

RIG IDB 02

The RIG IDB 02 is a drilling rig
with operational history in Indonesia



Further information: +62 21 48 92 500 | www.indrillcobakti.com

The below information is intended for general reference only.
All equipment and specifications are subject to change at any time.

No	EQUIPMENT	SPECIFICATION	QTY	MANUFACTURERS	REMARKS
A. Rig Equipment					
1	Carrier & Drawworks	<p>COOPER LTO-550 Truck Mounted Carrier with 5 axles 550 HP Double Drum capable of drilling a 8-1/2" hole to a dept of 5000' with 4-1/2" drillpipe and setting 7", 23 ppf casing to that same depth Note : Single Drum is acceptable. However, if tendered, Idb will also tender a separate unit c/w appropriate sandline per speccifikation in this document and proper sandline sheaves. - Rated single line pull is 35,000 lbs minimum - Crown block safety device provided</p>	1	COOPER	
2	Drawwokrs Prime Mover	<p>CAT D-3412 DITA engine, c/w 24 cfm Air Compressor, 50 gpm Hydraulic Pump, Radiators, heat exchangers for cooling torque converter oil, standard engine instruments, suction type fans, alternator charging system, spark arresting type muffler, safety alarm and engine kill switch. (CATERPILER)</p>	1	Caterpillar	
3	Catheads	<p>Either mechanic make up and break out catheads driven by drawworks catshaft complete with air controls or hydraulic catworks. Hydraulic Catworks must have an accelerator on the make up side.</p>	1 Ea	FOSTER	The Function This Equip Change by Air Winch
4	Substructure	<p>Combined load of 450.000 lbs casing and set back capacity Standard type, 12' W x 15' L x 4' - 15' H Adjustable w/ space for Class II & III BOPE stack rotating head, c/w Vee Door hand rails & stairs. (WEM) Note: Substructure design must allow the opening of BOP ram door whenever ram changeout is required</p>	1	WEM	
5	Loading Ram / Mud Boat	<p>For Rig Carrier H : 3 Feet x W : 8,5 Feet L : 45 Feet (Fabricated)</p>	1	LOKAL	
6	Rotary Table	<p>20 1/2" rotary table, dead load cap.200 ton, rotating load cap. 150 ton, complete with : - 1 set Solid & split master bushing - 1 set bushing insert to fit all tubulars - Full Range insert bowl for casing 13-3/8", 9-5/8", 7", DP 4-1/2", tbg 3-1/2"</p>	1	Gardner Denver	

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		<ul style="list-style-type: none"> - Kelly drive bushing, for Hexagonal kelly - Rotating Speed : 25 - 200 rpm - Rotary Torque indicator on drawworks transmission (GARDNER DENVER) 			
7	Mast	Mast Model 104/250 (Double Tubing, Triple Rods) <ul style="list-style-type: none"> - Four LEG fixed base design allow fast positioning of rig before mast is raised, clear height is 110 ft below crown - Static hook load capacity on 8 line ; 250.000 lbs - Crossover crown with 36" fast line sheave plus four 24" Sheaves. - All sheaves mounted on Timken double row bearing. - Racking platform capacity 22.200 ft of 2-7/8" EUE tubing - Two hydraulic rams for raising and Two telescoping. 	1	PEMCO	
8	Block / Hook	travelling block 150 Ton capacity, 4 sheaves c/w hook model UTB 160	1	IDECO	125 Ton Capacity
9	Swivel	IDECO 150 Tons. 1500 psi WP Swivel, Complete with Gooseneck & Wash pipe assembly, connection for kelly 5-1/4" & 3-1/2".	1	IDECO	
10	Air Package	Air cocked air compressor complete with min 30 HP motor min 200 gal receiving vessel and all necessary piping and controls min system must have sufficient capacity to operate all air actuated compressor on the rig and must have two sources of power	1	TUFLO	
11	Hoist	Model : PD; 12a, 36064-61 c/w Winch line 5/8" Wire rope Blue Strand 6 x 37 IWRC x 250 ft long.	1	Braden Winch	
12	Drilling Line	1" - 3000 Ft Wire Rope 6 x 19 PWFRL / IWRC c/w 1" Rope " Rope Socket"	3000 ft	Kiswire or Blue Strand	
13	Sand Line	9/16" 4000 Ft Wire Rope 6 x 7 PFRL, FC	7000 ft	Kiswire or Blue Strand	
14	Racks	Pipe Rack : 3,5' x 3,5' x 28'	As Req	Home Made	
15	Catwalk and Pipe line	Cat Walk Size : 44" x 52" x 36 feet	1	Home Made	
16	Rig Mats	Wood for matting board as required	As Req	Home Made	

