

RIG DESCRIPTION

ITEM	EQUIPMENT	QTY	DESCRIPTION
<u>SECTION A – GENERAL RIG CHARACTERISTICS</u>			
	<u>General</u>		
	Rig Name		SEDLAR 160
	Model and Type		Trailer mounted-self elevation
	Owner		
	Designer		
	Built		2007
	Location (At effective Date)		Almeria - Spain
	Drive Engines	2	450 HP – 3408 CAT engines
	<u>Power Generating And Distribution Equipment</u>		
	Type		Diesel generators CAT 3412
	Maximum rated HP output at 125°F.	1	1000 HP
	Number	2	
	Power control		Elec / Hydraulic
	Type		CAT 3412
	Power rating	2	815 KVA each
	Power distribution		400 V x 50Hz
	SCR Configuration		NA
	<u>Emergency Lighting</u>		
	Accumulator Unit		
	Rig Floor	1	Self contained lighting unit with built in battery
	Sub-Base	1	Self contained lighting unit with built in battery
	Monkey Board	1	NA
	Mud Pits	4	Self contained lighting unit with built in battery
	SCR/Power Generation House	1	Self contained lighting unit with built in battery
	Generators	2	Self contained lighting unit with built in battery
	<u>Air Compressors</u>		
	Quantity	2	
	Make & Type		Ingersol-Rand MH55
	Power Supply & Pressure		Electric x 125 psi
	Air Receivers (Volume)	1	400 lit
	Location		Auxiliary container w/ BOP Accumulator



	<u>Rig Operating Capabilities</u>		
	Capacity		3000 meters x 5” D.P.
	Input HP		975 HP
	<u>Dimensions</u>		
	Drill floor Dimensions		4m x 7m
	<u>Storage Capacity</u>		
	Total Fuel Tank Capacity	70 000 litres	Two Tanks 2,4mx6mx2m each Plus daily tank 11m3 Spill Bunding
	Total Water Tanks Capacity		180 BBLS
<u>Drilling Equipment</u>			
	<u>MAST</u>		
	Make and Type		Joseph Paris - Hydraulic
	Dimensions Crown Height Clear Height Rotary Table to Crown Clear Height Rotary Table to Elevators		Hydraulic mast 22,8m 17,5m
	Gross Nominal Capacity with max number of lines?	Hydraulic cylinders	160 metric tonnes up to 16m through elevator links
	Hook Load Rating with 10 Line static Load	Hydraulic cylinders	160 metric tonnes up to 16m
	Hook Block rate and type		Foremost hydraulic Top Drive 160 Metric Tonnes through the elevator links 150 Tons through drill string
	Crown Block – Type		
	- Rating Sheave Capacity		40 M.Tonnes x 4 = 160 M.Tonnes
	- Number & Diameter of Sheaves	4	sheaves 32”
	- Bumper Blocks under Crown		Included in Hydraulic cylinders
	<u>SUBSTRUCTURE</u>		
	Make and Type		Joseph Paris – Self elevating
	Height Rotary Table to Ground Level		5.60 m
	Clear Height under Rotary Beams to Ground Level		5.10 m
	Hook or Rotary Load		Max Rotary table Supporting Capacity Irrespective of Set Back Load 550,000 lbs

