 ft. Submit drawings and operating criteria (throughput and pressure rating etc.)		48" diameter and vent line of 10".
Gas discharge line OD inch		10
Gas discharge line running to :		Derrick Top
F2.13 Degasser		
Make :		MI Swaco
Type :		Vacuum
Type/size centrifugal pump :		5 x 6 x 14
Driven by electric motor of HP (KW)		60
Discharge line running to :		Compartment 2 & Desilter
Vacuum pump make :		TSC
Type :		640202628IT64
F. Mud system/bulk storage		
F2.14 Mud agitators		
Make :		TSC
Model :		VA20-1
Driven by motor of HP (KW)		20 HP / 5 HP
Installed on Tank x No.		1, 2, & 3 / 4
Each agitator to have a 4 blade impeller to match tank width		Yes
F2.15 Mud centrifuge (2 High volume, 1 Low volume)		Available when requested
Equipped with hydraulic variable speed control and remote emergency shut-off device.		Available when requested
Number :		Available when requested
Make :		Available when requested
Model :		Available when requested
Feed pump make :		Available when requested
Model :		Available when requested
Capacity GPM (m3/min.)		Available when requested
F2.16 Mud hopper		
Quantity No.		2
Make :		Vortex Ventures

Model :		SMK-6SD-M1-4
Feed pump make :		Lobestar
Model :		
<u>Note: System to be able to treat mud in the active system or mixing a pill or reserve mud whilst not interfering with the mud pump and charging pump operation. Piping 6" with a minimum velocity in the lines of 10 ft/sec. Output of pumps 1200-1800 GPM at 40-60 Psi.</u>		Yes
F2.16a Caustic Mixing Tank		Yes
F2.17 Cellar pump (only applicable for land rigs)		N/A
Quantity No:		N/A
Make :		N/A
Type :		
F2.18 Mud saver bucket		
Quantity No.		Available when requested
Pipe size inch		Available when requested
F2.19 Jet Shear Mixing System		
Quantity No:		N/A
Make :		N/A
Capacity bbls:		N/A
Type :		N/A
FO. Mud system/bulk storage		
Offshore units		
F3.1 Barite/bentonite silos		
Quantity:		3
Capacity of each/total Cu. Ft/Cu. Ft		1040 / 3120
Installation site :		Mud Pump Room / Mud Pump Storage Room
Type WT loadcell :		Yes
Last internal inspection :		2015
Manufacturer :		
Pressure rating Psi		40
Relief valve(s) installed YES/NO.		Yes

F3.2 Cement silos		
Quantity :		3
Capacity of each/total Cu. Ft/Cu. Ft		1040 / 3120
Installation site :		Mud Pump Room / Drill Water Pump Room
Type WT loadcell :		Yes
Last internal inspection :		2015
Manufacturer :		Xxxx
Pressure rating Psi		40
Relief valve(s) installed YES/NO.		Yes
Separate mud/cement loading possibilities YES/NO.		Yes
Discharge line for cement should be independent from barite/bentonite discharge line YES/NO.		Yes
F3.3 Surge tank for barite/bentonite		
Quantity :		1
Capacity of each/total Cu. Ft/Cu. Ft		70
Type WT loadcell :		Yes
Last internal inspection :		2015
Manufacturer :		
Pressure rating Psi		40
Relief valve(s) installed YES/NO		Yes
F3.4 Surge tank for cement		
Quantity :		1
Capacity of each/total MT/MT		3.56
Type WT loadcell :		Yes
Last internal inspection :		2018
Manufacturer :		Freemyer
Pressure rating Psi		40
Relief valve(s) installed YES/NO		Yes
F3.5 Transfer system		
Independent air system for the bulk storage and surge tanks consisting of a high-volume low-pressure compressor and air drier.		Main air system on the rig
Air compressor type :		QSI-500i
Air compressor quantity No.		2
Working pressure Psi		40
Driven by electric motor :		Yes
Power output KW		
Air vessel capacity m3		
C/W chemical drier/dehydration unit YES/NO.:		Yes

Alternatively air may be derived from the main air supply and reduced to 280 kPa through dual pressure regulators. This system must then be provided with a separate volume tank and drier.		Yes
F. Environmental Issues on SOBM Spill Prevention		
Offshore units		
F3.6 Mud Processing Equipment		
The drilling unit must be equipped to drill with and treat SOBM mud. Therefore, the following specifications are required:		Comply
a) The rig shall be capable of Zero discharge operations.		Comply
b) Rig floor, mousehole (including mud bucket and hole) and other contamination areas to be fitted with a sealed drainage system leading to a collection tank of at least 50bbl (8 m3).		Available when requested
c) Mud room and shaker house ventilation system providing at least 100 air changes per hour on a continuous basis by extraction of fumes/mist from above the shakers/mud cleaners and mud pits.		Comply
d) Mud saver bucket to fit around 5 1/2", 5" and 3 1/2" drill pipe with hose fitted and discharge point on rig floor to discharge into flow line or trip tank.		Available when requested
e) Mud recovery and cleaning/sucking unit e.g. MUDVAC to be able to clean mud pits, shaker room, cement room, etc		Comply
f) The mud flow line shall be capable of handling 1500gpm flow rates and shall not be able to overflow due to partial plugging, etc.		Available when requested
g) Prevention of possible OBM spillage by blind flanging shaker dump valves. Further, pit tank dump valves shall be secured such, that no accidental dumping is possible		Comply
f) Containing fluids from Texas deck and the ability to pump fluids back to the mud flow line.		Available when requested
g) No dump facility to the sea is allowed from the cement room. To clean the cement unit, lines must be in place to pump or divert the contaminated liquid to a cutting skip.		Comply
F3.6 Solids control package		
Solids control package capable of drying POBM cuttings to <5% oil on cutting. Consisting of cuttings drier, centrifuge and augers. Feed capacity of 35MT/hr		Available when requested
G. Casing/cementing		
G1 Casing equipment		

G1.1 API casing drifts (Call Off)			
For 133/8" OD/casing weight 68 - 72 lbs/ft No.		Available requested	when
For 9 5/8" OD/casing weight 47 - 53.5 lbs/ft No.		Available requested	when
For 7" OD/casing weight 29, 32, 35 lbs/ft No.		Available requested	when
G1.2 Clamp-on type casing protectors (KLEPO Type) (Call Off)			
For 133/8" OD casing No.		Available requested	when
For 95/8" OD casing No.		Available requested	when
For 7" OD casing No.		Available requested	when
G1.3 Side door casing elevator (Call Off)			
Quantity No.		Available requested	when
For OD casing inch		Available requested	when
Make - For 13 3/8, 7" Hydril SLX (sq conn.) :		Available requested	when
Type :		Available requested	when
Capacity MT		Available requested	when
G1.4 Single joint elevators (Call Off)			
Quantity No.		Available requested	when
For OD casing inch		Available requested	when
Make - 13 3/8, 7" For Hydril SLX (sq conn.) :		Available requested	when
Type :		Available requested	when
C/W safety latches and 3/4" wire rope :		Available requested	when
Slings swivel Yes/No.		Available requested	when
G1.5 Slip type elevator/spiders (Call Off)			
Quantity No.		Available requested	when
		Available requested	when
Make :		Available requested	when
Type :		Available requested	when
Capacity MT		Available requested	when

