

WORKOVER RIG
NOV Cooper LTO-750



Description

Rig name

Owners

Rig type

Rig year of construction or assembly

Rig nominal drilling capability with 3-1/2" OD drill pipes

Total truck trips required to move the rig between locations

750 HP Rig
Rig-2
Provided to qualified buyers
LTO-750
Rebuilt in 2010
3,000 m.
Rig Components = 25 loads

Estimated rig moving time between locations for a distance of 15 km	1 day (without main camp)
Current rig status (drilling-idle-etc.)	Stacked
Current rig location	Hamriyah Free Zone, Phase-2, Sharjah, U.A.E
Average fuel consumption during normal drilling operations	17 bbls/day (2.7 m ³ /day)

SECTION A: HOISTING EQUIPMENT

A1	Drawworks	
	Make and type:	NOV COOPER LTO-750 Double Dram
	Minimum Input power (hp)	750 HP
	Mechanically driven	Yes
	Maximum Line Pull	55,700 lbs.
A1.1	Drilling Line	
	Size (in)	1-1/8" 28.6 mm
	Length (ft)	N/A
	Fast line guide	N/A
	Auxiliary brake/hydromantic brake	Parmac 22" Single Rotor Hydromatic Brake.
	Crown-o-matic	ACADEMY CROWN SAVER (C1Z1)
A1.2	Dead Line Anchor	
	Dead line anchor make and type	HERCULES Manufacturing Company, HA-118T
	Built as per API standard	Yes
	Rated load capacity (lbs)	45,000 lbs
	Sensor type	Elect. Sensor, deadline Sheave
	Location	Carrier
A2	Mast	
	Make and type	NOV Cooper P118-365, Double, Hydraulic Telescopic
	Clear height (ft)	118 ft (36 m.)
	Mast Gross Capacity (lbs)	545,000 lbs.
	Static Hook Load Capacity (lbs)	350,000 lbs. (8 Lines)
	Max. lines strung on travelling block	8
	Dimensions of top of mast (ft x ft)	5.0' x 4.83'
	Dimensions of base of mast (ft x ft)	7.5' x 8.75'
	Dimensions must allow installation of a Top Drive	N/A
	Ladders complete with safety cages	No, Sala retractable. Life line
	Upper part of mast painted for day signalling to Air Navigation	Yes
	Red lights as per regulation on top of mast	Yes
	Monkey board with utility winch	No Winch
	Casing stabbing board adjustable, air/electrical operated	BENTEC / Electrical
	Casing stabbing board adjustable from to (ft)	12 ft. (3.65 m.)
Racking platform capacity	7,800 ft (5" drill pipe) 2600 m	

	Bumper blocks under crown	No
	Explosion proof derrick lighting system (type)	Yes
A2.1	Crown Block	
	Type and make	Cooper D-586
	Capacity (lbs)	265,000 lbs
A3	Mast Substructure	
	Make and type	DEUTAG DRILLING Model 260-256, Box on Box
	Nominal height (ft)	19 ft. (5.80 m.)
	Set back load (lbs)	265,000 lbs.
	Casing Capacity (lbs)	350,000 lbs.
	Clear height between rotary beams and ground level	17 ft. (5.20 m.)
	BOP handling system	Yes
A4	Rig Floor	
	Rig floor dimensions	
	Rig floor height from ground level	
	Anti slipping pad	
A5	Driller's Dog House	
	Dimensions L-W-H	14 ft. 1 in. X 7 ft. 10 in. X 9 ft.
	Complete with Instrumentation & Work Area	Yes
A6	Hook-Block Assembly	
	Hook-Block, make and type:	IDECO UTB-160-4-30
	Hook complete with spring and locking device	Yes
	Last date of inspection of travelling assembly including the links	2018