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B. Mud And Circulating Equipment					
1	Mud Pump	Gardner - Denver Model PZ-9(PZH) - 1000 HP Triplex Mud Pump 500 GPM / each at 3000 Psi c/w : - High Pressure Pulsation Dampener 5000 Psi - Pressure gauge pulsation dampener 5000 psi relief valve - Pressure & suction manifold - Discharge line 4" - 5000 psi - Centrifugal charging pump 5" x 6" driven explosion proof electric motor - Pump stroke counter - Suction line 8" - 10" + expansion joint - Vibrator hose	1 Unit	Gardner Denver	
	Mud Pump 2	Gardner - Denver Model PZ-9(PZH) - 1000 HP Triplex Mud Pump 500 GPM / each at 3000 Psi c/w : - High Pressure Pulsation Dampener 5000 Psi - Pressure gauge pulsation dampener 5000 psi relief valve - Pressure & suction manifold - Discharge line 4" - 5000 psi - Centrifugal charging pump 5" x 6" driven explosion proof electric motor - Pump stroke counter - Suction line 8" - 10" + expansion joint - Vibrator hose	1 Unit	Gardner Denver	
2	Mud Pump Prime Mover	- Engine CAT-398, 1000 HP to input shaft of mud pump through suitable transmission Fluid Coupling "Twin Disk"	1 Unit	Caterpillar	
3	Mud Tank Active Mud Tank Reserve	One (1) Unit active tank, with total gross capacity of 200 bbls with tank dimension of 8' W x 8' H x 36' L and one (1) unit reserve tank with gross capacity of 200 bbl with 3 furnished with : - Walkways and folding hand rails - clean out gate valve - Discharge ditch connection from tank to tank - cutting discharge chute - bottom gun & water fill outlet - Suction manifold to desander, desilter & mud cleaner pump - Connection to suppercharging pump suction - 4 unit mud agitator w/ 39" dia. Impeller, driven by 10 hp explosion proof motor - 3 mud mixing hoppers with 6" x 8" centrifugal pump - Mud testing cabin for mud engineer - Pill tank, 50 bbl trip Tank, calibrated in 1 bbl increment with level indicator observable from driller's console	2 Unit	FABRICATED	

