

ZJ70DB Rig Equipment List and Specification

NO	DESCRIPTION	QTY	Unit	SPEifications	ORIGIN	REMARKS
				Water flow:984dm ³ /min Thermal rating: 1939 kW Max. slip speed:475 RPM Max. freewheel speed:700 RPM		
4	<u>Rotary table and relevant equipments</u>					
4.1	Rotary table	1	Set	Model : ZP-375 Rotary table in accordance to API 7K Table opening diameter : 37" Max. Static load : 645 Ton Max. torque : 23,870 ft.lbs Transmission ratio : 3.56	China	<u>Upgrade:</u> Rotary table the independent drive motor is fitted with an extended air duct this is a safety upgrade
4.2	Master Bushing	1	Set	One (1) 952mm (37-1/2) SMB Split Pin Drive Master Bushing body assembly	China	
4.3	Kelly Bushing	1	Set	One (1) Kelly Bushing complete with wrench less wiper assembly for 5-1/4" Hex Kelly. One (1) Kelly Bushing complete with wrench less wiper assembly for 4-1/4" Hex Kelly.	China	
4.4	Bushings	1	Set	One (1) master bushing device One (1) casing bushing One (1) bushing 2 3/8" -8 5/8" (for drilling) One (1) bushing 2 3/8" -8 5/8" (for casing) One (1) bushing 9 3/8" -10 3/4" (for casing) One (1) bushing 11 3/4" -13 3/8" (for casing) Master bushing lifting device Bushing lifting device	China	
4.5	Rotary Table Anti-Slip Pad	1	Set	Around 37-1/2" rotary table	China	
4.6	Independent drive device of rotary table	1	Set	Independent drive device of rotary table, c/w speed gear transmission, chain assembly and one inertia brake, the rotary speed can be adjusted within 0-223 rpm. Gear ratio for gear box: =1 Output speed of rotary table:0-223 RPM Cardan shaft model:BHJ290F385	China	
4.7	AC Motor	1	Set	Model:YJ31D AC motor Rated power:720kW Rated voltage:600V Rated efficiency:94% Rated power factor:0.9 Rated speed:600 RPM Rated torque:11,400N.m Rated frequency:30.5Hz Maximum constant power Speed: 1,180 RPM Used to drive independent driving device.	China	

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5	Crown Block	1	Set	Model : TC-450-2, to API 8A, 4F Max. hook 4,500 kN (500Us Tons) Number of sheaves 6+1 sets OD of sheave Ø 1,524mm (60in) OD of guide sheave Ø 1,524mm (60in) Wire line diameter Ø 38mm (1-1/2in) OD of Auxiliary sheave Ø 400mm (15-5/8in) Number of Auxiliary sheaves 3 sets Diameter of wire line for auxiliary sheaves Ø 19mm (3/4in) OD of Sand sheave Ø762mm (30in) .	China	<u>Upgrade:</u> The crown block has been upgrade with new install pad eye system and the air hoist sheaves upgraded to International standard sheaves Crosby 14" derrick and tower block model M-4941A.
6	Travelling Block	1	set	YC 450 traveling block, to API 8A Max. static hook load:4,500KN(1,010,000 Lbs) Qty. sheaves: 6 OD of sheave: 1,524 mm Diameter of drilling line: 1-1/2"	China	
7	Hook	1	set	DG450 hook, to API 8A Max. Static hook load: 4,500KN Main hook mouth diameter: 180mm Assistant hook mouth diameter: 120mm Main hook opening: 220mm Working range of spring: 200mm	China	
8	Swivel	1	Set	Model SL450 swivel in accordance to API 8A Max. Static load: 4,500 kN Max. Speed: 300 RPM Max. Working Pressure: 35 MPa Internal diameter of swivel stem: 75 mm (3") Conn. Threads: 7-5/8" REG LH to Stem& 6-5/8" REG LH to Kelly Pipe Air motor model: FMS20 Rated motor speed: 2,800 RPM Rated power: 14.7 kW Rated pressure: 0.6 MPa	China	
9	Top Drive	1	Set	Model : DQ70 BSC Nominal Drilling Depth : 7,000 m (4.5 in DP) Max Load 4,500 kN Waterway : ID 76.2 mm (3") Rated Circulation Pressure : 35 MPa (5000 Psi) Working height : 6.1 m (from top lifting bail to upper face of elevator) Supply voltage : 600 VAC	China	

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				Rated Power : 2 x 400 Hp Brake torque : 50 kN Continuous Drill Pipe Speed : 0-220 RPM		
10	<u>Mud pump unit, Drilling liquid manifold and relevant equipment</u>					
10.1	Triplex Mud Pumps	3	Set	Model : ZYF-1600 Mud pump, Horizontal triplex single acting piston pump driven by 2 VF AC motors Horse Power:1,600 HP (1,180 kW) Rated strokes: 120 SPM Stroke length: 12" (304.8 mm) Gear ratio: 4.206 : 1 Max. Pressure: 5,000 Psi (34.3 MPa) Inlet diameter: 12" Outlet diameter: 5-1/8" Max. Liner diameter: 7" (177.8 mm) Outline size LxWxH (not including pulsation dampener, discharge strainer & elbow) 174.25 x 95 x 79 inch / 4,426 x 2,413 x 2,004 mm	China	Mud pumps upgrade consist of the following: - Replace the pressure relief valve to USA origin Model O'Drill 3" Type C flanged resettable WOP 5k. - Mud pump skids made environmental improvement pump skid are now bonded to prevent Oil base mud from spilling to ground. - Fluid end liner washer pump and electric motor changed to USA origin MCM Model 118; 1" x 1 1/2" LH 416SS; 5 HP electric motor 1450 rpm 3ph 50 Hz / 380 V. - Mud pump suction dampeners upgraded to USA origin Corseted suction stabilizer Model XM 15012. - Mud pump pressure gauges replaced Origin USA Martin Decker Totco 0-5000 psi diaphragm type complete with 2" fig 1502 hammer union sensor. - All threaded connection removed all hi pressure lines all new weld tested and x rayed.
10.2	Mud Pump Pressure Meter	3	Set	Model:YK-150 Measure scope:0-160MPa	China	
10.3	Electric Motors of mud pumps	6	Set	Model:YJ31 C/C 1 AC motor Rated power:720kW Rated voltage:600V Rated efficiency:94% Rated power factor:0.9 Rated speed :600 RPM Rated torque: 11,400N.m Rated frequency:30.5Hz Maximum constant power Speed:1,180 RPM Used to drive mud pumps.	China	
10.4	Drilling liquid Manifold	1	Set	ZJGH-35S drilling fluid manifold (for double standpipes) Pipe normal bore: 4"	USA	<u>Upgrade:</u>