SECTION B: ROTARY EQUIPMENT

B1	Rotary Table Equipment	
	Make and type	NATIONAL C-205
	Opening size (in)	20.5 in.
	Static load rating (lbs)	550,000 lbs.
	RPM	120
	Rotary table driven by	Mechanical driven via draw-works
	Forward and back speeds	Yes
	Master bushing: Make and type	Varco MSP
	Master bushing insert bowl size	Number 1, 2, 3 bowls
	Kelly bushing for Kelly 5" DP: make and type	Yes, Varco HDP (Optional)
	Kelly bushing for Kelly 4 1/2" DP: make and type	Yes, Varco HDP
B2	Swivel	
	Make and type	N/A

Static capacity of swivel (lb)	N/A
Bearing rating at 100 RPM (lb)	N/A
Work pressure (psi)	N/A
Complete with access fitting for wire line	N/A

B3
B3.1

Drilling System

Kelly 5 1/4"

Make	N/A
Quantity	N/A
Type	N/A
Size (in)	N/A
Connection	N/A

Upper Kelly Cock

Quantity	N/A
Make	N/A
Type	N/A
Outside diameter (in)	N/A
Working pressure (psi)	N/A

Lower Kelly Cock

Quantity (one to be used as full opening safety valve)	N/A
Make	N/A
Type	N/A
Outside diameter (in)	N/A
Working pressure (psi)	N/A
Kelly saver subs, number, connection	N/A
Mud check Valve	

B3.2

Kelly 4 1/4"

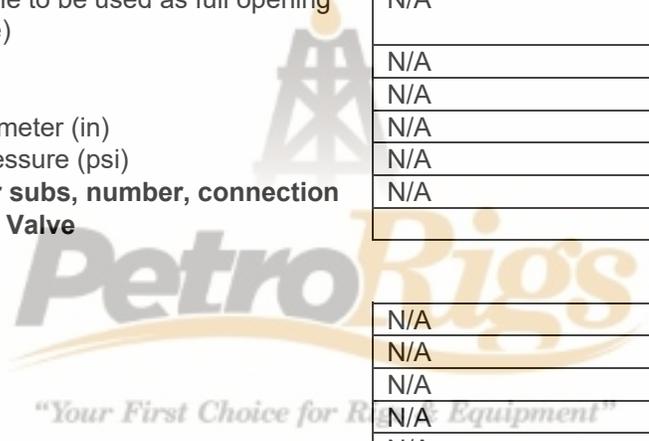
Quantity	N/A
Make	N/A
Type	N/A
Size	N/A
Connection	N/A

Upper Kelly Cock

Quantity	N/A
Make	N/A
Type	N/A
Outside diameter (in)	N/A
Working pressure (psi)	N/A

Lower Kelly Cock

Quantity (one to be used as full opening safety valve)	N/A
Make	N/A
Type	N/A
Outside diameter (in)	N/A
Working pressure (psi)	N/A
Kelly saver subs, number, connection	N/A



B4	Kelly Spinner	
	One capable of both left and right rotation	N/A
	Make and type	N/A
	Connection	N/A
	Power (ft-lb)	N/A

SECTION C: PUMPING AND HIGH-PRESSURE DISCHARGE SYSTEM

C1	Mud Pumps	
	C1.1	Mud Pumps
	Total installed	1
	Make	Continental Emsco
	Type	F-650
	Max. input power (hp)	1000HP @ 150 SPM
	Electric/ Mechanic Drive	Mechanical Drive
	Pulsation Dampener make	Hydril K-20
	Reset Relief Valve make	Retsco
	Reset Relief Valve type	C – 3 in.
	Strainers in suction	Yes
	Strainers in discharge	Yes
	Full range of liner required	TBA
C1.2	Mud Pump Driving Motors	
	Quantity	1 ea.
	Motor make	Caterpillar
	Motor type	3412
	Rated continuous power	600HP
C1.3	Mud Pump Charging Pump	
	Make	Mission
	Type	Mission Magnum 6" x 5" x 11"
	Impeller diameter (in)	11"
	Driven by motor power (hp)	60HP
	Rotating speed (rpm)	engine dependent
C1.4	Mud Pump Suction Lines	
	Suction line ID (in)	6"
C1.5	Mud Pump Suction Dampeners	
	Make and type	N/A
C1.6	Mud Pump Suction Filters	
	Make and type	Holed metal plate
C1.7	Mud Pump Discharge Line Filters	
	Make and type	N/A
C1.8	Mud Pump Discharge Lines Flexible Section	