	<u>HOISTING EQUIPMENT</u>		
	<u>DRAWWORKS</u>		
	Make-type		<p>2 x Hydraulic cylinders operated by Hyd system</p> <p>4 main Hyd pumps REXROTH A11VO 190 LRDQ/ 11LNSD12N00 driven from Rig Carrier 3408 Engines.</p> <p>Max Press = 320 bars – 4650 psi</p> <p>Operating press = 250 bars – 3600 psi</p> <p>** For hoisting mast and Top drive rotation</p> <p>Max flow : 380 L / min</p> <p>Max press: 320 bars (4650psi)</p> <p>2 auxiliary Hyd pumps REXROTH A10VO45 DFR 31LPSC62K52</p> <p>Driven from Rig carrier 3408</p> <p>** For service network (pipe feeder , BOP hoisting , Trailer rig up / down , tubular elevator , winches</p> <p>Max flow : 90 L / mn</p> <p>Max pres : 210 bars (3000 psi)</p>
	Rated input power HP		950 HP
	Motors	2	CAT 3408
	Drilling Depth Range ft		10 000 ft
	Main drum brake type (Band or Disc)		Hydraulic shut off valve
	Number of Hoisting speed	2	Automatic Hydraulic low speed when hook load is over 90 mTonnes
	Number of Rotary speed		Variable 0 to 130 RPM
	<u>BRAKE COOLING TANK</u>		
	Cooling System		Oil- Air heat exchangers – Nominal heat dissipation : 420 kW @ dT = 40° C
	<u>DEADLINE ANCHOR</u>		
	Make and model Load Rating Wraps	4	One hydraulic load cell per line. Different from conventional rig
	<u>CROWN SAVER</u>		

		2	Built in Hydraulic cylinders system
	<u>AUTO DRILLER</u>	1	Automaton driving the hydraulics as per diller's settings
	<u>TRAVELING ASSEMBLIES</u>		
	Block, Type and Rating		NA
	Hook, Type and Rating		150 tons through string and 160 M Tonnes through elevator links
	<u>DRILLING LINE</u>		
	Size, Manufacturer Wire Type Core Nominal Breaking Capacity		1-1/4" (32mm) REDAELI Tecna Wire Ropes Galvanized steel core – Anti giratory – ECA 16B32 87 metric tonnes
	String up Length Length remaining on (As at contract effective date)		19.5m NA NA
	<u>TOP DRIVE UNIT OR POWER SWIVEL</u>		Foremost Industries F150-T
	Power Input		500HP
	Maximum Load		150 tons through string and 160 M Tonnes through elevator links
	Maximum Drilling Torque (Continual @ 150 RPM)		25,000ft.Lbs @ 103 RPM
	Maximum RPM		130 RPM
	Maximum Make Up Torque		25,000ft.Lbs
	Maximum Break Out Torque		25,000ft.Lbs
	Drillers Console Display		Torque, RPM and position displayed at driller's consol
	<u>ROTARY EQUIPMENT</u>		
	<u>Rotary Table</u>		
	Make and Type		Passive table
	Opening		37-1/2" Opening
	Master Bushings		Split VARCO
	Bowl Inserts for Casing & Drill pipe	1 1 1 1	20" 14 7/8" 12" 10"
	Capacity		550,000 lbs

	<u>ROTARY TABLE SLIPS</u>		
	Drill Collar	2 2	4-3/4" Varco DCS-L 6 3/4" Varco DCS-L
	Drill Pipe	1 1	DENCON, AIR OPERATED 5" Type SL-1 3 1/2" Type SL-1
	<u>DRILL STRING SPINNER AND TORQUE TOOL</u>	1	NOV ST-80 Iron Roughneck
	<u>MUD SAVER BUCKET</u>	1	c/w 5" & 3-1/2" Inserts
	<u>BIT BREAKER PLATES</u>	1 1	6" 8 1/2"
	<u>AIR HOISTS</u>		
	On the rig floor Rating	1 1	Hydraulic One = 5 T & One = 2 T
	Rig Floor dedicated and Design Man Rider Load Rating 250 kg	1	NA Certified basket on hydraulic on Manitou arm
	<u>PIPE HANDLING EQUIPMENT</u>		
	<u>LIFTING SUBS</u>		
	D/C's	6 6	4 3/4 x 3 1/2 IF Conn 6 1/2 x 4 1/2 IF Conn
	<u>LIFTING CAPS</u>		
	3 1/2" DP	2	3-1/2" IF (Lift Cap Pin)
	5" DP	2	4-1/2" IF (Lift Cap pin)
	6-1/2" DC	2	4 1/2 IF
	<u>STANDARD – STRING ELEVATORS</u>		
	3-1/2" Drill Pipe	2	Varco MGG, Center latch
	5" Drill Pipe	2	Varco MGG, Center latch
	3-1/2 tubing	2	CONCENTRIC HYD ELEVATOR WITH INSERT 5", 3 1/2" & 2 7/8"
	2-7/8 tubing	2	SAME AS ABOVE
	2-3/8 Tubing	2	
	<u>LINKS SIZE</u>		
		1 set	132" x 5" (250Ton)
	<u>STANDARD MANUAL SLIPS</u>		
	3 1/2" DP	2	Varco SDXL
	5" DP	2	Varco SDML