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				Rating working pressure: 5,000 Psi Hydraulic seal test: 5,000 Psi Strength test pressure: 10,000 Psi Working temperature: -29 °C to 121 °C Applicable medium: Fresh water, drilling fluid, crude oil, cracking fluid Connection manner: high pressure union Drive manner of gates valves: manual Standard: SY/T5244-94 (Drilling fluid manifold), API Spec16C / 16A Including dual standpipes, H shape standpipe manifold stood, and one (1) ground standpipe,etc.		Change drilling liquid manifold from China to American Product. Drilling liquid Manifold 4” Chinese dual line converted to single line to facilitate skidding the rig. All threaded connections removed. Rating Working Pressure : 10,000 Psi Hydraulic Seal : 10,000 Psi
10.5	75’ – 5,000 Psi rotary hose	2	Set	75’-5,000 Psi Rotary Hose	USA	Upgrade: Replaced with a USA origin Gates Black and Gold Kelly hose API Spec 4774 PE API Spec 7 5 K WOP ABS /CDA type approved with integral unions no treaded connection integral 5” fig 1002 hammer unions c/w safety clamps
10.6	5” Hi-Pressure Mud Line	3	Set	Pipe Hi Pressure 10K Psi , Oteco 5” Gate Valve , and all Hammer Union by Kemper 5” Fig 1002 	USA	UPGRADE Installed on pumps but due to a lot of seals washing out new rotary hoses have been installed to correct the problem. These hoses are the second spare Kelly hose & the shock hose for the second stand pipe.
10.7	Dual Stand Pipe	2	Set	Copper state rubber master driller rotary hose, 5,000 Psi WP, 10,000 Psi test, API Spec. 7 K, Grade D, c/w hnbr tube and 5” Fig. 1002butt-weld union ends, male x female. Suitable for high temp oil base mud 250 °F Safety clamp / cable and lifting eye each end. 4”ID x 20 ft, Copper state rubber master driller rotary hose, 5,000 Psi WP, 10,000 Psi Test, API spec. 7 K, Grade D, c/w hnbr tube and 5” Fig. 1002butt-weld union ends, male x female. Suitable for high temp oil base mud 250 °F. Safety clamp / cable and lifting eye each end. 4”ID x 75 ft, Dims: (crated) 6’x6’x3’ ea. Weight: 2,500 lbs ea.	USA	UPGRADE These hoses are on site. One installed in the mast the other being used on MP#3 as the reason above 10.6.
10.8	Stand Pipe Manifold	1	Set	5” Fig 1002 hammer union, b/w XXH, gv,dm,55,4x5nwxx,sd valve, gate, model dm-55, 4” x 5”, 5,000Psi WP 10,000 Psi test, 5” b/w XXH end Connections, standard service, gv,dm,45,4bwxx,sd valve, gate, model dm-45, 4”, 5000 Psi WP, 10,000 Psi test, 4” b/w XXH end Connections, standard service	USA	UPGRADE Installed from mud pumps to rig floor new standpipe manifold, but as above hoses had to be used to eliminate seal wash out.

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10.9	Ground Manifold	1	Set	All Valve Oteco 5" and all Hammer union 5 inch by Kemper Fig 1002, cooper State Super Driller jumper hose.	USA	UPGRADE
10.10	2" Cement Stand Pipe	1	Set	Copper state rubber ck / cementing hose, stainless steel armored, fire resistant, 10,000 Psi WP, 15,000 Psi test, c/w 2" Fig. 1502 integral union ends, male x female. Safety clamp / cable and lifting eye each end, 2" id x 50 ft. Dims: (crated) 6' x 6' x 3' ea. Weight: 1,800 lbs ea.	USA	UPGRADE On location, not installed still in packing box
11	<u>Mud System / Solid Control</u>					
11.1	Mud circulation and solid control	1	Set	Total capacity: 441 m ³ Efficient capacity: 355 m ³ Treating class: 5 Treating ability: > 250 m/h Mud circulation and Solid control system consist of: <ul style="list-style-type: none"> - Six (6) Mud tanks - One (1) V-type tank - One (1) Cooling water tank - Two (2) Water tanks - And relevant solid control equipments Two mixing pumps can suck in mud from anyone tank or many tank individually or simultaneously. The mud processed by two eddy flow hoppers was discharged to any tank. For the material such as polymer, clay that is difficult to decompose, hydrate and agitate, they can be mixed evenly and quickly by means of cutting pump and jet flow hoppers. Each section of this system is connected by pneumatic union, rubber gasket union, steel tube or rubber pipe. <i>"Your First Choice for Rigs & Equipment"</i>	China	<u>Upgrade:</u> Modify all mud circulation and solid control system for upgrade RIG. <ul style="list-style-type: none"> - The total capacity increased by 16 m³ with additional of new independent trip tank. - The trip tank is compartmented as 1 ea 100 bbl and 1 ea 30 bbl section. - The suction and discharge manifold are 3" and 4" butterfly valves. - The tank comes complete with two each MCM pedestal centrifugal pumps 4" x 3" x 11" with remote stop star. - All pits are now totally roofed with free standing metal roof system. - External suctions line run to each mud tank. - All mixing lines 6" remodel and all Chinese butter fly valves changed to USA origin Demco butterfly valves c/w Buna N oil resistance rubber. - Mixing pumps upgraded to USA origin MCM pedestal centrifugal pump 6" x 8" x 14" with additional lengthen of the mixing platform. - Additional mud hopper provided for reserve pits.
11.2	Dual Tandem Shale Shaker	4	Set	New shakers Derrick Model FLC 503 7G shaker process rate 560gpm efficiently running at 98% power Factor 99.13 Pyramid screens	USA	UPGRADE
11.3	Cleaner With Cones; Desander & Desilter	1	Set	- 10" Desander : Inner manifold, makes a separation between 40 and 100 microns. Each 10" cone can process 500 GPM(31.5 L/S) at 75 feet of head, a maximum of 1,500GPM processing capacity with (3) 10" cones.	USA	UPGRADE