Inside diameter (in)	5"
Rated working pressure (psi)	5,000

C1.9 Mud Pump Discharge Lines Rigid Section

Inside diameter (in)	5"
Rated working pressure (psi)	5,000

C2 Rig Floor Mud Manifold

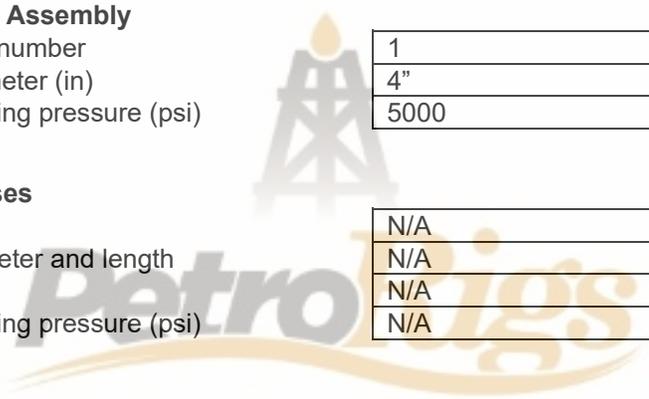
Mud manifold valves quantity	6 ea.
Mud manifold valves make-type	Anson Mud Valves 4" and 2"
Valves size and work pressure:	5000 psi
Connection provision for mud logging unit pressure sensor	Yes
Connection provision for MWD sensor	Yes
Fill-up outlet	Yes
Kill line outlet	Yes
Bleed off outlet	Yes

C3 Stand Pipe Assembly

Stand pipe number	1
Inside Diameter (in)	4"
Rated working pressure (psi)	5000

C4 Rotary Hoses

Quantity	N/A
Inside diameter and length	N/A
Grade	N/A
Rated working pressure (psi)	N/A



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SECTION D: LOW PRESSURE MUD SYSTEM

D1 Mud Mixing System

Mud Mixing Unit	N/A
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D1.1 Mud Mixing Pumps

Quantity	N/A
Make and type	N/A
Impeller diameter	N/A
Packing seal type	N/A
Driven by motor power (hp)	N/A
Rotating speed	N/A

D1.2 Mud Mixing Hoppers

Quantity	N/A
Make and type	N/A

D2 Mud Tanks

Total active mud capacity (bbl.)	922 bbl. (110 m3)
Total reserve mud capacity (bbl.)	930 bbl. (148 m3)
Low pressure gun to be positioned in all pits	Yes
All pits to be fitted with agitators with effective shearing capacity	Yes
Electric agitator driving motor power	Yes

D3 Trip Tank

Capacity (bbls)	12 bbls
Level indicator type	Yes
Visible from driller's site	Yes
Trip tank complete with level recorder	Yes

D4 Shale Shakers

Quantity	2
Make	Derrick
Type/Model	FLC 2000 3-panel
Screen make	TBA
Screen type	TBA

D5 Degasser Unit

Quantity	N/A
Make and type	N/A
Feed pump make-type-HP	N/A
Impeller diameter	N/A
Packing seal type	N/A
Driven by motor power	N/A
Rotating speed	TBA
Gas discharging line ID	TBA
Discharging line running to	TBA

D6 Mud-Gas Separator

Make and type	N/A
Mud-Gas separator OD body	N/A
Height (ft)	N/A
Mud-Gas discharge line OD	N/A
Mud-Gas discharge running to	N/A
Vent line discharge line OD	N/A

SECTION E: RIG POWER PLANT

E1 Diesel Engine

Diesel engine quantity	2
Make – Type	GM Detroit Series 60
Continuous power of each set	665HP at 2300 RPM
Mufflers with spark arrestor	Yes

E1.1 AC Electric Generators

AC electric generators quantity	N/A
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Make and type	N/A
AC generator maximum power	N/A
AC generator output voltage	N/A
AC generator frequency	N/A