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4	Shale Shaker	Linear motion Shale Shacker 600 Gpm per aeach. Double Screen With : 120 mesh screen 4' x 5' Model : Model :BLST, SN 1999 c/w: - Elmot Shale Shacker I - 5 HP - 1735 RPM. - Elmot Shale Shacker II - 5 HP - 1735 RPM.	2 Unit	Derrick	
5	Desander	Desander. With 10" hydro Cyclones dedicated 5' x 6' centrifugal pump an Expl Proof Electric motor to supply 35 psi at 600 gpm. Oil pressure Gauge 0 - 150 psi 1/4" conn w/ adapter	1 Unit	Double Life	
6	Desilter	10 cones desilter with 4" hydro cyclones dedicated 5' x 6' centrifugal pump and explosion proof electric motor to supply 35 psi at 500 gpm. Model : V - 410. SN. 2154 c/w Pressure gauge. 1/4" NPT Range : 0 - 60 psi, 2" Face	1 Unit		
7	Mixing System	Hopper mounted on the reserve pit skid c/w piping, valve manifold to arrange suction and discharge to either compartmen c/w 4 x 6 centrifugal pump and 60 HP explosion proof electric motor	1 Unit	Local	
8	Mud Agitators	- Agitator c/w Shaft & Padle - Electric Motor Agitator IV - 7,5 HP Note : Control Boxes for motor is appleton product	1 Ea		
9	Mud Gun	Bottom Mud Gun 3" - 3000 psi c/w jet Nozle	1 Ea	FMC or Equal	
10	Mud Manifold	Unitized 4" 3000 psi for stand pipe, kill line an fill line complete with sufficient valving to direct mud flow as need	1 Unit		
11	Water Tank	250 Bbl Capacity, Skid Mounted With : - Centrifugal Pump: 5 x 6 DR. 12" IM - Elmot 15 HP ; 1735 RPM, 60 Hz 460 V 480 V - 60 HZ - Push Bottom Switch	1 Unit	Local	
12	Transfer Pump	Centrifugal pump and motor to transfer water at location 200 gpm skid mounted and portable	1 Unit	Brandt	
13	Supply Water Pump	Skid mounted centrifugal pump capacity of 200 gpm c/w 50 HP diesel engine 5 x 6 centrifugal pump	1 Unit	Harisburg	
14	Water line	2-7/8" Tubing c/w Screwed connection	1000'		

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15	Mud Measuring Equipment	Mud balance; Marsh Funnet, Measuring Cup; Stop Watch	1 Ea	Baroid	
C. Drill String Equipment					
1	Drill Pipe	4-1/2" - 15.50 lbs/ft, grade E or G, premium DP with IF conn soft banded tool joint c/w thead protectors and have valid inspection certificate	4000 ft	Drillco	
		3-1/2" OD DP grade G, 13,3 ppf, IF conn R-2 c/w protector on pin/box and have valid inspection	4000 Jts	Drillco	
2	Drill Collars	6-1/2" or 6-1/4" OD x 2-13/16" ID spiral, R3 with 4-1/2" IF (NC 50) Connection	8 Jts	Drillco	
		7-3/4" or 8" OD x 3-1/16" ID spiral , R-2, with 6-5/8" Regular Connection	2 Jts	Drillco	
		4-3/4" OD spiral DC c/w 3-1/2" if Pin & Box conn 2 in bore 50.00 lb/ft	10 Jts	Drillco	
		Bit Sub : 6-5/8" reg box, 48" long bored for float	2		
		Bit sub : 4-1/2" reg box x 4-1/2" XH box, 48" long bored for float	2		
		Bit sub : 3-1/2" reg box x 3-1/2" IF box , 48" long	1		
		Crossover subs : 6-5/8" reg pin x 4-1/2" XH box, 48" long	2		
		Crossover subs : 3-1/2" EUE box x 3-1/2" IF pin, 48" long	2		
		Crossover Subs : 4-1/2" XH box x 3-1/2" IF pin, 48" long	1		
3	Kelly	Drillco 5-1/4" hexagonal kelly with scrubbad c/w drive bushing match to rotary table, 37' lable length	1 Unit	Drillco	
		Drillco 3-1/2" hexagonal kelly with drive bushing match to rotary table, 37'	1 Unit	Drillco	
4	Kelly Cock	Upper kelly cock-10m, 6-5/8" reg LH Pin x 6-5/8" reg LH box Wrench F/ 5-1/4" Kelly (OMSCO)	1 Ea	OMSCO	
		Drillco Lower kelly cock 4-1/2" XH Pin-Box F/ 5-1/4" Kelly	1 Ea	Drillco	
		Drillco Lower kelly cock 3-1/2" IF Pin-Box	1 Ea	Drillco	
5	Miscellaneous Subs	Left hand sub for 5-1/4" kelly, specity length	2 Unit		
		Left hand sub for 3-1/2" kelly, specity length	2 Unit		
		Kelly saver sub for 5-1/4" kelly, specity length	2 Unit		
		Kelly saver sub for 3-1/2" kelly, specity length	2 Unit		
		Crossover for 5-1/4" kelly to 4-1/2" DP	2 Unit		
		Tapered section crossover for 4-1/2" DP to 6-1/2" or 6-3/4" DC, contractor must specity DC size when responding	2 Unit		
		Tapered section crossover for 8" DC to 6-1/2" or 6-3/4" DC 6-5/8" reg. Pin by NC 50 box.	2 Unit		
		Bit sub 6-5/8" Reg DC to 6-5/8" Reg	2 Unit		
		Bit sub 7-5/8" Reg DC to 7-5/8" Reg	1 Unit		
		Bit sub 3-1/2" Reg DC to 3-1/2" Reg	2 Unit		
		Bit sub 4-1/2" Reg DC to 4-1/2" Reg	2 Unit		
		Lift subs for all Drill Collars	6 Unit		