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				- 4" Desilter : Makes a separation between 12 and 74 microns; Cones contain separate ball valves that can be individually shut off during operation to allow for increased control of flow capacities and ease of maintenance. Each 4" cone can process 80GPM (5.04 L/S) at 75 feet of head, a maximum of 1280GPM processing capacity with (16) 4" cones.		
11.4	Liquid-Gas separator	1	Set	HYQ1200-1.6 Bulk of the separator: Ø1,200mm Treatment capacity: 320/h Feed pipe : Ø 125mm Drainage pipe: Ø 250mm Gas extraction pipe: Ø 200mm Design pressure: 1.6 Mpa	China	
11.5	Vacuum Degaaser	1	Set	HZCQ240 Flow rate: 240 /h Vacuum: 280-350mmHg Motor power: 15kW Motor power of vacuum pump: 2.2/3 kW(60Hz) Rotary speed: 970/1,180(60Hz) RPM	China	
11.6	Desand Pump	2	Set	HSB8x6-11 1/2" Rotation speed : 1,750 RPM Capacity: 240 /h Pumping max. lift: 30-35m Motor power: 55 kW	China	
11.7	Agitator	15	Set	HNJ-11 Motor power: 11kW Impeller rotary speed: 58 RPM Vane number: 4 Impeller diameter: 1,000mm Impeller installation height: 400-800 mm Impeller shaft diameter: 89 mm	China	<u>Upgrade:</u> Change all bearing couplings
11.8	Agitator	1	Set	HNJ-7.5 Motor power: 7.5kW Impeller rotary speed: 58 RPM Vane number: 4 Impeller diameter: 800mm Impeller installation height: 400-800 mm Impeller shaft diameter: 76 mm	China	<u>Upgrade:</u> Change all bearing couplings
11.9	Calculate measure pump	1	Set	HSB4*3-11" Rotation speed: 1,750 RPM Capacity: 60 /h Pumping max. lift: 28-35m Motor power: 15kW	China	

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11.10	Water Pump	2	Set	HSB4x3-11 " Rotation speed : 1,750 RPM Capacity: 60 /h Pumping max.lift: 28-35m Motor power: 15 kW	China	
11.11	Cooling Pump	2	Set	HSB6x5-12 Rotation speed : 1,750RPM Capacity: 200 /h Pumping max.lift: 28-35m Motor power: 15kW	China	
11.12	Mud hopper	2	Set	HJ 250 Fluid feed pressure : 0.3-0/6 Mpa Outlet back pressure : 0.04 Mpa Flow Rare of fluid feed : 260 – 300 /h Flange nominal diameter of inlet and outlet : 150 mm and Additional 1 added to reserve tanks GDS Model hi cap. Feed rate 1100-1400 GPM 40 psi Solid feed rate 400-600lbs/min 1 3/4" bore jet	China	<u>Upgrade:</u> Additional one (1) Mud hopper to reserve tank. GDS Model hi cap. Feed rate 1,100 – 1,400 GPM @40 Psi Solid feed rate 400 – 600 lbs/min with 1- 3/4"bore jet
11.13	Jet hopper	1		HSH-200 Fluid mixing capacity: 200 /h Inlet and outlet size: 6" x 6"	China	
11.14	Shearing pump			HJQB-120 Motor power: 45kW Discharge capacity: 120m/h Suction diameter: 150mm Pumping max. lift: 45m Rpm of impeller: 2,200 RPM Discharge diameter: 125mm 	China	<u>Upgrade:</u> MCC brand USA 6 x 8
11.15	Mud mixing pump	1	Set	HSB8x6-12" Rotation speed : 1,750RPM Capacity: 240 /h Pumping max. lift: 30-35m Motor power: 55 kW	China	<u>Upgrade:</u> MCC brand USA 6 x 8
11.16	Low speed centrifuge	1	Set	LW500 x 1000-N Rotary drum speed: 1,700 RPM Main motor type: YB200L-4 Main motor power: 30kW Main motor rated speed: 1,470 RPM Pair motor type: YB160M-6 Pair motor power: 7.5kW Pair motor rated speed: 970 RPM	China	