E2	Switchboard and Motor Control Center	
	Manufacturer	N/A
	Type	N/A
	Main characteristics	N/A

E3	Main Lighting	
	Suitable switchgear, cabling and correct fittings for the zone in which they are placed.	Yes
	Lighting should be explosion proof type.	Yes (where applicable)

E4 Emergency Lighting

E4.1	Diesel Engine	
	Diesel engine make - type	N/A
	Diesel engine continuous power	N/A

E4.2	Emergency AC Generator	
	Emergency AC generator make – type	N/A
	AC generator max. continuous power (KVA)	N/A
	AC generator output voltage	N/A
	AC generator frequency	N/A

E5	Diesel Supply	
	All fuel tanks and lines will be protected to allow continuous operation in harsh weather conditions	Yes

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SECTION F: RIG AIR SERVICE

F1	Air Compressor Electrical Driven	
	Quantity	1
	Make – Type	Atlas Copco GA 45 rotary screw compressor with Sound attenuated enclosure with controller and Emergency Stop button. CSA/UL Wye Delta Starter 380 VAC
	Max. service pressure	120 psi

F2	Air Compressor Diesel Driven	
	Quantity:	N/A
	Make – Type	N/A
	Driven by motor power	N/A
	Air Flow Rate (acfm)	N/A
	Max service pressure	N/A

F2.1	Air Dryer	
	Quantity:	1 ea.
	Make:	QUENCY
F3	Air Vessel	
	Quantity	2
	Air vessel capacity of each	200 x 2 (400) gal
	Air vessel location	Compressor House
	Air vessel certified by	MANCHESTER

SECTION G: BLOWOUT PREVENTION AND WELL CONTROL EQUIPMENT

G1.1	11" 5,000 Annular Preventer	
	Number	N/A
	Make and type	N/A
	Top connection type	N/A
	Bottom connection type:	N/A
G1.2	Double Ram Preventer	
	Quantity	N/A
	Make and type	N/A
	Size	N/A
	Ram lock type	N/A
	Top and bottom connections type	N/A
	Outlet number	N/A
	Outlets connection size (in) – WP (psi)	N/A
G1.3	BOP Rams:	
	That will close on every size of drill pipe to be run through the stack:	
	- Set for Variable 2-7/8-5"	N/A
	- Sets for 3 1/2"	N/A
	- Sets Blind	N/A
G2	Choke and Kill Lines	
G2.1	Choke Line	
	Choke line number (Coflexip type)	N/A
	Inside diameter x WP	N/A
	Manual choke valve (one for each size of BOP)	N/A
	Manual choke valve size	N/A
	Remote operated HCR valve	N/A
	Remote operated HCR valve size	N/A
G2.2	Kill Line	
	Line number (Coflexip type)	N/A
	Inside diameter x WP	N/A
	Manual kill valve	N/A
	Manual kill valve size	N/A
	Remote operated HCR valve	N/A
	Remote operated HCR valve size	N/A

	Check valve number	N/A
	Check valve size	N/A
G3	Choke Manifold	
G3.1	Choke Manifold General	
	Choke manifold assembled by	N/A
	Built as per API specification	N/A
	All connection ends not threaded	N/A
G3.2	Choke Manifold High Pressure Section	N/A
G3.3	Power Adjustable Choke Valve	
	Quantity	N/A
	Make type	N/A
	Size / WP	N/A
G3.4	Manual Adjustable Choke Valve	
	Quantity	N/A
	Make type:	N/A
	WP (psi)	N/A
G3.5	Valve Upstream Each Choke Valve	
	Quantity	N/A
	Make type:	N/A
	Size and WP:	N/A
G3.6	Choke Manifold Lower Pressure Section	
	Inside diameter - WP	N/A
	Outlet points	N/A
	Each with exclusion valve size	N/A
G3.7	Outlet to Mud Gas Separator	
	Quantity	N/A
	Valve size and WP	N/A
	Connecting line type	N/A
G3.8	Outlet to Flare Line	
	Quantity	N/A
	Valve size and WP: in-psi	N/A
G3.9	Flare Line	
	Size x Length	N/A
G3.10	Outlet to Waste Pit	
	Quantity	N/A
	Valve size and WP	N/A
G4	Choke Manifold Accessories	
G4.1	Power Choke Control Panel	
	Make – Type	N/A
	Location	N/A