	4 3/4" DC	2	Varco DCS-L
	6 1/2" DC	2	Varco DCS-L
	Tubing slips	1	Tubing Spider Air Operated Model 100A Type C – 100 tons 4 1/2, 3 1/2, 2 7/8 and 2 3/8 size
	<u>RIG TONGS</u>		
	4" to 8-1/2	2	Rated load capacity 65,000 Ft-Lb's Proof Load 100,000 Ft-Lb's 4" to 8 1/2 OD
	<u>DRILL PIPE SPINNING TONG</u>		
	Make & Type		NOV ST-80 Iron Roughneck
	Size & Range		2 7/8" thru 8 1/2"
	Power Supply		Hydraulic
	<u>Dog Collars/Safety Clamp</u>		
	Number	1	4 3/4" – 8" Bash Ross
	<u>DRILL STRING</u>		
	3-1/2" D/P	2200m	S-135 R2 13,3 Lbs NC 38 Px B thread – IPC
	3-1/2" D/P – Pup Joint	Qty 2x 5ft	S-135 R2 13,3 Lbs NC 38 Px B thread – IPC
	3-1/2" D/P – Pup Joint	Qty 2 x 10ft	S-135 R2 13,3 Lbs NC 38 Px B thread – IPC
	3-1/2" HWDP	30 jts	23.5 lb/ft Range 2 NC 38 Px B thread –
	4-3/4" SPIRAL COLLARS	8 jts	46.6 lb/ft Range 2 NC 38 Px B thread –
	4-3/4" SHORT/SLICK COLLARS		N/A
	5" D/P "E" Grade Drill Pipe	2200m	S-135 R2 19,5lbs NC 50 Px B thread
	5" D/P "G" Grade Drill Pipe	Qty 2x 5ft	S-135 R2 19,5lbs NC 50 Px B thread
	5" D/P Pup Joint	Qty 2 x 10ft	S-135 R2 19,5lbs NC 50 Px B thread
	5" D/P Pup Joint	Qty 4 x 10ft	S-135 R2 19,5lbs NC 50 Px B thread
	5" HWDP	30 jts	50 lb/ft Range 2 NC 50 Px B thread
	6 1/2" SPIRAL COLLARS	Qty 8	6 1/2 Spiral DC 88.6 lb/ft Range 2 – 4 1/2 IF Px B thread
	<u>SUBS INVENTORY</u>		
	<u>BIT SUBS</u>	2	3 1/2 Reg B x 3 1/2 IF B
		2	4 1/2 REG B x 4 1/2 IF B