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11.17	High speed centrifuge	1	Set	LWG450 x 1260-N Rotary drum speed: 2000-3000 r/min Main motor power: 37kW Main motor rated speed: 1480 r/min Pair motor power: 7.5kW Pair motor rated speed: 970 r/min	China	
12	Power system and electric control system					
12.1	Diesel engine generators set	4	Set	Mitsubishi MOG1200 Engine model:S12R-PTA-S Engine speed:1,500 RPM Generator output: 1,600kVA (1,040kW), 600V/50Hz, 3 phase, PF=0.65.	Japan	
12.2	Emergency generator set	1	Set	Model:C15/GENERATOR Rated speed: 1,500 RPM Continuous power:320E kW Rated voltage/frequency:400V/50Hz	USA	
12.3	Engine Generator	5	Set	5 x generator house 4 for main diesel generator package and 1 for auxiliary generator package each house has a center split door at cooling fan end and push type aside doors at both sides.	Japan	<u>Upgrade:</u> Engine Generator Buildings All exhaust mufflers now have spark arresting and are wrap with heat resistant cladding
12.4	Electric Transmission System	1	Set	Including generator control cubicle, VFD control cubicle, 600V/400V transformer, 400VAC distribution system, MCC system, PLC system, driller operating console, cables, VFD houses, and so on. Generator control cubicles are furnished for control diesel engine/generator sets. As required all of generators or any two of them can be run parallel along with sharing load evenly .The revolution speed and voltage is controlled in closed loop; Power is restricted; Parameters are measured and displayed; Warning and protections are realized. VFD control device: Input voltage: 600VAC, 3 phase, 50Hz Rated output current: 1,080A (driving Drawworks),860A Basic output current: 983A(driving Drawworks),783A Max. Output current: 1,469A (driving Drawworks),1,170A Transformer capacity: 1,250kVA,600V/400V—220V Transformer Connecting method: D,yn11 MCC control system: The AC motors rated ≥30kw are started in VFD house and only the explosion-proof starting buttons are mounted beside motors. The AC motors rated ≤30kw are control	Japan	<u>Upgrade:</u> Increasing rig cable for skidding up to 150 ft
12.5	Mobile Generator Set	2	Set	Mobile Gen Set for Rig Building in night time , Model : SV-400 GF Diesel engine model : Volvo TAD 1641 GE Rated Power : 400 kW Rated Frequency : 50 Hz	Sweden	<u>Upgrade:</u> Mobil Generator Sets upgrade electrical switch panel to allow 3 ways flow path of current the main rig can now supply the rig main and mini camps if located

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				Rated Voltage : 400 V Power Factor : 0.8		close to site or gen set 1 or 2 can be brought on line for the camps.
12.6	Ex-proof electrical power systems	1	Set	Full rig site standard blast proof electrical system: One (1) height indicating lamps of derricks, illumination fluorescent lamps, sub-structure of rig, mud tank section, in site of rig and around sit lamps, searchlight, spotlight and accessories. Two (2) all AC motors and other electrical devices and power and control circuit system	China	<u>Upgrade:</u> 6 Ex-proof electrical power systems: The rig being made to skid now all electrical cables where replaced with longer cabling. The grass hopper was modified and move to a new position. Additional steel cable tray suitcase where fabricated for the rig to allow skidding up to 150 ft
13	<u>Air supply and oil supply equipments</u>					
13.1	Air compressors	2	Set	2 x LS-12-50-HH screw compressor Nominal volume flow:5.6mm ³ /min(197.8CFM) Rated air discharge pressure:10bar(145 Psi) Max. working pressure:10.7bar(155 Psi) Rated power:37kW (50HP) Rated speed:1,475 RPM Voltage/frequency:380/415V 50Hz	USA	
13.2	Air Dryer	1	Set	Model:SCR-240 Rated power: 1.13kW Working pressures Mpa (145 psi) Capacity :6m ³ /min(212ft ³ /min)	USA	
13.3	Air tank	1	Set	Air tank capacity:4m ³ +2.739m ³ (4m ³ tank is settled under the rig substructure)		
13.4	Fuel Tanks	1	Set	One (1) 50,000 Liter Tank ISO double walled One (1) 50,000 Liter Tanks One (1) Night fuel tank of 18+4 m ³ capacity.	China	
14	<u>Rig instruments and relevant equipments</u>					
14.1	Instrumentation	1	Set	Model.SZJ Drilling Instrumentation System consists of driller's console, data acquisition unit (DAQ), computer terminal and software, various sensors, cables and hydraulic hoses. The system can test and display hook load .weight on bit .rotary torque, standpipe pressure, tong torque, power tong torque, Rotary RPM, SPM Pump #1, 2&3, accumulated SPM, inlet mud volume .total mud in, mud return flow, mud pit 1#-6# volume, total mud pit volume, content of total hydrocarbon, and H2S, position of traveling block, well depth and other parameters during drilling, and help the driller to judge the operating situation of drilling rigs.	China	