G5 Pressure Unit and Control System

G5.1 Accumulator Unit

Make and type	N/A
Oil reservoir capacity Let.	N/A
Total bottle installed	N/A
Nominal capacity of each gal	N/A
Max. working pressure psi	N/A
Accumulator unit installation site:	N/A
Low accumulator pressure alarm	N/A
Low fluid level alarm type	N/A
Low air pressure alarm type	N/A

G5.2 Electrical Recharging Pump

Quantity	N/A
Make and type	N/A
Flow rate gal/min	N/A
Max. working pressure psi	N/A
Pump driven by motor power hp	N/A
Motor driven also by emergency generator	N/A

G5.3 Air-Driven Recharging Pump

Quantity	N/A
Make and type	N/A
Flow rate gal/mn	N/A
Max. working pressure psi	N/A
Air supplying pressure psi	N/A
Air supplying sources	N/A

G5.4 Accumulator Unit Control Manifold

Make and type	N/A
Number of control valves	N/A
Control valve type	N/A
Low/High pressure by-pass valve	N/A
Annular pressure regulator type	N/A
Manifold pressure regulator type	N/A

G5.5 BOP Control Lines

Control lines	N/A
Size in	N/A

G5.6 BOP Driller's Control Panel

Make and type	N/A
Installation site	N/A
Explosion proof	N/A

G5.7 Toolpusher BOP Control Panel

Make and type	N/A
Installation site	N/A

G6 BOP Testing Equipment

G6.1 Portable Test Unit

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WP: psi
Make and type
Power supply
Pressure recorder type (psi)

N/A
N/A
N/A
N/A

G6.2

**Gray Valves
For 5" DP**

Number:
Make and type
Bottom connection:
Working Pressure psi

N/A
N/A
N/A
N/A

For 3 1/2" DP

Number:
Make and type
Bottom connection:
Working Pressure psi

N/A
N/A
N/A
N/A

G6.3

**Circulating Subs
For 5" DP**

Number
Bottom connection
Top connection
Working pressure psi

N/A
N/A
N/A
N/A

For 3 1/2" DP

Number
Bottom connection
Top connection
Working pressure psi

N/A
N/A
N/A
N/A

H

DRILLING RIG FLOOR EQUIPMENT

H1

D.P & D.C Handling Tools

H1.1

Link Elevators

Make
Number:
Sizes:
Length:
Rated load capacity:

N/A

H1.2

**Drill Pipe Elevators
For Drill Pipes 5"**

Quantity:
Make:
Type
Max. rating load capacity

N/A

For Drill Pipes 3 1/2"

Quantity:

Make:
Type
Max. rating load capacity

N/A

		N/A
H1.3	Drill Pipes Manual Slips	N/A
	For Drill Pipes 5"	N/A
	Quantity	N/A
	Make	N/A
	Type	N/A
		N/A
	For Pipes 3 1/2"	N/A
	Quantity	N/A
	Make	N/A
	Type	N/A
H1.4	Drill Collar Slips	N/A
		N/A
	For OD Drill Collar: 6 1/2"	N/A
	Quantity:	N/A
	Make:	N/A
	Type:	N/A
		N/A
	For OD Drill Collar : 4 3/4"	N/A
	Quantity:	N/A
	Make:	N/A
	Type:	N/A
H1.4	Safety Clamps	N/A
	Quantity:	N/A
	Make:	N/A
	Type:	N/A
	For OD Range:	N/A
H1.5	Manual Tongs	N/A
H1.5.1	DP and DC Manual Rotary Tongs	N/A
	Quantity:	N/A
	Make:	N/A
	Type:	N/A
	For OD tubular range (in)	N/A
	Max rating torque (ft-lb)	N/A
		N/A
H1.6	Drill Pipe Spinner	N/A
	A drill pipe power tongs is required for sizes:	N/A
	5" and 3-1/2"	N/A
	Make	N/A
	Type	N/A
	Main characteristics	N/A
		N/A
H1.7	Bit Breaker	N/A
		N/A
H1.7	Bit Breaker Adapter Plate	N/A
		N/A
H2	Counterbalance System for Manual Tongs	
	Installed	N/A
	Quantity	N/A