No	EQUIPMENT	SPECIFICATION	QTY	MANUFACTURERS	REMARKS
6	Float Valves	Required For all Bit Sub Sizes	2 Ea		
7	Handing Tools	Tong BJ type "B" for DP size 5", 4-1/2", DC sizes 3-1/2", 6-1/4" and 8" casing jaws for 13-3/8", 9-5/8" and 13-5/8" tubullars	1 Set		
		Hyd. Power Tongs c/w torque gauge and line pull sensor mounted on and power unit for running 4-1/2" 5-1/2", 7", 9-5/8", and 13-3/8" tubulars (BJ or Equel)	1 Set		
		peneumatic Drill Pipe Spinner for 3-1/2" DP & 4-1/2" through 8" drill string component.	1 Set		
		WEB WILSON rotary tong for 3-1/2" DP, 4,5 DP, 4-3/4" DC, 8-1/4" DC, and Casing: 13-3/8", 9-5/8" 7", 4-1/2". C/w Lug Jaws & Make up torque Gauge & Tong Pull back	1 Set		
		1 EA Split Bushing 7" to 9-5/8" csg (BASSHROSS)	1 Ea		
		1 EA Split Bushing 9-5/8" to 13-3/8" Csg (BASSHROSS)	1 Ea		
		Each size Rotary Slips for 4-1/2" DP, 6-1/2" or 6-3/4" DC, 8" DC, 9-5/8", 7", 7 13-3/8" Casing, 2-7/8" tubing, 3-1/2" tbg	1 Set	VARCO	
		Each size of Elevator for 4-1/2" DP, 5" DP, 6-1/2" or 6-3/4" DC's, 8" DC's, 9-5/8", & 10-3/4" casing; 2-7/8" & 3-1/2" tubing. All Elevators to be 100 ton rating (BJ)	1 Set		
		Safety Clamo for all DC sizes (BASSHROSS)	1 Set		
		For each size of Quick disconnected casing protector for 7" and 9-5/8" casing.	2 Each		
		Each size of Rod Wrenches for 3/4", 7/8" and 1" rods	2 Set		
		Each size of Rod Elevators for 3/4", 7/8" and 1" rods	2 Set		
		Sucker Rod Hook, 40 ton w/ spring hook	1 Ea		
		Bit breaker size 12-1/4", 8-1/2", and 6"	1 Unit		
8	Inside BOP	For 4-1/2" DP or 5" DP w/ 4-1/2" IF conn. Must be c/w disabling mechanism and be 5000 psi WP	1 Ea	TIW	
9	Full Open Safety Valve	For 4-1/2" DP or 5" DP w/ 4-1/2" IF conn c/w crossover all DC's in use	2 Ea	TIW	
10	Circulating Head	For 4-1/2" of 5" drillpipe - 3000 psi WP	1 Ea	Drillco	
11	Pump in Sub	For 4-1/2" drillpipe - 3000 psi WP	1 Ea	Drillco	
12	Circulating Swedge	For 13-3/8" BTC, 9-5/8" BTC, 7" BTC, 2-7/8" EUE, 3-1/2" EUE Tubing.	1 Ea	Drillco	
13	String Stabilizer	8-1/2" String Stabilizer	1 Ea	Drillco	
		12-1/4" String Stabilizer	1 Ea		
14	Near Bit Stabilizer	8-1/2" Near bit Stabilizer	1 Ea	Drillco	
		12-1/4" Near Bit Stabilizer	1 Ea		