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				The parameters can be recorded, displayed and plotted with indoor computer as well as with a recorder of general weight indicator.		
14.2	Deviation Survey	1	Set	Model:LHE3000 Pressure resistance: 150MPa Temperature tolerance:260°C Connecting picture: Apex A-3 Inclination:0~60° Azimuth:0~360° High-side tool-face:0~360° Magnetic tool-face:0~360° Timing:1 ~99mins Battery pack:7.2v rechargeable	China	
14.3	Survey Unit	1	set	Model: CJ6000(F) Measure depth: 7000m Power :7.5kW Working pressure of hydraulic system:15.7MPa(2,276 Psi) Max lifting force: 4077N Diameter of steel wire:Ø2.5mm	China	
15	<u>Well Control Equipment & BOP Configuration</u>					
15.1	<u>Blow Out Preventer</u>					
15.1.1	FH53-21 Annular BOP	1	Set	20-3/4"x3,000 Psi, Annular	China	
15.1.2	2FZ53-21 Double Ram BOP	1	Set	20-3/4"x3,000 Psi, Double ram	China	
15.1.3	FS53-21 Drilling Spool	1	Set	Drilling spool for 20-3/4" BOP stack with 2 HCR valve on each side <i>"Your First Choice for Rigs & Equipment"</i>	China	<u>Upgrade:</u> 3 FS53-21 Spool a new spool has been supplied to allow the 21 3/4" annular preventer to be used as a diverter side outlets 10"
15.1.4	FH35-35/70 Annular BOP	1	Set	13-5/8"-5,000 Psi.	China	
15.1.5	2FZ35-70 Double Ram BOP	1	Set	Double ram, 13-5/8"x10,000Psi.	China	
15.1.6	FZ35-70 Single Ram BOP	1	Set	13-5/8"x10,000Psi.	China	
15.1.7	FS35-70 Drilling Spool	1	Set	13 8/5"x10,000 Psi, side outlet flanges 4 1/16"x10,000 Psi	China	
15.1.8	FZ35-70 Ram Sub- Assemblies	1	Set	9 5/8"x10,000 Psi, two (2) 7"x10,000 Psi, two (2) 5"x10,000 Psi, four (4) 5 1/2"x10,000 Psi, two (2) 4 1/2"x10,000 Psi, two (2) 3 1/2"x10,000 Psi, two (2) 4"x10,000 Psi, two (2) 2 7/8"x10,000 Psi, two (2)	China	

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15.1.9	FZ35-70 Shear Blind Ram	1	Set	Shear Ram for 5" DP	China	
15.1.10	2FZ53-21 Pipe Ram Assy	1	Set	13 3/8"x5,000 Psi, one (1) 5"x5,000 Psi, two(2)	China	
15.1.11	Double Studed Adapter Flanges (DSAF)	1	Set	11"-3M x 13 5/8"-5M, one(1) 13 5/8"-3M x 13 5/8"-5M, one (1) Flow Nipple flanges 13 5/8"-5M , one (1) 21 1/4"-2,000 Psi x 20 3/4"-3,000 Psi, three (3) Drilling spool 20 3/4"-3M Psi x 3M Psi outlet 4 1/16"-5M Psi (BOP side), one (1) 4 1/16"-5M x 4 1/16"-10M, two (2) 13 5/8"-3M x 13 5/8"-5M, one (1) 13 5/8"-5Mx 13 5/8"-10M, one (1) 11"-10Mx 13 5/8"-10M, one (1) 11"-5Mx 13 5/8"-10M, one (1) 7 1/16"-10Mx 13 5/8"-10M, one (1) 7 1/16"-5Mx 13 5/8"-10M, one (1) 4 1/16"-10,000 Psi HCR valve, three (3) 4 1/16"-10,000 Psi Manual Gate valve, three (3) 4 1/16"-10,000 Psi x WECO fig 1502, four (4) Cross over 4 1/2" IF Pin x WECO Fig 1502, two (2) Cross over 3 1/2" IF Pin x WECO Fig 1502, two (2) Cross over 13 3/8" Buttress pin x 4 1/2" IF Box, One (1) Cross over 9 5/8" Buttress pin x 4 1/2" IF Box, One (1) Cross over 7" Buttress pin x 4 1/2" IF Box, One (1)	China	Upgrade: Add some new spool
15.2	Kill manifold	1	Set	One (1) complete set of the kill manifold, include full set of the valves. 10,000Psi WP. Model:YG78/70 Working pressure:70MPa(10,000 Psi) Working medium: Nature gas, crude oil, water Working temp.: -29 to 121 °C Nominal bore: master bore:77.8mm(3 1/16") Connection: API flange connection Including one (1) set of skid	China	
15.3	Choke Manifold	1	Set	One (1) complete set of 4-1/16"Choke Manifold — 10,000 Psi WP. Model: YG/Y103-70/78 Working pressure:70MPa(10,000 Psi) Working medium: Nature gas, crude oil, mud and all kinds of drilling fluid Working temp.: -29 to 121 °C Nominal bore: master bore: 103 mm(4 1/16") Connection: API flange connection Including one (1) set of hydraulic choke manifold control box and one set of skid	China	
15.4	BOP Control System	1	Set	Model: FKQ800-8 Mounted on an oilfield skid of heavy duty welded steel construction: Normal volume: 40x20L Effective volume:400L Alignment: Side	China	