	Air powered	N/A
H3	Mud Saver Box	N/A
	With rubber inserts to fit 3 1/2", 5", and pipe sizes. Bucket to be fitted with a rubber hose capable of draining into the bell nipple/flowline.	N/A
	Make:	N/A
	Type:	N/A
	Size range:	N/A
H4	Rig Floor Hoist Winch (CARRIER)	
	Quantity:	2
	Make and type	INGERSOLL RAND Force 5, (FA5A)
	Air operated	Yes
	Rated pull capacity	17,000 lbs
	Complete with safety guard	Yes
	Complete with automatic brake	Yes
Complete with overload protection	Yes	
H4.1	Personnel Safe Hoist Winch	
	Quantity (Complete with wireline guards, a manual spooling device, and a breaking system. To be exclusively used for man riding).	N/A
	Make and Type	N/A
H5	Hoist Winch on Derrickman Platform	
	Quantity:	N/A
	Make and type	N/A
	Air operated	N/A
	Rated pull capacity	N/A
	Complete with safety guard	N/A
	Complete with automatic brake	N/A
Complete with overload protection	N/A	
H6	Bop Handling System Inside the Substructure	
	Make and type:	
	Electric or hydraulic driven	Manual
	Rated hoist capacity (m.) – Capable of handling BOP assemblies complete with mud cross, spacers, valves, etc...	5 ton
	Max. vertical travelling stroke	N/A
	Max. horizontal travelling stroke	7 m.
	Handling system certified	Yes
H7	Chicksan Hoses	
	Contractor to provide a minimum of 100 ft. Chicksan type hose and swivels to accommodate all routine pressure testing and cementing requirements.	N/A
	Working Pressure:	N/A
	Connection:	N/A

SECTION I: TUBULAR MATERIAL

I1

5" OD Drill Pipe

API steel grade:
 Total length:
 Length of each (range):
 Nominal weight (ppf)
 Connection between pipe and tool joint
 Tool joint outside diameter:
 Tool joint inside diameter:
 Outside taper of box connection
 Tool joint hardfacing:
 Tool joint API connection:
 Actual classification:
 Thread protectors

N/A

I2

3 1/2" OD Drill Pipe

API steel grade:
 Total length:
 Length of each (range) :
 Nominal weight:
 Connection between pipe and tool joint
 Tool joint outside diameter:
 Tool joint inside diameter:
 Outside taper of box connection
 Tool joint hardfacing:
 Tool joint API connection:
 Actual classification:
 Thread protectors

N/A

I3

Drill Collars

I3.1

Outside Diameter: 6 1/4" / 6 1/2"

Number:
 Inside diameter:
 Length of each joint:
 Elevator recess:
 Slip recess:
 API connection:
 Thread protectors
 Bore-back on box:
 Stress relief groove on pin:

N/A

I3.2

Outside Diameter: 4 3/4"