W/slips for OD casing		Available requested	when
G1.6 Casing slips (Required)			
Quantity No.		Available requested	when
Make :		Available requested	when
Type :		Available requested	when
For OD casing inch		Available requested	when
G1.7 Casing bowls (Required)			
Quantity No.		Available requested	when
Make :		Available requested	when
Type :		Available requested	when
For OD casing inch		Available requested	when
G1.8 Casing tongs (Required)			
Quantity No.		Available requested	when
Make :		Available requested	when
Type :		Available requested	when
W/jaws for OD casing inch		Available requested	when
G1.9 Power casing tongs (Call Off)			
Quantity No.		Available requested	when
Make :		Available requested	when
Type :		Available requested	when
W/jaws for OD casing inch		Available requested	when
Torque indicator :		Available requested	when
Back-up arm :		Available requested	when
G1.10 Power tubing tong (Call Off)			
Quantity :		Available requested	when
Make :		Available requested	when
Type :		Available requested	when

W/jaws for OD tubing inch		Available requested	when
Torque indicator :		Available requested	when
Back-up arm :		Available requested	when
G1.11 Power unit for casing tong and tubing tong (Call Off)			
Quantity :		Available requested	when
Driven by electricmotor YES/NO.		Available requested	when
G1.12 Casing circulating head (swedge)			
For OD casing inch		Available requested	when
Type of connection - 18 5/8, 9 5/8, 7 – BTC :		Available requested	when
Top connection - 13 3/8, 7" HYDRIL slx		Available requested	when
		Available requested	when
G1.13 Casing spears (internal)			
Quantity No.		Available requested	when
Make :		Available requested	when
Type :		Available requested	when
For OD casing inch		Available requested	when
For casing weight lbs/ft		Available requested	when
For casing weight lbs/ft		Available requested	when
c/w pack-off :		Available requested	when
G1.14 Hydraulic Casing cutters			
Hydraulic casing cutters, accessories and personnel for cutting and dressing conductors to COMPANY's desired specification prior to wellhead or landing ring installation.		Available requested	when
Quantity No.		Available requested	when
Make :		Available requested	when
Type :		Available requested	when
For OD casing inch		Available requested	when
G1.15 Crossover to handle casing with drill pipe			

Quantity :		Available requested	when
For OD casing inch		Available requested	when
Casing connection :		Available requested	when
Drill pipe connection :		Available requested	when
Rated capacity MT		Available requested	when
G1.16 Casing elevators.			
All casing elevators to be provided with safety device (pin / latch or manufacturers equivalent).		Available requested	when
1 pce 18.5/8"(or 20" casing TBA) side door elevator, 150 ton.		Available requested	when
1 pce 13 3/8 side door casing elevator;150 ton.		Available requested	when
1 pce 9 5/8 side door casing elevator;150 ton.		Available requested	when
1 pce 7" side door casing elevator; 150 ton.		Available requested	when
1 pce 4 1/2 side door casing elevator; 150 ton.		Available requested	when
1 pce 3 1/2" tubing elevator.		Available requested	when
1 pce 2 7/8" tubing elevator.		Available requested	when
G1.17 Single joint elevators.			
Two pieces for 18.5/8"(or 20" TBA)casing.		Available requested	when
Two pieces for 13.3/8" casing.		Available requested	when
Two pieces for 9.5/8" casing.		Available requested	when
Two pieces for 7" casing.		Available requested	when
Two pieces for 4 1/2" casing.		Available requested	when
Two pieces for 3 1/2" tubing.		Available requested	when
One piece for 2 7/8" tubing.		Available requested	when
G1.18 Casing elevator / spider			
Slip type, air operated elevator-spider (one elevator, one flush mounted spider) with all accessories for 13 3/8", 9 5/8" and 7" casing. Capacity 500 tons, c/w long bails to suit elevator / spider combination.		Available requested	when
G1.19 Casing and tubing slips			
Extra long casing slips complete with bowls to fit rotary (refer item 1.11).		Available requested	when
One set of 18.5/8" (or 20" TBA)casing slips.		Available requested	when
One set of 13.3/8" casing slips.		Available requested	when

One set of 9.5/8" casing slips.		Available requested	when
One set of 7" casing slips.		Available requested	when
One set of 4 1/2" casing slips.		Available requested	when
One set of 3 1/2" tubing slips.		Available requested	when
One set of 2 7/8" tubing slips.		Available requested	when
G1.20 Casing circulating heads			
No line pipe threaded connections permitted on circulating heads.		Available requested	when
One 9.5/8" HP casing circulation head with connection to be advised.		Available requested	when
One 7" HP casing circulation head with connection to be advised.		Available requested	when
One 4 1/2" HP casing circulation head with connection to be advised.		Available requested	when
G1.20 Casing Running Tool			
Casing running tool compatible with rig's top drive system and rated to 500T. Integrated with single joint elevator and bails Make: Tesco Casing Drive System or equivalent		Available requested	when
G1.20 Tubing elevators for both EU and HCS connections.			
1 pce 4 1/2" side door casing elevator; 150 ton.		Available requested	when
1 pce 3 1/2" tubing elevator. 75 Tons		Available requested	when
1 pce 2 7/8" tubing elevator. 75 Tons		Available requested	when
1 pc 2-3/8" tubing elevator. 75 Tons		Available requested	when
G1.20 Conductor piling spread			
Hydraulic piling hammer, capable of driving 24" – 36" OD conductor to COMPANY's desired refusal depth and/or blow count. Must have all accessories (power packs, jigs, lifting equipment, welding & cutting equipment and consumables; NDT equipment; measuring devices etc) and personnel to pile a conductor string to desired refusal depth, with or without the rig in place. Make: Model: Casing size range 24" – 36" OD		Available requested	when
G1.21 Inflatable Casing fill-up too			
Inflatable casing fill-up tool, accessories and running service for 13-3/8", 9-5/8" and 7" casing		Available requested	when
G2.1 Cement unit onboard at present			
Make :		Freemyer	