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				Volume of oil reservoir: 1,500 L Electric pump: 42 L/min Pneumatic pump:11x2 Motor power:18.5kW Working pressure: 21 MPa (3,000 Psi) Twelve (12) station fluid BOP control manifold Two (2) Remote control panel, One (1) at drill floor and other in Tool pusher office Accumulator model: ANXQ-L11/3000-A		
15.5	Bop's Lines, Hoses And Connectors	1	Set	Eighteen (18) 1" steel pipes for 3,000 Psi Working Pressure. Eighteen (18) 1" fire resistant BOP Hose Approx. 12m long. Eighteen (18) 1" fire resistant BOP Hose Approx. 4 m long.	China	
15.6	Pumping Lines And Chicksan Loops	1	Set	Two(2) set: 2" x 5,000 Psi kill line from standpipe manifold to cementing unit with 1502 hammer unions, one (1) is about 32.6m;another 36m hose pipe. Two(2) set :2" x 5,000 Psi reverse circulating line from rig floor to choke manifold, one (1) is about 18.5m;another 21m hose pipe Two (2) set :2" x 10,000 Psi, 16 ft. 360 degree chicksan loops with 1502 hammer unions	China	
15.7	Cement Lines	1	Set	One(1) set of cement lines, 2" IDx15,000Psi(105MPa) working pressure. 1502 union	China	
15.8	BOP Test Stump	1	set	High pressure test unit model:QST140-J Rated working pressure: 5,000 Psi F53/21 Test bench is used to test F53/21 BOP stack. F35/70 Test bench is used to test F35/70 BOP stack.	China	
16	<u>Gas Detectors and Safety Equipments</u>					
16.1	Gas Detectors	1	Set	Model: KB8000 gas controller made up with a control pane, detectors, and control boxes. One (1) H2S detector and one (1) combustibile detector located at bell nipple. One (1) H2S detector and one (1) combustibile detector located at shaker One (1) H2Sdetector and one (1) combustibile detector located at mud tank.	China	
16.2	Portable Gas Detectors	4	Set	Model: BX618, Four (4) Phd Plus (combustibile gas, 02, H2S, S02) with alkaline battery.	China	
16.3	Safety Equipment	1	Set	1 MCH6/SH Breathing air compressor unit 3 Clothes 2 1x1m,Fire-extinguishing Blanket 3 2282561 Gloves 6 DL31 Safety Belt 100 Helmets,50 for white,50 for blue 100 Fire Boots 10 for 6",35 for 7",35 for 8", 10 for 9", 10 for 10" 5 First aid kit 2 53L eye browser 10 12" Fire extinguisher 10 THB/10-15min respirator	China	

ZJ70DB Rig Equipment List and Specification

NO	DESCRIPTION	QTY	Unit	SPEIFICATIONS	ORIGIN	REMARKS
				15 RHZKF 6.8/30 30min respirator		
17	Miscellaneous equipments					
17.1	Line spooler	1	Set	Model:BDS8-D Rated output torque: 10,000NM Range of speed: 3.2-17.5 RPM	China	
17.2	Drilling Line	1	Set	Two (2) roll of drilling line (each 1,200m) to API 9B, 6 X 19S IWR, 1-1/2" CW: support frame for line drum/cover.	China	
17.3	Wash downs Pump	2	Set	Model:HDS698C Power supply:230V/3-50Hz/4.5kW/16A Max. feed temperature:30°C Min. feed volume:900L/h Max. feed pressure:0.6MPa Water flow rate:300-700L/h Operating pressure of water (using standard nozzle): 3.2 – 16 MPa Max. Excess operating pressure: 17.6 MPa Steam flow rate: 300 L/h Max. operating temperature of hot water: 98 °C Working temperature steam operation: 98 -155 °C	China	
17.4	Cellar pump	1	Set	Model: 80YW50-25 Caliber: 80 mm Flow: 50 m³/h Delivery head: 25 m Speed: 2,900 RPM Power: 5.5 kW		Upgrade: Submersible pump has been supplied Spec: 1,450 RPM, Cap.. 80m³/hr., Head 15m, Power 7.5 kW 380V/50 Hz, discharge outlet 4".
17.5	Communications	1	Set	MOTOROLA interphone (contain replenish electricity device)	China	
17.6	Cup Testers	1	Set	One (1) for 13-3/8" casing. One (1) for 9-5/8" casing. One (1) for 7" casing.	China	
17.7	Bit Breakers	1	Set	Two (2) 26" (660.4mm) bit breaker. Two (2) 17-1/2" (444.5mm) bit breaker. Two (2) 12-1/4" tool bit breaker. One (1) 8-1/2" tool bit breaker. One (1) 6" tool bit breaker. One (1) 5 7/8" tool bit breaker.	China	
17.8.1	Manual Tongs	1	Set	Model:Q3 3/8-13 3/8/75 Rated load:75kN.m Appliance range:3 3/8-13 3/8"	China	
17.8.2	Manual Tongs	1	Set	FDT /BJ refurbished manual rig tongs With 4"-8 1/2" & 8 1/2" to 12" jaws.	USA	
17.9	Casing Tong	1	Set	Model:TQ340-35Y Size Range: 4-1/2" to 13-3/8" (101.6mm to 340mm)	China	

ZJ70DB Rig Equipment List and Specification

NO	DESCRIPTION	QTY	Unit	SPEIFICATIONS	ORIGIN	REMARKS
				Max. Torque: high gear:4-5.6kN.m(2,950 – 4,130ft.lbf) low gear:26-35kN.m(19,176 – 25,815ft.lbf) Opening width:350mm(13.78") Head spinning speed: high gear:57-95 RPM low gear:9-15 RPM Rated pressure:21MPa(3,045 Psi) Working flow:110-170L/min(29 – 45 GPM) Max. flow:200L/min(52.5 GPM) Lifting distance:615mm(24.2")		
17.10	Drill Pipe Tong	1	Set	Model:ZQ203-125 II Rated flow of hydraulic system:114L/min(30 GPM) Max. working pressure of hydraulic system:20MPa(2,900 Psi) Working pressure of air system:0.5~0.9MPa(75~135 Psi) Max. Torque : 92,000 ft.lbf (125,000 Nm) Jaws type:8",5 1/2",5",4 1/2",3 1/2" Applicable range: 8"(8-7.6") DC, 5-1/2" (7-6.6") drill pipe joint, 5"(6.3-5.9") drill pipe joint, 4 1/2"(4.75-5.3") drill pipe joint, 3-1/2" (4.75-4.3") drill pipe joint.	China	
17.11	Level Timbers	24	Piece	210x220x3000mm,each	China	Upgrade: Rig Mat system
17.12	full set of general tools	1	Set		China	
17.13	Mud pump inflator	1	Set	Model: 1 -0.27/150A Output capacity:0.27m3/min; Rated output air pressure: 14.7MPa; Rated speed: 1,000 RPM Stroke:40mm; Intake temperature for class one: ≤40°C; Output temperature: ≤180°C; Output temperature after cooling:≤60°C; Water pump flor:0.6 m3/h; Motor power: 7.5kW	China	
17.14	400A electric welder	2	Set		China	
17.15	Acetylene welder	1	Set		China	
17.16	Full set of rigging and lifting ropes	1	Set		China	
17.17	Mobile wetting agent append device	1	Set		China	
17.18	Hydraulic wire rope scissor	1	Set		China	
17.19	reeving wire	6	Set		China	
17.20	QL16 mechanical jack	1	Set		China	
17.21	3 Ton manual crane	1	Set		China	
17.22	5 Ton nemali crane	1	Set		China	
17.23	Extension aluminum ladder	1	Set		China	