	<u>CROSSOVER SUBS</u>		
		2	6 5/8 REG P X 4 1/2 IF B
		2	4 1/2 IF P X 4 1/2 IF B
		2	3 1/2 IF P X 3 1/2 IF B
		2	4 1/2 IF B X 2 7/8 N VAM P
		2	4 1/2 IF B X 2 7/8 EU P
		2	4 1/2 IF B X 3 1/2 EUE P
		2	4 1/2 IF P X 3 1/2 IF B
		2	4 1/2 IF B x 3 1/2 IF P
		2	4 1/2 IF B X 3 1/2 N VAM P
		2	4 1/2 IF B X 4 1/2 EUE P
		2	4 1/2 IF B X 4 1/2 N VAM P
		2	3 1/2 IF B X 2 7/8 N VAM P
		2	3 1/2 IF B X 2 7/8 EUE P
		2	3 1/2 IF B X 3 1/2 N VAM P
		2	3 1/2 IF B X 3 1/2 EUE P
		2	3 1/2 IF B X 4 1/2 N VAM P
		2	3 1/2 IF B X 4 1/2 EUE P
	<u>CIRCULATING SUBS</u>		
	Top Entry Circulating	1	4-1/2" IF (P) x 1502 Weco
	Top Entry Circulating	1	4-1/2" IF (B) x 1502 Weco
	Top Entry Circulating	1	3-1/2" IF (P) x 1502 Weco
	<u>Circulating System</u>		
	Shaker Tank Sand trap Settling Pit Intermediate Pit Trip Tank	1	320 bbl Total Capacity 50 bbl 65.4 bbl 175 bbl 29.6
	Suction Tank Pill Tank Suction Pit 1 Slug Pit	1	471 bbl Total 150 bbl 316 bbl 5 bbl
	Reserve Tank Reserve 1 Reserve 2 Reserve 3	1	466 bbl Total 233 bbl 233 bbl Xxx bbl
	<u>Caustic Mixing Facility</u> Mobile tank top Caustic Drum Closable Lid c/w agitation Bottom end 2" discharge c/w hose	1	1 x 1.25 bbl Capacity 1" Outlet



	<u>Trip Tank</u>	1	29.6 bbl
	Manual Level Indicator Visual to Driller (Level increments no greater than 1bbl/inch)	1	Indicator Visible to Driller
	Feed Pumps to Wellbore	2	2x3 Halko Centrifugal Pump
	<u>Mud Through</u>	1	
	Width		14" diam pipe
	Depth		N/A
	Under Grating (which tanks ?)		Shaker tank
	<u>Pumps</u>		
	Number	2	
	Type		Triplex, Emsco Type RS F1000
	Drive		Independent Diesel DETROIT DIESEL 12V2000 G81 1120bhp at 1800 RPM
	Maximum Input Horse Power Per Pump HP		1000 HP each
	Stroke Length		10 inch
	Liner Sizes Available (for both pumps) 5-1/2" and Pressure Rating 6" and Pressure Rating 6-1/2" and Pressure Rating		6 1/2", 6" , 5" , 4 1/2" 5-1/2" 4000 psi 6" 3000 psi 6-1/2" 2500 psi
	Pulsation dampeners (1/pump) Make Pressure Rating	1	Hydril 20 gal/5000psi
	Reset Relief Valves (1 each pump)	1	RRV Retsco
	Charging Pumps (1/pump)	1	HALCO 5"x4"x14"
	Suction Strainer	1	Suction strainer
	Discharge Strainer	1	Dischrage strainer
	<u>Standpipe Manifold</u>		
	Pressure Rating Size Number of 2" 1502 Outlets	2	5000PSI 4"OD x 3" ID
	<u>Shale Shaker</u>		
	Make & Type	3	Model MISwaco Mongose dual motion With 80 and 100 mesh Screens
	<u>Vacuum Degasser</u>		
	Make & Type	1	Burgess 1000 Magna Vac

	<u>Agitators</u>		
	Make & Type		TRAMAT Type Propeller 15hp Location: 1 per compartment
	<u>Poor-boy Degasser</u>	1	
	Make & Type Style Size OD Size Height Mud Seal Height		3Cmetal Dubai Baffle type 48" 5meters 12 ft
	<u>Mixing Pumps</u>		
	Make & Type Sizing GPM	2	Halco Centrifuge 6" x 8" x 11" – 1750 RPM 800gpm - 75 HP
	<u>Hole Fill Pump</u>		
	Make & Type Sizing GPM	1	Mission 2" x 3" 75gpm - 20 HP
	<u>Rig Water Pump</u>		
	Make & Type	1	Mission 2" x 3" 75gpm
	<u>Surface Lines</u>		
	Size & Type (Connection) & Rating Hard Pipes Size & Type (Connection) & Rating Jumper Hoses Length		Hard pipe Sched 80 , connection flanged and hammer seal connection
	<u>Shock - Rotary Hose</u>	1	
	Size & Type (Connection) & Rating Length		3"ID x 5000psi with safety chain 58.5ft
	<u>Stand Pipe</u>	1	
	Size & Type (Connection) & Rating		4"OD x 3"ID 5000psi Wing union 4" FIG-1002
	<u>WELL CONTROL EQUIPMENT</u>		
	<u>11" Annular Type Preventers</u>		
	Make & Type Date of Delivery January 2015	1	Hydril GK 10.000psi flange bottom x 5.000psi studded top
	Pressure Rating psi	1	5000psi
	Spare 11" Hydril Annular Element	0	Spare annular element