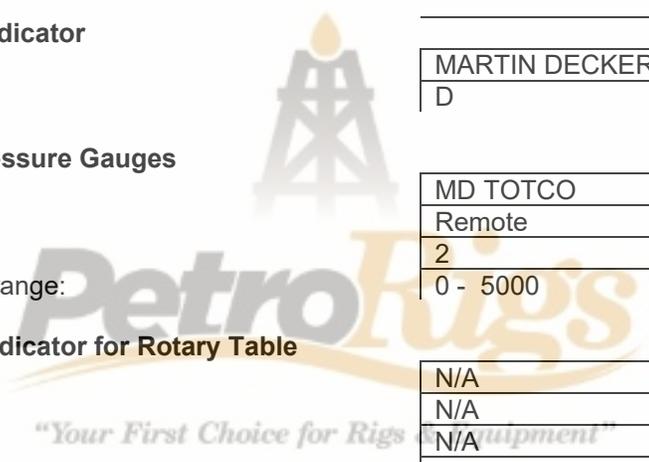
Number:
 Inside diameter:
 Length of each joint:
 Elevator recess: required
 Slip recess: required
 API connection:
 Thread protectors:
 Bore-back on box:
 Stress relief groove on pin:

N/A

I4

Bit Subs

	Two (2) bit subs for each size of drill collar bored for float valves	N/A
I5	Cross-Over Subs Quantity of each x-over sub to connect and run in hole all the Contractor's furnished tubulars: two of each size	N/A
		N/A
		N/A
		N/A
I6	Lifting Subs Lifting subs required for all sizes of Contractor's Drill Collars	N/A
		N/A
		N/A
I7	Wipers 5" DP Wipers 3 1/2" DP Wipers	N/A
		N/A
J	PARAMETERS RECORDING/INDICATING EQUIPMENT	
J1	Instrumentation at Driller's Console	
J1.1	Weight Indicator Make: Type:	MARTIN DECKER
		D
J1.2	Pump Pressure Gauges Make: Type: Quantity: Pressure range:	MD TOTCO
		Remote
		2
		0 - 5000
J1.3	Torque Indicator for Rotary Table Make: Type: Range: Torque indicator sensor type:	N/A
		N/A
		N/A
		N/A
J1.4	Pump Stroke Counter and Totalizer Quantity: 1 for each pump Make: Type:	N/A
		N/A
		N/A
J1.5	Speed Indicator (RPM) for Rotary Table Make: Type: Range: Speed indicator sensor type:	N/A
		N/A
		N/A
		N/A
J1.6	Tongs Torque Indicator Make: Type: Pull indicator sensor type: Max. rated load:	N/A
		N/A
		N/A
		N/A



J1.7	Mud Pits Volume Totalizer	
	Make:	N/A
	Type:	N/A
	Monitoring:	N/A
	Pit level sensors type:	N/A
	Pit level sensors installed in tanks: all active tanks and reserve tanks	N/A
	Pit volume gain/loss alarm: required	N/A

J1.8	Mud Flow Rate Indicator	
	Make:	N/A
	Type:	N/A
	Flow rate sensor:	N/A
	Flow rate gain/loss alarm:	N/A

J1.9	Trip Tank Level Indicator	
	Make:	N/A
	Type:	N/A
	Pit volume gain/loss alarm:	N/A
	Recorder:	N/A

J2 Instrumentation Inside Driller's Dog House

J2.1	Drilling Parameter Recorder	
	Make:	Epoch System
	Pens quantity:	N/A
	Pneumatic or electric:	ELECTRONIC
	Parameter recorded: ROP	Y
	Parameter recorded: Weight on hook	Y
	Parameter recorded: Rotary speed	N/A
	Parameter recorded: Rotary torque	Yes
	Parameter recorded: SPM pump 1	Yes
Parameter recorded: SPM pump 2	Yes	

K : SAFETY EQUIPMENT

K1	Safety Clothing	
	To reflect safe oilfield working practices	
	- Working clothes:	N/A
	- Safety gloves:	N/A
	- Safety helmets:	N/A
	- Safety helmets for visitors:	N/A
	- Safety boots:	N/A
	- Safety goggles:	N/A

K2	Fire Extinguishers and Fire Fighting Equipment	N/A
	State provision as required to meet	N/A