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D. BOP Equipment					
1	Drilling Spool	Drilling Spool w/ 13-5/8" x 3000 WP Top Flange and 13-3/8" x 3000 screw type to be connect 13-3/8" casing bottom c/w 2" and 4" out let 3000 WP Flange	1 Ea	Shaffer	
2	Annular BOP	Hydrill GK 13-5/8" - 3M psi, flange bottom or equivalent	1 Ea	Hydrill	
3	Ram BOP	13-5/8" x 3000 or 5000 WP double ram preventer flange top / bottom	1 Ea	Shaffer	
4	Pipe Ram	<ul style="list-style-type: none"> - 9-5/8" pipe ram for ram preventer (shaffer) - 7" pipe ram for ram preventer - 4-1/2" pipe rams for ram preventer - 3-1/2" pipe rams for ram preventer - Blind ram 	1	Shaffer	
5	Choke and Kill Manifold	Kill Manifold set C/W : <ul style="list-style-type: none"> - Gate valve -3 1/6" - 3000 / R - 31 Flange Type - Check valve 2-1/8" - 3M flange type -R-24 - Gate valve -2 1/8" - 3000 Flange Type RX - 24 - HCR Valve 3-1/16 - 5000 psi, flange type RX-35 - Companion Flange 3-1/16" - 5000 psi flange type RX 35 - Companion Flange 2-1/8" - 5000 psi Screw type RX 35 	1 Ea	FMC	
6	BOP Closing Unit (Accumulator Unit)	Accumulator - 3000 Psi c/w <ul style="list-style-type: none"> - 80 Gln Nitrogen PN 700 - 002 - Single Air Pump - Triplex Pump Accumulator 1" Rod Dia - Elmot 20 HP - 1753 RPM - Regulator Manual - Four way Valve - Electric Pressure Switch (New) - Pressure Gauge, Rear Mourted, 0 - 5000 Psi, 8" Face - Pressure Gauge, Rear Mourted, 0 - 3000 Psi, 8" Face - Pressure Gauge, Rear Mourted, 0 - 3000 Psi, 6" Face (KOOMEY 80)	1 ea	Koomey 80	
7	BOP Tester Pump	Air Driven pump tester WP 10000 Psi c/w Chart recorder. tester plug & tester cup for 9-5/8" casing	1	BARTON	
8	Adaptor Spools	<ul style="list-style-type: none"> - Double studed adapter (DSA) 13-5/8" 5M x 13-5/8" 3M - Drilling Spool 13-5/8" 3M x 11" 3M, 15.5" long (PETCO or Equal) - Double student adapter (DSA) 11" 3M x 7-1/16" 3M 	1		

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9	Ring Gaskets	All flanges must be suitable for RX ring gaskets, New ring gaskets, must be provided for every nipple up on every well	As Reg		
10	Rig Instrumentation	Drillers console with sensor weight indicator, SPM, RPM, rotary torque and pump pressure gauge, Note : these eq. must be fully functional at all times Geograph for : drilling rate, hook load, WOB, pump press and SPM. Totco survey tool c/w 0-8 ⁰ double record deviation	1 set 1 Set 1 Set		