ZJ70DB Rig Equipment List and Specification

NO	DESCRIPTION	QTY	Unit	SPESIFICATIONS	ORIGIN	REMARKS
17.24	Rat hole Digger.	1	Set	Model: WLYL-300 Diameter of drilled hole 330 mm. Depth of drilled hole 3,000mm Three drill stems are used. The effective length of each stems is 1,000mm. Operation time: 3~10 minutes for each drill stem. Operation mode: Manually, two persons are needed. Electric motor 5.5kW	China	
17.25	Roof of Mud Tank	15	Piece	Permanent Roof along of Mud Tank Total Roof : 15 Ea	China	
17.26	Fuel Pump Skid	1	Set	Fuel Pump Skid; two (2) ea centrifugal pump	USA	
17.28	River Water Pump	1	Set	Engine : <ul style="list-style-type: none"> • John Deere • Fully refurbished by Genavco • 120hp @ 2,500rpm • 680GPM/50PSI @ 2,000RPM • All speed mechanical Governor • Weatherproof Control panel • Manual shift 9" PTO Clutch • 12 volt electrical starter & alternator • High temperature/low oil safety shutdown system Centrifugal Pump : <ul style="list-style-type: none"> • 6" x 5" x 14" hard iron impeller • Mission Magnum Pump • Optional 8" suction adaptor plate. 	USA	
17.29	Rear Walkway	1	Set	Additional Walkway along of Mud Tank		
17.30	RIG Stair	1	Set	Additional Rig Stair for life side of RIG		
17.31	Cable Tray	1	Set	Make new Extension Cable tray from VFD Cabin to Rig Floor.		
17.32	Extension V-door	1	Set	New Fabricated Extension V-Door		
18	<u>Spare parts</u>	1	Lot	For one year normal and critical spare parts of all the equipment of the rig.	China	
19	<u>User manual and drawing manual</u>	3	Set			

ZJ70DB Rig Equipment List and Specification

NO	DESCRIPTION	QTY	Unit	SPESIFICATIONS	ORIGIN	REMARKS
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HANDLING TOOLS

<u>2.1</u>	<u>Subs & Valves</u>					
2.1.4	INSIDE BOP	2	set	One (1) Inside BOP valve (Gray-valve) 10,000 psi WP with 4½” IF pin x box connections c/w valve releasing tool.		
2.1.5	INSIDE BOP	2	set	One (1) inside BOP valve (Gray-valve) 10,000 psi WP with 3½” IF pin x box connections c/w valve releasing tool.		
2.1.6	CHECK VALVE	2	set	One (1) Landing subs for drop-in check valve with 4½” IF pin x box connections, c/w two dart valves of 10,000 psi WP with fishing neck & c/w redressing kits. Fishing tool for dart valve is required tool.		
2.1.7	CHECK VALVE	2	set	One(1) Landing subs for drop-in check valve with 3½”IF pin x box connections, c/w two dart valves of 10,000 psi WP with fishing neck & c/w redressing kits. Fishing tool for dart valve is required tool.		
<u>4</u>	<u>HANDLING EQUIPMENT</u>					
<u>4.1</u>	<u>DP Elevator</u>					
4.1.1		2	set	Two (2) 5", 18 Degree -350 Ton Bottleneck Elevators.		Un-known
4.1.2		2	set	Two (2) Drill Pipe Slip Assemblies,		
4.1.3		2	set	Two (2) 4", 18 Degree -350 Ton Bottleneck Elevators.		
4.1.4		2	set	Two (2) 4" Drill Pipe Slip Assemblies,		
4.2	PS-16 AIR OPERATED SLIPS	1	set	One (1) PS-16 (or equivalent) Air Operated Slips, for use with 27- 1/2”MSPC casing bushing.		
<u>4.3</u>	<u>DC Slip</u>					
4.3.1		2	set	Two (2) 9-1/2”Drill Collar Slip with insert.		Un-known
4.3.2		2	set	Two (2) 8”Drill Collar Slip with insert.		
4.3.3		2	set	Two (2) 6-1/2”Drill Collar Slip with insert.		
4.3.4		2	set	Two (2) 4-3/4”Drill Collar Slip with insert.		
<u>4.4</u>	<u>Safety Clamp</u>					
4.4.1		1	set	One (1) 14” Safety Clamp.		