	<u>Ram Type Preventers</u>		
	<u>11" Ram Type (Single Gates)</u>		
	Size		11"
	Make & Type Date of Delivery January 2015	1	Chenkai Type U, 11" x 10K Flange Top & Bottom with (2) 3-1/16" 10K Flanges side outlets
	Pressure Rating psi		10.000psi
	<u>11" Ram Type (Double Gates)</u>		
	Size		11"
	Make & Type Date of Delivery January 2015	1	Chenkai Type U, 11" x 10K Flange Top & Bottom with (4) 3-1/16" 10K Flanges side outlets
	Pressure Rating psi		10.000psi
	<u>Rams</u>		
	<u>For 11" BOP</u>		
	4-1/2" Sets	1	4-1/2" rams
	5-1/2" Sets	1	5-1/2" rams
	7" Sets	1	7" rams
	Set variable ram 3-1/2" to 5"	1	set variable ram
	BLIND Shear	1	1 Set Complete Block
	<u>Adapter</u>		
	Adapter 13-5/8" x 10K hub x 11" 10K studded	1	Adapter
	<u>Spacer Spool</u>		
	WP	1	11" x 5000psi
	Top connection		11" 5k Studded
	TOP Size		11"
	Bottom connection		11" 3k Studded
	Bottom Size		11"
	<u>Bell Nipples</u>		
	11" telescopic Bell nipple	1	11 " telescopic bell nipple

	<u>Accumulator Unit</u>		
	Make & Type	1	ENERTEC E-Series style
	4 Way Valve Control Functions		6 functions
	Reservoir Capacity		280 Gal
	Accumulator Pressure		3500 psi
	No. Of Accumulator Bottles		8 bottles
	Bottle Capacity		11Gal each
	Main Control - Location		Driller's control room
	Emergency Power		5 gls Air bottle
	No. of Electric Pumps (Triplex 1") & Type		One electric pump model UET20-B
	No. of Air Pumps & Type		Two Big-Sixty 60:1 air pumps
	<u>Choke Valves, Line & Manifold</u>		
	Make & Type	1	DOYLE VALVES type F C gate valve 3 1/8
	Pressure Rating		5000 psi
	Remote Controlled Auto Choke		
	Location		In the driller's control room
	Automatic Choke Control – Emergency Power		Hyd hand pump
	Automatic Choke Control Supply		Air operated
	HCR Valve on Choke Line	1	Cameron Hyd type
	Manual Adjustable Choke Size & Type & Rating	2	Niddle 2" x 5000psi
	Choke Line Size & Type & Rating	1	3 1/8" x 5000psi steel armored
	Choke Manifold Valves Size & Type & Rating	As per drawing	Gate valves 3 1/8" x 5000psi
	<u>Kill Line & Valves</u>		
	Kill Line Size, Rating & Description	1	2"ID 5000psi
	Kill Line Valve Size, Rating & Description	1	One Hyd Gate valves 3 1/8" x 5000psi.
		1	One manual Gate valves 3 1/8" x 5000psi.
	<u>Kelly Cock Valves</u>		
	Upper Kelly Cock		N/A only IBOP on the TDS
	Lower Kelly Cock		N/A no Kelly on this rig