Type :		Electrically Offshore Cementer	Powered Double
No. of triplex pumps No.		2	
Maximum working pressure psi		15000	
Maximum flowrate bbl/min:		14 bbl/min	
Owner of unit :		TBD	
Unit powered by (electric or diesel) :		Electric	
Recirculating mixing system :		Yes	
Capacity m3		1.27	
Motor power KW		1130 HP	
Liquid additive system :		Yes	
No. of tanks No.		4	
No. of measuring tanks No.		4	
No. of transfer pumps No.		4	
Rated capacity of each litre/min.			
Premix/batch tank :		8 bbls	
Capacity m3		1.27	
Pressure recorder :		Yes	
Integral premix / batch tanks of 100 – 120 bbls		8 bbls	
G2.2 Cementing manifold			
WP discharge manifold Psi		15000	
Cement pump discharge two HP lines to rig floor :		2 lines	
Min. ID inch		3	
WP Psi		15000	
The cementing unit to be connected to a 10,000 Psi WP cement/washdown/kill standpipe and manifold on the drillfloor with a HP 3" ID hose. The system should be separate from the normal standpipe.		Yes	
H. Instrumentation			
The Rig should be equipped with Automatic Driller, Soft torque or its equivalent and the instrumentation should be set-up in a way to achieve the following:		N/A	
Instrumentation: precise torque, WOB, and mud flow in/out of hole, RPM, torque and pump pressure.		Yes	

1 second scan rates for DEO and for other aspects of drilling automation: direct-as-possible access to all measurements on the rig control system (at the same frequency as acquired by the rig systems).		N/A
Ability to communicate between the rig control system and an external PLC (SCADA-drill) using a standard protocol; preferred MODBUS over TCP/IP.		Yes
An external rig control system interface allowing for setting mud pump flow / pump stroke rate, carriage travel (up and down), and RPM from a remote system		N/A
Ability to communicate via OPC or OPC-UA.		N/A
Ability to transmit all drilling parameters externally via WITS		Yes
H1 Drilling instrumentation		
H1.1 Instruments at driller's position		
a) Weight indicator (6-8-10-12 -14 lines strung)		Yes (6-8-10-12 lines)
Make :		Martin Decker
Type :		Analog
Sensor type :		G42650
b) Standpipe pressure gauges		
Quantity No.		2
Make :		TSC / Innovative Electronics
Type :		9850 I-View
Pressure range Psi		0 – 6000
c) Choke manifold pressure gauge		
Quantity No.		1
Make :		Innovative Electronics
Type :		9850 I-View
Pressure range Psi		0 – 10,000
d) Rotary speed tachometer		Yes
Make :		Namur
Type :		Proximity Sensor
Capacity range rpm		350
e) Rotary torque indicator		Yes
Make :		Innovative Electronics

Type :		9850 DAQ
f) Pump stroke counters		Yes
Make :		Namur
Type :		Proximity Sensor
Consisting of one pump stroke indicator and one cumulative pump stroke counter for each pump.		Yes
g) Tong torque indicator		
Make :		TSC
Type :		Vernier
Capacity range FT LBS		0 – 18,000
H. Instrumentation		
h) Pit volume totaliser		
Complete with floats in active mud tanks and on reserve tank complete with loss gain indicator and alarm (audio and visual)		Yes
Make - Acoustic Type or Equivalent :		Echotouch / Acoustic Type
Model :		LU20-CSA
i) Mud flow indicator		
Make - FLO SHO or Equivalent :		Namur / Flo Sho
Model :		Bi-8-M18-LI-EXI
High/low alarm (audio and visual) :		Yes
j) Trip tank indicator		
Make - Acoustic Type or Equivalent :		Echotouch / Acoustic Type
Model :		LU20-CSA
Chart recorder :		Yes
k) General alarm system		
With hookup to service contractors, T.P. and D.S. cabins, c/w separate activity buttons		Yes
l) Gas Volume Totalizer		
Make :		GDS Corp
Type :		C64 Protector Alarm Control
m) Remote choke control unit		
Make: :		TSC
n) Soft Torque Rotary System		N/A

Make :		N/A
Type :		N/A
H1.2 Instruments in driller's doghouse		Yes
a) Electric data system preferred		
Complete with repeat stations		Yes
b) Drilling parameter recorder		
Make :		Innovative Electronics
Type :		9850 I-View
Quantity of pens No.		
Parameter recorded :		Yes
Parameter recorded :		Yes
Parameter recorded :		Yes
Parameter recorded :		Yes
Parameter recorded :		Yes
Parameter recorded :		Yes
Parameter recorded :		Yes
Parameter recorded :		
c) Pit volume recorder		Yes
Make :		Innovative Electronics
Type :		9850 I-View
H. Instrumentation		
c) Flowrate recorder		Yes
Make :		Innovative Electronics
Type :		9850 I-View
d) Triptank recorder		Yes
Make :		Innovative Electronics
Type :		9850 I-View
H1.3 Instrumentation at choke manifold		
a) Standpipe pressure gauge		Available when requested
Make :		Available when requested
Type :		Available when requested
Pressure range Psi		Available when requested

b) Choke manifold pressure gauge		Yes
Make :		Wadeco
Type		Vermier
Pressure rating Psi		0 – 10,000
Remarks:		
Above combined on one panel and visible from choke operating position.		Yes
H1.4 Instrumentation at standpipe manifold		
a) Standpipe pressure gauge		
Make :		OTECO
Type :		Model 7
Pressure rating Psi		0 – 10,000
Remarks:		
To be visible from driller's position.		Yes
H. Instrumentation		
H1.6 General instruments		
Ring gauges range/inch		Available when requested
Tri-point calipers (e.g. HOMCO) range/inch		Available when requested
Internal/external calipers range/inch		Available when requested
Derrick tapes range/ft		Available when requested
		Available when requested
H1.7 Calibrated pressure gauges		
Make :		Available when requested
Type instrument gauge :		Available when requested
Size inch		Available when requested
Connection :		Available when requested
Range Psi		Available when requested
Quantity No.		Available when requested
Range Psi		Available when requested
Quantity No.		Available when requested
Range kPa		Available when requested

Quantity No.		Available requested	when
Including facilities to install gauges on standpipe manifold, choke manifold and cement unit.		Available requested	when
H. Instrumentation			
H2 Rig communication system			
H2.1 Telephone lines			
- Up to a maximum of 2 telephones and/or faxes may be connected (in parallel) to each line		Available requested	when
- 3 lines for SPDC (incl. 1 for fax)		Available requested	when
- 1 line for Contractor		Available requested	when
- 2 datacomms lines for SPDC		Available requested	when
H.2.2 Public address system			
Make :		Gaitronics	
Type :		Intercom	
Explosion proof YES/NO.:		Yes	
H.2.3 Drillfloor-derrickman's hands-free talkback or intercom system			
No. of stations No:		Available requested	when
Make - Atkins or equivalent :		Available requested	when
Type :		Available requested	when
Explosion proof YES:		Available requested	when
H2.4 Intrinsically safe hand portables			
Quantity No:		Available requested	when
Technical data: - Class 'Mutual Factory' - Frequency range: subject to tests to be carried out. - Transmit Output power: 5W		Available requested	when
- Power supply: desktop charger/ 8 batteries		Available requested	when
- Critical feature: needs to synthesized		Available requested	when
- Recommended: Philips		Available requested	when
H2.5 Radio Communication System			
1. A comprehensive marine radio communication system for Contractor's communications to its respective bases.		Available requested	when
Type: - Yaesu Ft. - 74 including FM option, 20 channel or equivalent with data transmission and facsimile option capability		Available requested	when