E. Electrical Equipment

1	Electric Power	Skid Mounted Engine CAT D 3412 - 350 KW ; 60 Hz 1800 RPM, Cap 400 HP : Generator Set Model : SR 4 CAT SN : 5KA, 00905 RPM : 180, Hz : 80, KVA : 500 : KW : 460, Low : 240 Height : 480, Exstating : 280 V, Over load (Capacity : 110) c/w - Electric starter 24 volt, 11 Teeth Type : 300 AMP - Altenator 24 Volt STEP DOWN TRANSFORMER, 220 V - 100 V (CATERPILAR)	2 unit		
		Skid Mounted generator 10 KW, F/ Emergency Light at Moving (DENYO)	1 Set		
2	Lighting	Explosion - proof system with sufficient lighting for rig and drilling line (RIG A LITE)	1 set		

F. Safety Equipment

1	Safety Equipment	Climbing Harnesses c/w leg and Shouder straps manufactured to an international standard, Both must be in good condition an available at the derrick at all times. Fall prevention device manufactured to an international standard, matched to derrick. Counts weights are not acceptable. These devices must be tested weekly and be repaired or replaced whenever necessary. Monkey boards belts Escape Chair 1/2" line matched to escape chair and derrick height c/w escape pole that meets IADC standard. (BLUE STRAND) 9 Kg ABC type fire extinguisher 150# dry powder type fire exringuisher 25# CO2 fire extinguishers 90# Foam fire extinguishers Multi-gas detector c/w all standard accessories for detecting methane, H2S and CO2	1 ea 1 Ea 2 Ea 1 Ea 1 Ea 6 Ea 1 Ea 2 Ea 1 ea 1 ea	LEWIS Protecta LEWIS Geronimo Marathon Marathon Marathon Marathon DRAGGER	
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		First Aid Kit c/w snake bite kit (AD SAFETY)	1 Box		
		MSA certified safety goggles (PROTECTOR)	5 Ea		
		Stretcher	1 Ea	MSA	
		Windsock	1 Ea	LOKAL	
		48" Bug Blower c/w electric cable sufficient to place anywhere in immediate rig area	1 Ea		
		30 min SCBA	1 Ea	SPACIAN	
		Burn Pack	1 Set	DYNAMED	
		Portable eyewash	1 Ea	HAWK	
		Chemical resthardant coats	5 Ea	LOKAL	
		Fire Axe	1 Ea	LOKAL	
		Fire suits	5 Ea	SET	
		Portable Fire Pump, Nominal Flow rate 800 l/min, nominal delivery head 8 bar , geodetic suction height 3 m c/w fire pump hose	1 Unit		
		5 lb brass hammer	1 ea	LOKAL	

2	Personnel Protection Equip (per crew member)	Approved safety hat	1 Ea		
		Ear protection	1 pr		
		Safety shoes in good condition	1 pr		
		Work clothes	1 pr		
		Hand gloves	1 pr		
		MSA safety glasses for eye protection	1 pr		

G. Transportation Equipment

1	Crew Bus	20 seat capacity c/w seat belts and registered in Riau Province must be made in 2002 or newer	1 Unit	Mithsubisi	
2	4 x 4 Light vehicle	For Rig Tool pusher in Riau Province must be made in 2005 or newer	1 Unit	Mithsubisi	
3	4 x 4 Light vehicle	For Rig Coordinator ie, Ford Everest or Nissan Terano or Equivalent. Registered in Riau Province must be made in 2005 or newer	2 Unit	Ford Everest Mitsubishi	
4	Heavy Equip.	25 ton Crawler Crane	1 Unit		
		40 ton Torrain Crane	1 Unit		
		D-7 or equivalent wide track bulldozer c/w winch	1 Unit		
		5 Ton forklift, 2005 good condition	1 Unit		
		Escavator c/w 0.6 m3 bucket capacity - good condition	1 Unit		
		30 tons OFT (winch truck) 2005	2 Unit		
		30 tons trailer c/w prime mover 2004	1 Unit		
		30 ton Low bed trailer	1 Unit		