	<u>FOSV</u>		
	Size & Type	2	6 ½ OD Kelly guard ball valve type 4 ½ IF PxB – 5K WP
	Size & Type	2	4 7/8” OD Kelly guard ball valve type 3 ½ IF PxB – 5K WP
	<u>Inside BOP</u>		
	4-1/2” IF	1	Gray valve 6 5/8 10M P x B 4 ½ IF connections
	3-1/2” IF	1	Gray valve 5 ¼ 10 M 3½ IF PxB connections
	<u>BOP Test Pump</u>		
	Make	1	BUXTON
	Type		Type S 15G-M air operated
	Rating		15.000 psi with chart recorder
	<u>Cup Testers</u>		
	Casing 48-61Lb/ft	1	Type F Packard Int’l 4 1/2 IF PX B Thread
	Casing 43,5-53,5Lb/ft	1	Type F Packard Int’l 3 ½ IF PxB thread
	<u>INSTRUMENTATION</u>		
	<u>Weight Indicator</u>	1	
	Make		AUTELEC in metric tons
	<u>Parameters [Drilling] Recorder</u>		
	Make & Type	1	AUTELEC
	Number of Pens		Computerized / recorded
	Recording	1 1 1 1 1 1	Hook Load, ROP, TRQ, RPM, Pump Pressure, SPM 1 & 2
	<u>DEVIATION/DIRECTIONAL EQUIPMENT</u>		
	<u>Deviation Surveying Equipment</u>		
	Make & Type	1	TOTCO
	Range		8 – 16°
	Timer Installation & Retrieving Tools		

	<u>OTHER RIG INVENTORY EQUIPMENT NOT LISTED IN SECTIONS A&B</u>		
	<u>Critical Spare Parts</u>	Existing. Detailed list will be provided at contract signature	Full set of spare parts for all equipment sufficient for 100 days operation or two complete WELLS, either on site or at main base. (Require Critical Spares List).
	<u>Fire Prevention And Safety Equipment</u>		
	Emergency Shut Down on Rig Floor	1	Electronic – Drillers Console activates shutdown of 4 x Generators
	Rig water fire pump system	1	DIESEL DRIVEN H2O/FOAM
	Portable fire extinguishers	12 5 15 24 8 3	12 x CO2 6kg. 5 x CO2 9kg 15 x Powder 6kg 24 x Powder 9kg 8 x Powder 12kg 3 x Powder 50kg
	Confirm Certification date at contract effective date		
	Eye wash station	3	Located on mud system
	Emergency Shower	1	Mud Tanks
	<u>Breathing Equipment</u>		
	Work Packs Confirm Certification date at contract effective date	10	(10)Breathing insulator equip. Drager SAVER CF10 (10) Boxes for CF10 (10)Breathing insulator equipment PA94+ (10)Panoramic mask NOVA P (10) Boxes for NOVA P (10)Aluminum 6 liters Bottles 200 bar
	Escape Packs	5	Masks with H2S Filter
	First Aid Kits	2	Rig Supt office – clinic
	Fire Detection Equipment	Set	Smoke Detectors
	<u>Gas Detection</u>		
	Portable Gas Detectors Calibration Equipment Confirm Certification date at contract effective date	1 1	Measuring LEL, O2, CO2, H2S. Tube & Regulator

	H2S Detectors Confirm Certification date at contract effective date	Set	Located on the mud system , flow line , shakers
	<u>Communication Equipment</u>		
	Satellite Communication System		Use of internet 3G system and mobile phone
	Computer	4	For Rig Sup, Mech , elec , safety coordinator
	Printer	1	
	<u>Rig Camp</u>		
	Rig site office	1	1 x Company man /Geologist 1 x Rig supt/Radio operator 1x mechanic / Electrician / Other 1 x HSE/Clinic 1 x Meeting room/Prayer room 1 x Services company room / Toilet unit
	<u>Cranes / Vehicles</u>		
	Forklift	2	Manitou Model MRT 2150 Privilege forklift with fork , man riding basket and pipe picker device to handle tubulars for handling 2 7/8” to 13 3/8” Lift Cap 5000kg Lifting Height 20.60 meters Max Reach 18.10m Lift Max at Max reach 600kg
	<u>Welding machines</u>		
	Electric welding machines	1	ADC TRIARC / 406 / L 400 amps welding unit
	Torch oxygen-acetylene welding sets	1	One set oxy-Ace cutting torch c/w fash back arrestor