2. Good Marine Radio Link to Company system		Available requested	when
H2.6 Mobitex			
Mobile Radios for telephone connections into the SPDC telephone system. Independent Power supply 12V with 24 hours backup		Available requested	when
H.3.10 Digital Camera/CCTV			
Intrinsically safe digital camera		Available requested	when
CCTV System, with HAC zone compliant cameras, with pan and tilt capability and minimum one (1) week data storage capacity. Screen at OIM and Company Man's Office.	1. Drill floor areas	Available requested	when
	2. Derrick man's station.	Available requested	when
	3. Main deck (360 deg view)	Available requested	when
	4. Port and starboard sides of the drilling unit(Supply vessels to be visible)	Available requested	when
	5. Shale shakers	Available requested	when
	6. mud pump	Available requested	when
	7. Pit Room	Available requested	when
	8. Moonpool	Available requested	when
	9. Top drive elevators	Available requested	when
	10. Wellhead/BOP area	Available requested	when
	11. carousal gates	Available requested	when
H. Instrumentation			
H3 Company Office Equipment			
H3.1 Photocopier Machine			
Make :		HP	
Type :		OfficeJet Pro 8710	
H.3.3 Power supply and UPS for telecomms and related equipment on the rig.			
- Power supply IRT 12V with 10 hours backup		Yes	
- Power supply Datacomms 220V with 1 hour backup		Yes	

- Power supply PC's (max. 3) 220V with 30 minutes backup		Yes
H3.4 Plain paper G3 Fax Machine/Scanner		
H Instrumentation		
H3.5 Minimum telecommunication equipment requirement on offshore units		
A Synthesized AM Aircraft Radio Required for voice communication with the helicopters.		Yes
- Frequency range: 118-136MHz		Comply
- Transmit output Power: 10-50 W		Comply
- Power supply 24V DC >=450Ahr with battery on float charge		Comply
- Critical feature: should be synthesized		Comply
- Operating frequencies: pre-programmed to operate on 131.8 and 123.45 MHz		Comply
B Multi-channel HF radio.		
- Frequency range: 3-30 MHz		Comply
- Transmit output power: 100-150W		Comply
- Power supply: 12V DC >=450Ahr with battery on float charge.		Comply
- Critical feature: needs to be synthesized.		Comply
- ALE recommended (Automatic Link Establishment)		Comply
- Operating frequencies: pre-programmed to operate on 4050, 5180, 5205, 5860, 6812, 7323, 7908, 7618.8 (LSB) and 6795 (USB) KHz.		Comply
C Satellite terminal - Inmarsat-M		
With Dual telephone number option to provide Voice and Fax communication.		Comply
HO. Instrumentation		
H4 Environmental instruments		
Required proper instruments to provide and collect on board detailed weather information.		Wind Tracker , Mark YOUNG, Model 260024 VDC, (01)/ Weather conditions receiver Model NCR-333 NAVTEX, Mark JRC (01)

H4.1 Anemograph		
Electrical anemograph giving continuous recording of wind speed and direction.		Comply
(Accuracy: speed - 1 knot; direction - 10°)		Comply
Make :		Young
Type :		260024
H4.2 Thermometer		
Meteorologically approved :		Comply
H4.3 Barometer		
Meteorologically approved :		Comply
H4.4 Hand-held anemometer :		
I. Production test equipment		
I1. Burners (company supplied)		Available when requested
Quantity No.		Available when requested
Capacity bbls/day		Available when requested
Weight MT		Available when requested
Water requirement at ± 690 kPa m ³ /hr		Available when requested
Air requirement at ± 690 kPa m ³ /min.		Available when requested
I2. Burner booms		Available when requested
Quantity No.		Available when requested
Length m		Available when requested
Horizontal Yes/No.		Available when requested
Height above sealevel m		Available when requested
Maximum windspeed knots		Available when requested
Walkway and handrails Yes/No.		Available when requested
Burner platform size m x m		Available when requested
Burner mounting rotatable Yes/No.		Available when requested
Lines required on booms:		Available when requested
a) Oil line		

Size Inch		Available requested	when
Working pressure Psi		Available requested	when
Connection at burner end Weco 1502		Available requested	when
Sour service Yes/No.		Available requested	when
b) Gas line			
Size Inch		Available requested	when
Working pressure Psi		Available requested	when
Extended beyond burner by m		Available requested	when
Connection at end of line Weco 1502		Available requested	when
Sour service Yes/No.		Available requested	when
c) Waterline			
Size Inch		Available requested	when
Working pressure Psi		Available requested	when
Connection at burner end Weco 1502		Available requested	when
d) Air line			
Size Inch		Available requested	when
Working pressure Psi		Available requested	when
Connection at burner end Weco 1502		Available requested	when
I. Production test equipment			
e) Pilot gasline			
Size Inch		Available requested	when
Working pressure Psi		Available requested	when
All lines to have 1/2" NPT pressure gauge connections at barge end of booms.		Available requested	when
I3. Sprinkler system			
Sufficient to give protection to rig and personnel against heat radiation damage from the burners Yes/No.		Available requested	when
		Available requested	when

I4. Fixed lines for well testing		
I4.1 Drillfloor to separator area		
Quantity No.		1
Size inch		3
Working pressure Psi		10000
Connection on drillfloor Weco 1502		3" male
Connection at separator Weco 1502		3" female
Butt welded Yes/No.		Yes
Sour service Yes/No.		Yes
I4.2 Separator area to both burner booms		
a) Type		
Quantity No.		Available when requested
Size inch		Available when requested
Working pressure Psi		Available when requested
Connection at separator Weco 1502		Available when requested
Number of valves No.		Available when requested
Size inch		Available when requested
Working pressure kPa		Available when requested
Sour service Yes/No.		Available when requested
Valves to be installed near separator area for switching gas to either burner.		Available when requested
I. Production test equipment		
b) Type		
Quantity No.		Available when requested
Size inch		Available when requested
Working pressure Psi		Available when requested
Connection at separator Weco 1502		Available when requested
Number of valves No.		Available when requested
Size inch		Available when requested
Working pressure Psi		Available when requested
Sour service Yes/No.		Available when requested

Valves to be installed near separator area for switching oil to either burner.		Available requested	when
I4.3 Mudpumps to both burner booms			
Type		Available requested	when
Quantity No.		Available requested	when
Number of valves required No.		Available requested	when
Size inch		Available requested	when
Working pressure Psi		Available requested	when
Connected to fire-fighting pumps Yes/No.		Available requested	when
Rated line capacity at 2070 kPa m3/hr		Available requested	when
I4.4 Rig air system to burners			
Type		Available requested	when
Quantity No.		Available requested	when
Size inch		Available requested	when
Working pressure Psi		Available requested	when
Non-return valves fitted Yes/No.		Available requested	when
I4.5 Oil storage tank to overboard			
Type		Available requested	when
Quantity No.		Available requested	when
Size inch		Available requested	when
Working pressure Psi		Available requested	when
Height above water level m		Available requested	when
Connection at separator area Weco Fig. 100		Available requested	when
I4.6 Separator to vent stack of rig			
Type		Available requested	when
Quantity No.		Available requested	when
Size inch		Available requested	when
Working pressure Psi		Available requested	when