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H. Miscellaneous					
1	Fuel tank	Complete with sufficient capacity to operate rig and equipment for 3 days (30.000 litre)	1 Unit		
2	On site camp	Portacamp	3 Unit		
3	Computer	Pentium IV with 80 GB hard drive and 512 MB of Ram loaded With legitimate Windows XP	1 Set		
4	Printer	Laser Printer	1 ea		
5	Hand tools	IPS mechanucs tool sets 1/2" Electric drill Bench-mounted grinder 3 ton snatch blocks 25 ton hydraulic jacks Pipe wrench : 18", 24", 36", 48" Chain tongs : 36", 60" BOP Wrenches	2 Set 1 ea 1 Ea 2 Ea 2 Ea 2 Ea 2 Ea 1 Set		
6	Welding Set	300amp c/w supply of rods and safety equipment	1 Set		
7	Cutting Set	Oxygen-Acetelyne c/w heat tip (rosebud)	1 Set		
8	Other	All necessary tubes & racks and moushole & rathole scabbar.			
9	Radio Equip.	Radio Comunication Equipment for communicating between drilling unit and base camp			
I. Fishing Equipment					
1	Fising Tools	- 4-1/2" Fishing jar - O/S 7-3/4" OD body c/w Grapples for contractor's pipe size 3-1/2" & 4-1/2" DP, 4-3/4", 6-1/4" & 6-1/2" DC Tappered taps for contractor's pipe size : 3-1/2" & 4-1/2" DP, 4-3/4" Dp, 4-3/4", 6-1/4" & 6-1/2" DC	1		

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J. Initial Completion Equipment					
1	Drilling spool	Drilling Spool 11" - 3M WP Flange top & Bottom c/w 2" and 4" outlet - 3000 WP flange	1		
2	Anullar BOP	Hydrill GK 11" - 3M psi, flange bottom or equivalent	1		
3	Ram BOP	- 11" x 3M psi WP double ram preventer, flange top/bottom	1		
4	Pipe ram	- Each size pipe ram for 3-1/2" DP & tubing and blind Note : Must have pressure rating as BOP, Exact height must be provided when responding. Must be shop febricated and must be certified as having been pressure tested	1		
5	Swab Head	3-1/2" x 3M (4Pcs Valve), Unions, niplle tee and press gauge			
6	Tubing Swab Tool	For 3-1/2" tubing lubricator, consist of : - 3-1/2" connection union - hydrolic hand pump - Type H oil saver c/w rubber - Tubular jar + sinkar bar - Swivel rope Socket - Mandrill cup Rubber	1		
7	Centrifuge	Model LK B-2NH 12 Volt DC, non heating centrifugal c/w spare tube measurement glasses ang 1000 cc free water glass	1		
8	Test Tank	150 -170 bbls capacity, C/w 2 ea 10 bbls measuring tank mounted on top. Complete w/railling quard / toe board	1		
9	Depthometer		1		
10	Shock Absorber Wheel	3" Grove and 56" diameter	1		
11	Pumps Clamp	for 400 series pump, 540 series and 562 CT pump Min. 12,500 lbs capacity	2		
12	Motor Clamps	For 540 motor head clamps. Min 12,500 lbs Capacity	2		

No	EQUIPMENT	SPECIFICATION	QTY	MANUFACTURERS	REMARKS
13	Tandem motor jacks	For 375/456/450 series	2		
14	Interlake Sealer	C 18 F-635	2		
15	Interlake tensioner strecher	Model 810	2		
16	Thiner Snip & Hand Tool	Thiner & hand tools (Reff Ridgid No. 787)	2		
17	Tail Clamp	For Series 540 and 400 pump	1		
18	Lifting Chain & Hook	" Reda " original manufacture with ring in the middle Min 12,500 lbs Capacity	1		