ZJ70DB Rig Equipment List and Specification

NO	DESCRIPTION	QTY	Unit	SPESIFICATIONS	ORIGIN	REMARKS
4.4.2		1	set	One (1)11" Safety Clamp.		
4.4.3		1	set	Two (2) 9-1/2" Safety Clamp.		
4.4.4		1	set	Two (2) 8" Safety Clamp.		
4.4.5		1	set	Two (2) 6-1/2" Safety Clamp.		
4.4.6		1	set	Two (2) 4-3/4" Safety Clamp.		
4.5	<u>DC Elevator</u>					
4.5.1		2	set	One(1) 150 Ton Centre Latch Collar Type Elevator for 9-1/2" DC.		Un-known
4.5.2		2	set	One (1) 150 Ton Centre Latch Collar Type Elevators for 8" DC.		
4.5.3		2	set	One (1) 150 Ton Centre Latch Collar Type Elevators for 6-1/2" DC.		
4.5.4		2	set	One (1) 150 Ton Centre Latch Collar Type Elevators for 4-3/4" DC.		
4.6	<u>Casing Side Door Elevator</u>					
4.6.1		2	set	250 Ton Side Door Elevator 2 sets for 20" Casing.		Un-known
4.6.2		2	set	350 Ton Side Door Elevators 2 sets for 13 3/8" Casing	USA	<u>Upgrade:</u> Add one (1) ea USA origin BJ type SLX double latch side door elevator for 13 3/8" Casing
4.6.3		2	set	350 Ton Side Door Elevators 2 sets for 9 5/8" Casing	USA	<u>Upgrade:</u> Add one (1) ea USA origin BJ type SLX double latch side door elevator for 9 5/8" Casing
4.6.4		2	set	150 Ton Side Door Elevators 2 sets for 7" Casing	USA	<u>Upgrade:</u> Add one (1) ea USA origin BJ type SLX double latch side door elevator for 7" Casing
4.7	<u>Casing Spider Elevator</u>					
4.7.1		1	set	One (1) 350 Ton SL 355.6 mm (14") slips type casing slips/spider body complete with air manual operation with slips and guides.		Un-known
4.7.2		1	set	One (1) 350 Ton SL 355.6 mm (14") slips type casing elevator/spider body complete with air manual operation with slips and guides.		
4.8	37 1/2" x 20" Split Casing Bushing	1	set	One (1) 698mm (37-1/2") x 508mm (20") SCB (or equivalent) Split Casing Bushing for 37-1/2" National Rotary Table.		
4.9	<u>Casing Slips</u>					

ZJ70DB Rig Equipment List and Specification

NO	DESCRIPTION	QTY	Unit	SPESIFICATIONS	ORIGIN	REMARKS
4.9.1	20" Casing Slip	1	set	One (1) 508 mm (20") CL Casing Slip complete with Buttons.		Un-known
4.9.2	13-3/8" Casing Slip	1	set	One (1) 340 mm (13-3/8") Casing Slip complete with Buttons.		
4.9.3	9-5/8" Casing Slip	1	set	One (1) 244.5 mm (9- 5/8") CL Casing Slip complete with Buttons.		
4.9.4	7" Casing Slip	1	set	One (1) 177.8 mm (7") Casing Slip complete with Buttons.		
4.10	<u>Casing Elevator</u>					
4.10.1	20" Casing Elevator	2	set	Two (2) SJ-6 Single Joint Collar Type Elevators for 508 mm (20") casing.		Un-known
4.10.2	13-3/8" Casing Elevator	2	set	Two (2) SJ-5 Single Joint Collar Type Elevators for 339.7 mm (13 3/8") casing.		
4.10.3	9-5/8" Casing Elevator	2	set	Two (2) SJ-4 Single Joint Collar Type Elevators for 244.5 mm (9- 5/8") Casing.		
4.10.4	7" Casing Elevator	2	set	Two (2) SJ-3 Single Joint Collar Type Elevators for 177.8 mm (7") Casing.		
4.11	Link Elevator	2	set	One (1) set Elevator Links 3 1/2" OD, 132" long 350 MT. One (1) set Elevator Links 3 1/2" OD, 142" long 500 MT.		
4.12	<u>Float Valve</u>					
4.13.1		2	set	One (1) 7-5/8" Reg Float Valve.		Un-known
4.13.2		2	set	One (1) 6-5/8" Reg Float Valve.		
4.13.3		2	set	One (1) NC 50 Float Valve.		

CAMP & ACCOMODATION

"Your First Choice for Rigs & Equipment"

1	Drilling Supervisor container	10000*2800*2800	2	Each with two offices and two toilets each office has one office table, one boss chair,one electrical kettle,one air condition, two fluorescent lamp, one smoke alarm, two single sofa,one end table, two file cabinet, one exhaust fan. one window, one emergency lamp, one TV, one DVD; each toilet include one toilet, one fluoresent, one wash basin, one exhaust fan. one mirror, one toilet paper holder, one soap holder, door is composed of two parts.
2	Tool room	10000*2800*2800	4	One side is whole open door. one air condition, one emergency lamp, two fluorescent lamp, one smoke alarm, three steel shelf, two exhaust fan, two fire extinguisher
3	Skid	12,000*2440*400	6	Skids for containers: Three containers will be mounted on a skid.
4	Water tank	10000*2800*2800	1	Include two water pump PW404EA,two water tank each is 16m3&double skin, two fluorescent lamp, one valve

ZJ70DB Rig Equipment List and Specification

NO	DESCRIPTION	QTY	Unit	SPESIFICATIONS	ORIGIN	REMARKS
5	Machine shop building <u>Change to be warehouse store room</u>		8000*2800*2800	1		Machine shop Building including Tool Room with 12" Chuck.
6	Freezer		10000*2800*2800	1		Three parts: one for storage, include two stainless steel shelf, one fluorescent lamp, one smoke alarm, two fire extinguisher; another for chiller, include two stainless steel shelf, the third is for freezer, include two s/s shelf, but this building doesn't include the condenser unit, because they don't work in the high temperature environment.