Connection at separator area Weco Fig. 1502		Available requested	when
I. Production test equipment			
I5. Power requirement			
a) for field laboratory			
Quantity kW		Available requested	when
Volts V		Available requested	when
Cycles Hz		Available requested	when
b) for crude transfer pump			
Quantity kW		Available requested	when
Volts V		Available requested	when
Cycles Hz		Available requested	when
c) for electric heater (if used)			
Quantity kW		Available requested	when
Volts V		Available requested	when
K. Accommodation			
To be of sufficient High Standard to comply with Shell's specifications for Design of Offshore Living Quarters (DEP 37.17.10.10-Gen) and Occupational Health Checklist		Comply	
K1 Offices			
K1.1 Company drilling supervisor's office (120 – 144sq.ft) complete with desk, filing cabinet(s), necessary other furniture (unrestricted view on the drillfloor) No.:		Comply	
K1.2 Company operations engineer's office with desk, filing cabinet(s) and necessary other furniture No.:		Comply	
K1.3 Company Service Contractors office complete with desk space and computer terminals for 4 persons No.:		Comply	
K1.4 Radio room No.:		Comply	

K1.5 Hospital room containing two beds/ bunks, wash basin, medical cabinet, dangerous drug locker No.:		Comply
K2 Living quarters		
Facilities meaning en-suite access to WC / Shower etc.		Comply
K2.1 Total people accommodation No.:		88
K2.2 Accommodation for company's people No.:		26
Quantity of single bedrooms c/w facilities No.:		0
Quantity of two bedrooms c/w facilities No.:		7
Quantity of four bedrooms c/w facilities No.:		3
Quantity of four bedrooms without facilities No.:		0
K2.3 Accommodation for contractor's people No.:		6
Quantity of single bedrooms c/w facilities No.:		0
Quantity of two bedrooms c/w facilities No.:		0
Quantity of four bedrooms c/w facilities No.:		0
Quantity of four bedrooms without facilities No.:		0
Quantity of six bedrooms without facilities No.:		1
K2.4 Galley No.:		
For total people No.:		40
K2.5 Meeting rooms No.:		
One meeting room c/w outside telephone line, for 20 persons		20 (outside telephone line available when requested)
K2.6 Recreation rooms/GYM No.:		
Inventory :		
K2.7 Other rooms		
Laundry/showers :		Yes
Dry food store :		Yes
Refrigerator :		Yes
L. Safety equipment		
Offshore units		

Following specifies in general the safety items required on offshore units. More detailed information can be obtained from Part 4 of "Drilling and Production safety code" by the institute of petroleum and from manual EP-95-0210 "Safety checklist for drilling rigs". Regulations in Nigeria may require more specified items.		
Contractor to submit details of all fire-fighting systems and safety equipment with the bid.		ATL7-GA-1020.Rev.3
L1.1 General safety equipment to be provided by the drilling contractor		
Safety hats		Available when requested
Safety boots		Available when requested
Safety overalls		Available when requested
Ear protection		Available when requested
Rubber gloves		Available when requested
Rubber aprons		Available when requested
Fullface visors		Available when requested
Eye shields (for grinding machines, etc.)		Available when requested
Dust masks		Available when requested
Rubber gloves - elbow length for chemical handling.		Available when requested
'no-smoking' signs		Available when requested
'hard-hat' signs		Available when requested
Explosion proof handtorches c/w batteries		Available when requested
Safety belts c/w lines		Available when requested
General alarm & musterpoint located at		Available when requested
L1.2 Eye wash stations		
Quantity No		4
Make/ model :		
Located at :		Mud room, Drill Floor, Sacs Room, Shaker Room.

L1.3 Derrick safety equipment			
Derrick escape chute (rem chute) No		Available requested	when
Type :		Available requested	when
Derrick safety belts No		Available requested	when
L1.4 Derrick climbing assistant			
Make :		Available requested	when
Type :		Available requested	when
L. Safety equipment			
L1.5 Fresh air blowers			
Quantity No		Available requested	when
		Available requested	when
Make :		Available requested	when
Type :		Available requested	when
Located at :		Available requested	when
L2 Gas detection			
Submit details		GDS Corp. GASMAX CX Gas Monitor. H2S, LEL	
L2.1 H2S monitoring system			
Make :		GDS	
Type :		Protector Controller	Alarm
Sampling points at: bellnipple		Yes	
drillfloor		Yes	
shale shaker		Yes	
mud tanks ventilation system living quarters		Yes	
other:			
c/w general alarm YES/NO.		Yes	
Alarm points: (A = Audible, L = Light)			
drillers console:		A + L	
engine room:		A + L	
mud room:		A + L	
living quarters each level: central area each structural level:		A + L	
other:			
L2.2 Combustible gas monitoring system			

Make :		GDS
Type :		Protector Alarm Controller
Sampling points at bellnipple		Yes
drillfloor		Yes
shale shake		Yes
mud tanks		Yes
ventilation system living quarters		Yes
other:		Yes
c/w general alarm YES/NO.		Yes
Alarm points drillers console:		A + L
other:		
L. Safety equipment		
L2.3 H2S detector		
Quantity No		10
Make :		GDS
Type :		Gas Max II, Explosion Proof
Store sites :		Bell Nipple, Drill Floor, Shakers, Mud Pits Qtrs Air Intake.
Phials for H2S: measuring range		
from 1 to 20 ppm No		10
from 100 to 600 ppm No		10
L2.4 CO2 gas detectors		LEL GAS DETECTOR
Quantity No		12
Make :		GDS
Type :		Gas Max II, Explosion Proof
Store sites :		Bell Nipple, Drill Floor, Shakers, Mud Pits Qtrs Air Intake, EMD Room.
Phials for CO2 : measuring range		
from 1 to 20 ppm No		12
from 20 to 200 ppm No		12
L2.5 Explosimeters		
Quantity No		Available when requested
Make/type :		Available when requested
Store sites :		Available when requested
L2.5 Early Kick Detection (EKD) System		
Make/type :		Available when requested
L3 Fire fighting equipment		