K2.1	Rig Site Fire Extinguishers	N/A
	CO2 Type	N/A
	Capacity:	N/A

	Number:	N/A
	Large Size Powder Type:	N/A
	Capacity:	N/A
	Number:	N/A
		N/A
	Small Size Powder Type:	N/A
	Capacity:	N/A
	Number:	N/A
		N/A
K2.2	Fire Water Pump	N/A
	Quantity:	N/A
	Fire water supply	N/A
	Pump characteristics	N/A
	- Flow:	N/A
	- Pressure:	N/A
	- associated accessories (hoses, etc.):	N/A
		N/A
K2.3	Personal Protection for Fire Fighting Personnel	N/A
	Helmet with face shield:	N/A
	Number:	N/A
	Fire suits:	N/A
	Number:	N/A
	Fire-proof blankets:	N/A
	Number:	N/A
	Gas Masks	N/A
	Quantity	N/A
	Explosion Proof battery lights	N/A
	Quantity:	N/A
		N/A
K3	First Aid Equipment	N/A
	Stretcher:	N/A
	First aid kit:	N/A
	Oxygen resuscitator:	N/A
	Eye was bottles: on rig floor, monkey board, shale shakers, mixing hopper area	N/A
	Emergency shower:	N/A
K4	Safety Warning Signs	N/A
	"No Smoking" notices:	N/A
	"No Vehicles Beyond This Point":	N/A
	"Pressure Testing" signs:	N/A
	"Wearing Safety Helmet is Mandatory":	N/A
Note	All signs to be clearly drawn/written in Arabic, English and French language and located in: SH staff office, rig site, dog house, site entrance.	N/A
		N/A
K5	Derrick Man Escape System	N/A
		N/A
K6	Safety Belts	N/A
		N/A
K7	Fixed Gas Detection System	
	At the mud ditch, rig floor and over the shale	N/A

	shakers	
	General alarm system	N/A
K8	Portable Gas Detection System	
	Quantity:	N/A
	Make and type:	N/A
K9	Eye Wash Stations	N/A
K10	Smoke Detectors	N/A
K11	Explosion Meter/Hand Gas detector	N/A

SECTION MISCELLANEOUS

L

L1	Welding Machines	
	Electric welding machine (300-amp minimum)	N/A
	Diesel welding machine	N/A
	Torch oxygen-acetylene cutting/welding set	N/A

L2	Workshop	
	Equipped with necessary tools:	N/A
	Dimensions:	N/A

L3	Warehouse	N/A
	Dimensions	N/A

L4	Hand Tools	
	Quantity and availability should be adequate for the proposed operations.	N/A
	Torque wrench	N/A
	Spanners, chain tongs in several dimensions, hammers, nozzle pliers, chisels, brushes, etc.	N/A
	All grinders are to have safety guards fitted.	N/A

L6	Bell Nipples	
	11"	N/A
	Diameter:	N/A
	Length:	N/A
	Type:	N/A

SECTION CAMP EQUIPMENT

M

Each porta-camp to be insulated and air conditioned for desert temperatures up to 140 degrees Each porta-camp to be insulated and air conditioned for desert temperatures up to 140 degrees Each room to have a heater for cold weather. Air	N/A
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conditioners and heaters to be thermostatically controlled, side mounted with controls at eye level. Three porta-cabins per skid.

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M1 Accommodation for Rig Camp

-Type accommodation for company man
 -Type accommodation for offices
 -Type accommodation for company representatives and third party

N/A
N/A
N/A

N COMMUNICATION

N1 Inter Rig System

The internal rig site communications should extend to the following areas as a minimum; Company man, mud logger, tool pusher, camp and rig floor.

N/A

SECTION O TANK STORAGE, HOISTING AND TRANSPORTATION MEANS

O1 Diesel Fuel (Contractor Use)

Diesel fuel total storage tank capacity:
 Diesel fuel transfer pumps number :
 Diesel fuel transfer pumps type and power:

100 bbls
2
MISSION 3 x 2 - 15 HP Electric

01.1 Drilling Water

Drilling water total capacity:
 Drill water tanks quantity:
 Drill water transfer pump type and power:

150 bbl
1
MISSION - 3 x 2 Electric

O2 Hoisting and Transportation Means

O2.1 Forklift

Quantity:
 Make and type:
 Rated hoist capacity:

N/A
N/A
N/A