L3.1a Fire pumps		
Each fire pump shall supply all offtake points (i.e. all hydrants, deluge systems, etc.). Each fire pump shall be capable of feeding two hoses at full capacity, whilst supplying the largest single user system and maintaining a pressure of 50 psi at any offtake point. This requirement can take the required pump size above the 180 m3/hr specified in the MODU code.		Comply
Quantity No		Comply
Make :		NOV
Model :		640200226IT
Output m3		
Located at :		Compressor room, Mud Pump Storage Room.
L3.1b Hydrants and hoses		
Hydrants shall be positioned such that any point may be reached by a single hose length from two separate hydrants.		Comply
Quantity No		25
Hose connections/hydrant No		2
Hose max. diam. inch		2
Length m		10 m
L. Safety equipment		
L3.2 Portable fire extinguishers		
Quantity No		86
Make :		
Type: 1. CO2 No		12
2. Dry chemical No		74
To be mounted adjacent to access ways and escape routes.		Comply
L3.3 Fire blankets		
Location		Galley
Quantity No		
Make		
L3.4 Foam		
To be automatically injected into fixed fire water system at central point with remote manual control.		Comply
Make/type :		Alcohol type AFFF
Quantity on site :		6
Inductor tube :		Yes
Foam nozzles No		
Located at :		EMD Room,
L3.5 Helideck foam system		

Dedicated system adequate for at least 10 minutes fire fighting at the rate quoted in the MODU code		Available requested	when
Make/type :		Available requested	when
Quantity No		Available requested	when
Foam type :		Available requested	when
Foam nozzle :		Available requested	when
Rate :		Available requested	when
(submit drawing of layout fire fighting plan)		Available requested	when
L4 Personnel protective equipment			
L4.1 Breathing apparatus			
L4.1a General			
Quantity No		2	
Make :			
Type (duration) min 5/30		30 min	
Located at Quantity/loc:		Available requested	when
Located at Quantity/loc:		Available requested	when
Located at Quantity/loc:		Available requested	when
L. Safety equipment			
L4.1b Derrick man			
Type :		Available requested	when
Location :		Available requested	when
L4.2 Cascade stations (if on site)			
Quantity No		Available requested	when
Make :		Available requested	when
Type :		Available requested	when
Located at :		Available requested	when
L4.3 Breathing air recharge compressor			
Make		Available requested	when
Type		Available requested	when

Located at		Available when requested
L4.4 Compressed air breathing apparatus trolley unit		
Make/type		Available when requested
Air line m:		Available when requested
Compressed air bottles		Available when requested
Quantity No		Available when requested
Size :		Available when requested
Including		Available when requested
- face mask		Available when requested
- demand valve		Available when requested
- microphone		Available when requested
- safety harness		Available when requested
- safety line (incorporating the telephone line).		Available when requested
L4.5 Air purity test equipment		
Make		Available when requested
Type		Available when requested
L5 First aid equipment		
L5.1 First aid kits		
Quantity No		3
Located at :		Drill floor, Hospital, Control Room
L. Safety equipment		
L5.2 Burn kits/fire blankets		
Quantity No		Available when requested
Located at :		Available when requested

L5.3 Resuscitators			
Quantity No		Available requested	when
Located at :		Available requested	when
c/w charged (spare) oxygen cylinders :		Available requested	when
L5.4 Stretchers			
Quantity No		Available requested	when
Type :		Available requested	when
Located at :		Available requested	when
L5.5 Other			
Equipment, instrument and medical supplies as recommended by medical advisors.		Available requested	when
L.6 Helideck rescue equipment			
L6.1 Storage boxes			
Quantity :		2	
Construction :		steel/fiberglass	
Max height open cm:		45	
L6.2 Equipment			
Aircraft axe :		1	
Large firemans rescue axe :		1	
Crowbar 75 cm :		1	
Heavy duty hacksaw (six spare blades) :		1	
Grapple hook with 5 m wire attached :		1	
Quick release knife :		1	
Bolt croppers 60 cm :		1	
L. Safety equipment			
L7 Rig safety store			
Sufficient equipment to repair and recharge safety equipment.		Available requested	when
- Foam concentrate		Available requested	when
- Dry chemical charges		Available requested	when
- CO2 charges for dry chemical extinguishers		Available requested	when
- CO2 charges for water extinguishers		Available requested	when
- CO2 charges for foam extinguishers		Available requested	when

- Discharge hoses, control nozzles and horns and washers for CO2 extinguishers		Available requested	when
- Discharge hoses, control nozzles and horns and washers for dry chemical extinguishers		Available requested	when
- Fire blankets		Available requested	when
- Fireproof gloves		Available requested	when
- Rubber gloves - elbow length		Available requested	when
- Rubber aprons		Available requested	when
- Rubber boots		Available requested	when
- Full face visors		Available requested	when
- Eye shields (for grinding machines, etc.)		Available requested	when
- Dust masks		Available requested	when
- Spare safety helmets, boots, overalls		Available requested	when
- Gloves, hand torches, batteries, etc.		Available requested	when
- Spare lifebuoys		Available requested	when
- Spare lifebuoys lights		Available requested	when
- Fresh air blowers/inductors for ventilating enclosed spaces		Available requested	when
- Spare life jackets		Available requested	when
- Safety belts c/w line		Available requested	when
- Full safety harnesses		Available requested	when
- Spare derrickman's safety belts		Available requested	when
- Spare CABA bottles, charged		Available requested	when
L8 Emergency warning signal			
An efficient system to give warning of an emergency audible to all personnel in all locations.		Comply	
General emergency (fire, blowout etc.) :		Comply	
Prepare to abandon ship :		Comply	
L. Safety equipment			
L9 Survival equipment			
a. Survival craft			
Make		Whittaker	
Type		9089A	
Quantity No		2	

Capacity persons/craft		28
Fire protection Yes/No.		Yes
Company requires that with any one launching station inoperable the craft at the remaining stations can accommodate the maximum number of people on board the installation at any time.		Comply
b. Rescue boat		
Make/type :		Harding Watercraft Inc. / 8.5M MK V TELB
c. Work vests		Available when requested
Make/type :		Available when requested
Quantity No		Available when requested
Company requires 50 percent excess over number of people working in exposed locations.		Available when requested
d. Life jackets		
Make/type :		Survitec Group / USCG Type I
Quantity No		100
Company requires 200 percent excess over of people on board.		Available when requested
e. Life buoys		
Make/type :		Datrex / Sch B
Quantity No		8
f. Portable radio apparatus (H2.4)		
Make/type :		ICOM IC-A6
Quantity No		8
g. Distress signals		
Type :		Flare Pistols + Rockets
Quantity No		
h. First aid units :		
M. Miscellaneous equipment		
L10 Hands-free equipment		
Provision of hands-free tools in addition to industry-recognised standards, of sufficient variation and quantity to service locations including, but not limited to the drill floor, main pipe deck, cantilever pipe deck and heavy equipment store.		Available when requested

The Main Pipe Deck Hands-Free Tool Station shall include the following tools:		Available requested	when
Qty	Description		
Two (2)	42" Push / Pull Pole		
Two (2)	50" Push / Pull Pole		
One (1)	72" Push / Pull Pole		
One (1)	48" Dual Release Snare Tool		
One (1)	60" Dual Release Snare Tool		
Two (2)	15' Tag-Line		
Two (2)	25' Tag-Line		
Two (2)	300 mm Finger Saver		
Two (2)	900 mm Finger Saver		
Two (2)	Sledge Hammers c/w Hands-Off Identification		
Two (2)	Single Handed Lift Mate		
Two (2)	Double Handed Lift Mate		
The Cantilever Pipe Deck Hands-Free Tool Station shall include the following tools:			
Qty	Description		
Two (2)	50" Push / Pull Pole		
One (1)	72" Push / Pull Pole		
One (1)	48" Dual Release Snare Tool		
One (1)	60" Dual Release Snare Tool		
Two (2)	15' Tag-Line		
One (1)	300 mm Finger Saver		
One (1)	900 mm Finger Saver		
One (1)	Sledge Hammers c/w Hands-Off Identification		
Two (2)	Single Handed Lift Mate		
Two (2)	Double Handed Lift Mate		
One (1)	Lifting Nubbins Lifting Clamp (per Size)*		
The Drill Floor Hands-Free Tool Station shall include the following tools:			
Qty	Description		
Two (2)	50" Push / Pull Pole		
One (1)	72" Push / Pull Pole		
Two (2)	48" Dual Release Snare Tool		
One (1)	60" Dual Release Snare Tool		
Two (2)	25' Tag-Line		
Two (2)	300 mm Finger Saver		
Two (2)	900 mm Finger Saver		
Two (2)	Sledge Hammers c/w Hands-Off Identification		
One (1)	Weir SPM Safety Hammer		
Two (2)	Single Handed Lift Mate		
Two (2)	Double Handed Lift Mate		
Two (2)	Choke Valve Lift Mate		

Two (2)	Plug Valve Handling Tool**		
One (1)	Lifting Nubbins Lifting Clamp (per Size)*		
The Heavy Tool Store or Lower Hull Landing Area Hands-Free Tool Station shall include the following tools:			
Qty	Description		
Two (2)	50" Push / Pull Pole		
One (1)	72" Push / Pull Pole		
One (1)	48" Dual Release Snare Tool		
One (1)	60" Dual Release Snare Tool		
Two (2)	25' Tag-Line		
One (1)	300 mm Finger Saver		
One (1)	900 mm Finger Saver		
One (1)	Sledge Hammers c/w Hands-Off Identification		
Two (2)	Single Handed Lift Mate		
Two (2)	Double Handed Lift Mate		
M1 Pipe racks			
One set of pipe racks with adequate capacity for 15,000 ft of 47 lbs/ft 9-5/8" casing and suitable to accommodate drillpipe and drill collars. Complete with cat walk, stoppers and walkways.			14,000 ft of 47 lbs/ft 9-5/8" casing maximum
M2 Fuel storage tanks			
Rig site: quantity No.			8
Rig site: total capacity bbl			4,727
Rig camp: total capacity bbl			N/A
M3 Ditch magnets			
Two ditch magnets to fit flowline			Available when requested
M4 Electric welding sets			
Two electric welding sets 400 AMP capacity. Two oxygen and acetylene cutting torches. Hoses and cables to allow operation anywhere on the installation. Purpose-built rack for oxygen and acetylene bottles.			Available when requested
Welding habitat – 1 set			Available when requested
M5 High pressure cleaner			
Quantity No.			Available when requested
Make :			Available when requested

Type :		Available when requested
Electric/pneumatic :		Available when requested
M6 Forklift (explosion proof)		
Make :		1 x Toyota
Rated capacity MT		5,000 lbs
Reversing alarm fitted Y/N		Yes
Equipped with Spark Arrestor		Yes
Pipe clamp		Yes
M7 Revolving crane		
Quantity No.		3
Specification :		PCM-120
Make :		Letourneau
Type :		
Maximum rated capacity (hook load) MT		30 / 30 / 40
Boom length m		40
Line length :		To reach water
Minimum capacity and hoisting speeds :		
Load tons/radius m/speed input rev/min		30ST / 27ft / 1.25 fps
Load tons/radius m/speed input		3.1 ST / 103.5ft / 1.25 fps
Hook load indicator automatically corrected for boom angle YES/NO		No
Alarm		Audible and visual
Automatic brake YES/NO.		Yes
Safety latch on hook YES/NO.		Yes
Crown saver YES/NO.		Yes
Baskets and nets for personnel and cargo handling YES/NO.		Yes
M8 Helicopter refuelling system		
Company approved helicopter refuelling facility and safe storage system for helicopter fuel.		N/A
Make :		N/A
Type :		N/A
Storage capacity L		N/A
M9 Water makers		
Distillation unit with diesel engine heat recovery		
System		Reverse Osmosis
Quantity No.		1
Type		FCI
Make		Neptune

Capacity (total) MT/day		7500 gal/day
M10 Steam generators		N/A
Quantity No.		N/A
Type		N/A
Make		N/A
Capacity kg/hr		N/A
M11 Pallet lifter (fork type) SWL 5 MT		
Type		Forklift
Make		Toyota
Size Inch		36" 5,000 lbs
M12 Waste disposal equipment		
M12.1 Sufficient sewage storage and treatment equipment to comply with the international convention 'Marpol', annexe IV (International Conference on Marine Pollution 1973). Shell has a waste management and segregation system in place in compliance with ISO14001 standards		Comply
M12.2 Sufficient garbage storage and processing equipment to comply with Marpol annexe V		Available when requested
- Incinerator		Available when requested
- Waste Compactor		Available when requested
- Rubish Container for transport		Available when requested
- Tarpaulin (50' x 100') for chemical coverage		Available when requested
- Flood lights 500W		Available when requested
- Portable big bag handling equipment		Available when requested
M13 Personnel Transfer Basket		
Quantity No.		1
Type		X-904-4
Make		Alexander Ryan
P. Completion Equipment		
P1 Drill Collars		Available when requested
Quantity		Available when requested
OD Body		Available when requested
ID Body		Available when requested
Length of Each Joint		Available when requested
Drill Collar (slick/spiral)		Available when requested

W/Recess for "21p" Elevator		Available requested	when
(Not recommended by SIPM)		Available requested	when
W/Stress relief pin groove		Available requested	when
W/Recess for slips		Available requested	when
W/Boreback on box		Available requested	when
Type of Connections		Available requested	when
Lifting subs (drill collar)		Available requested	when
Connections		Available requested	when
P2 Safety Clamp			
Quantity		Available requested	when
Range		Available requested	when
P3 Circulating Head			
(Top connection 2" WECO welded connection)		Available requested	when
Quantity		Available requested	when
Size		Available requested	when
Type Connection		Available requested	when
P4 Tubing Safety Valve			
Quantity		Available requested	when
Make		Available requested	when
Type		Available requested	when
Size		Available requested	when
Type Connection		Available requested	when
P5 Crossovers			
3 1/2 HCS Pin x 3/2 IF Box		Available requested	when
Quantity		Available requested	when
2 7/8" HCS Pin x 3/2 IF Box		Available requested	when

Quantity		Available requested	when
P. Completion Equipment			
P6.1 BOP Rams			
Quantity		Available requested	when
Size		Available requested	when
Type		Available requested	when
P6.2 BOP Rams			
Quantity		Available requested	when
Size		Available requested	when
Type		Available requested	when
P6.3 BOP Rams			
Quantity		Available requested	when
Size		Available requested	when
Type		Available requested	when
P7 Adaptor Spools			
To X/O from BOP's		Available requested	when
Quantity		Available requested	when
Size		Available requested	when
OPTIONAL ADDITIONAL EQUIPMENT			
P. Completion Equipment		Available requested	when
P8 Tubulars			
P8.1.a 2-7/8" drill pipe		Available requested	when
Grade:		Available requested	when
Total length m		Available requested	when
Range:		Available requested	when
Weight lbs/ft		Available requested	when
Internally plastic coated Yes/No		Available requested	when

Tool joint OD inch		Available requested	when
Tool joint ID inch		Available requested	when
Tool joint pin length inch		Available requested	when
Tapered shoulder tool joints degree		Available requested	when
Connection:		Available requested	when
Actual API classification:		Available requested	when
Date of last inspection:		Available requested	when
By whom:		Available requested	when
P8.1.b 31/8" drill collars			
QuantityNo.		Available requested	when
OD body inch		Available requested	when
ID body inch		Available requested	when
Length of each joint m/av:		Available requested	when
Drill collar body slide/		Available requested	when
Spiral		Available requested	when
W/recess for "zip" elevators:		Available requested	when
W/recess for slips:		Available requested	when
W/stress relief groove:		Available requested	when
W/bore back on box:		Available requested	when
Type of connections:		Available requested	when
OPTIONAL ADDITIONAL EQUIPMENT			
P. Completion Equipment			
P9 Elevators			
P9.1 Tubing Elevator			
QuantityInch		Available requested	when
Make		Available requested	when
Model		Available requested	when
SizeInch		Available requested	when

Rated CapacityMT		Available requested	when
P9.2 Drill Pipe Elevator		Available requested	when
(Center latch elev. for 18 degree tapered tool joints)		Available requested	when
QuantityNo.		Available requested	when
Make		Available requested	when
Model		Available requested	when
SizeInch		Available requested	when
Rated CapacityMT		Available requested	when
P9.3 Drill Collar Elevator			
QuantityNo.		Available requested	when
Make		Available requested	when
Model		Available requested	when
SizeInch		Available requested	when
Rated CapacityMT		Available requested	when
P10 Slips		Available requested	when
Drill Pipe Hand Slips		Available requested	when
(API Extra Long)		Available requested	when
QuantityNo.		Available requested	when
Make		Available requested	when
Size Inch		Available requested	when
Type		Available requested	when
P11 Rig Tongs			
Manual tongs primarily designed for use with		Yes	
3½" DP, 3½" TBG and 2-7/8" TBG		4 – 17	
QuantitySet		2	
Make		Varco	
Type		HT-100	

Range SizeInch		4 - 17
OPTIONAL ADDITIONAL EQUIPMENT		
P. Completion Equipment		
P12 Lifting Subs Tubing		
QuantityNo.		Available when requested
SizeInch		Available when requested
Type		Available when requested
P13 Stabbing Guide		
QuantityNo.		Available when requested
To Stab SizeInch		Available when requested
P14 Tubing Drift		
QuantityNo.		Available when requested
SizeInch		Available when requested
Make		Available when requested
P15 Hydraulic Power Tongs		
QuantityNo.		Available when requested
Make		Available when requested
Type		Available when requested
RangeInch		Available when requested
Torque indicator back-up arm		Available when requested
Back-Up		Available when requested
P16 Fishing Equipment		
To catch sizes:		
2-3/8, 2-7/8, 2-11/16, 3½, 3-7/8, 4, 4-¾		Overshots, Junk Basket, Mills, Spiral Grapple (9-5/8", 8", 7-7/8", 6-1/2" 5", 4-7/8".
5½, 6-5/8 tubular.		Available when requested
List Equipment:		Available when requested
P17 Casing Scraper		

QuantityNo.		Available requested	when
Type		Available requested	when
Make		Available requested	when
Casing SizeInch		Available requested	when
Casing WtLbs/Ft		Available requested	when
OD BodyInch		Available requested	when
Connection		Available requested	when
		Available requested	when
		Available requested	when
		Available requested	when
OPTIONAL ADDITIONAL EQUIPMENT			
P. Completion Equipment			
P18 Swabbing Equipment			
(CB) Circulating Block			
For swabbing and production tests.		Available requested	when
Circulating head to include Kelly cock with		Available requested	when
bore size sufficient to allow passage of 3½ swab		Available requested	when
cups. Complete with left and right side outlet		Available requested	when
w/2" valvesYES/NO		Available requested	when
P19 Swab Cups			
QuantityNo.		N/A	
P20 Sand Line			
(For Swabbing Operations)		N/A	
		N/A	
QuantityNo.			
LengthFt.		N/A	
		N/A	
P21 Tanks			
QuantityNo.		Available requested	when
CapacityBbls.		Available requested	when

Type		Available requested	when
		Available requested	when
QuantityNo.		Available requested	when
CapacityBbls.		Available requested	when
Type		Available requested	when
		Available requested	when
P22 Tank Cleaning Equipment		Available requested	when
(Water Blasting)		Available requested	when
Quantity		Available requested	when
P23 SCAFFOLDING EQUIPMENT		Available requested	when
Set (2m x 2m x 3m) of Scaffold materials & Assessories		Available requested	when
Boards (Plydeck Platform, Aluminium plank, Galvanized Steel top) for One Set (2m x 2m x 3m) working platform		Available requested	when
P24 ANCHOR HANDLING/TOWING, SUPPLY AND EVACUATION SERVICES			
1.1 Offshore Anchor Handling Tug Boats 3,500hp and above, 30ton to 50ton Bollard Pull (Bp)2		Available requested	when
1.2 AHTS (4,500Hp to 5,500Hp) 60ton to 80ton Bollard Pull (Bp)		Available requested	when
1.3 Offshore Supply Vessel (OSV) 5000hp POBM Drill Cutting Management Vessel. 3		Available requested	when
1.4 Passenger Vessel (50 –70) pax capacity		Available requested	when
1.5 Production Support Vessel 2		Available requested	when
1.6 Tugboats (Twin Screw, 2X500 - 750BHP)		Available requested	when

1.7 Sea going Barge (800-1000 Tonnes) 1		Available requested	when
1.8 Mobile Crane Upto 45Ton SWL 1		Available requested	when
1.9 Mobile Crane >45Ton SWL 1		Available requested	when
2.0 Security Boat 1		Available requested	when
2.1 Emergency Helicopter Services		Available requested	when