

GAURAV TYAGI

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Petroleum Engineer: Oil & Gas Wells

ABSTRACT

- ❑ Qualified Petroleum Engineer with knowledge about practices and techniques used in offshore drilling of gas and oil wells.
- ❑ **Last worked as Assistant Driller (Malaysian Crew) with UMW Oil & Gas.** Relentless professional with solid background and field experience in challenging deep water environments.
- ❑ **Competency Covers:** Good BHA Knowledge, Making Kill sheets, trip sheets, trend sheets, Hole Calculations.
- ❑ Having good knowledge in handling tools & equipment used in drilling wells on offshore jack up rigs.
- ❑ Understanding of the safety practices and governmental regulations pertaining to drilling.
- ❑ Highly logical, with strong problem-solving and analytical skills; capable of coming up with innovative and effective solutions to ensure operation completion and continuous process improvements.

CAREER CONTOUR

UMW Oil & Gas	16 Jan'15 - 16 May 15	Assistant Driller (Malaysian Crew)
Offshore Rig-Amphion Jack up fleet	Heavy Industries, Shenzhen	NAGA-6 (China Merchants)
Offshore Field	South of Vietnam (Diamond Platform), near Ho-Chi-minh City	

Role covers

- ❑ Monitoring drilling operations and providing technical support to shift tool pusher, making it started for the next programme;
- ❑ Responsible for developing, planning, scheduling and supervising the operations necessary in the process:
 - Calculation of bottoms up, vol. pump, strokes required (whenever required by driller)
 - Keeping upto date inventory of all tubular, lifting gears, slings, and shackles onboard.
 - Preparing all tools, lifting gears, required permit (hot work, cold work, isolation) for the job.
- ❑ Supervising and evaluating line-up of standpipe manifold, choke manifold as per operational requirement.
- ❑ Carrying out offline testing of standpipe & choke manifold through cementing unit.
- ❑ Conducting research to executed preventive maintenance for Derrick & Crown Inspection, Drawworks Greasing, ST-120, Catheads, Shale Shakers, Pump Room, Pit Room.

Technical Skillset

- ❑ **BHA Knowledge**
 - **Example of 17.5" hole** - 17.5" bit, Mud motor+float sub (17 ¾ OD,10.94 M), String sub (15 7/8, 2.48), N/M Sub (9.5", 0.92), MWD/LWD(9.5",7.78), NM Sub X/over(9.5",0.86), On track(11 3/4",6.98), BCPM (9.5",3.63), N/M stop sub (9.5",0.75), Filter sub(8",1.85), Oriented sub (8",0.78), 8 ¼" D.C (4), Drilling Jar(9 ¼",9.99), 8 ¼" DC(2), X-OVER(XT-57 TO 6 5/8 REG.), 5 7/8 HWDP (14 stands).
 - **Similarly for** 12 ¼" hole, 8.5" hole - Perforation 7" Liner/ Schlumberger BHA- Wellbore Cleanout BHA
 - BHA of 7" Liner Tie Back Mill
- ❑ **Some Bottoms up Calculations**
 - 5 7/8 DRILL PIPE- OD-5.875, ID-5.15, 5 7/8 HWDP- ID-4.25, 6 ½ DC- ID 2.875
 - String vol. 5 7/8 drill pipe - ID2/1029.4 bbls/ft * 3.284= bbls/m* length of string.
 - Annulus Vol. 9 5/8 casing & 5 7/8 drill pipe= OD2-ID2/1029.4=bbls/ft*3.281=bbls/m*length of annulus
- ❑ **STROKES-Annulus vol/pump output ex. 7" liner gives 0.16 bbl/stroke**
 - Trip tank vol.-Max. 64 bbls, Stripping tank-20 bbls max.Mud pits=9 & 2 slug pits,
 - Brine tank=1100bbl, Shale shakers-FLC 500, Derrick Corporation.
 - Conversion from GPM TO SPM TO BPM & other pump room related calculations.
- ❑ **Trip In/Out Sheets** -trip tank continuous running in hole keeping hole full all times of POOH/RIH.
 - Trip tank reading, barrels, theoretical displacement, total displacement and gain/loss.
 - Theoretical displacement open end for one 5 7/8 DP=0.9 bbls
 - Theoretical displacement closed end for one 5 7/8 DP=3.2 bbls
- ❑ **Equipment of NAGA-6**

- Top Drive(NOV) -HPS-800,PH-80K(4"-9" OD)Rotation-360,UIBOP/LIBOP/SAVER SUB-3 ¼ ID-9" OD,NC61 pin/box,15k psi, drilling motor-GE 752 US1 ,Shunt 1130 HP.
- Drawworks (NOV) - ATS 10t, Drill line-1-5/8", Max. HP-3000, Max. RPM-1400,Hoisting speed-4",Hoisting Capacity- LOW-LOW-1,600,000 HIGH-HIGH -323.000
- Mud Pump(NOV)-14P220,Stroke Length-14",HP-2200,Liner- 9"(2795psi/1215gpm))-5"(7500psi/375gpm),DC Motor-750VDC,1185AMP,1070RPM,HP-1130. PUP OFF-400-8000PSI,API BX-154
- BOP-Shaffer, 18-3/4-15k, Accumulator-3100psi, Manifold-1500psi, Annular-650p.Air-120p, flow line seal-350psi, overshot-350psi.DSA-18-3/4*15M*BX 164 to 11*5M*RX 54 & other sizes.
 - Manual Tongs-BV-65 & BV-100, Hydrotong-ST-120,
 - Travelling Block-750 ton, Master bushing-40", Outer ring-52.5",
 - Amphion Chair-NOV, Choke Manifold & Stand pipe-NOV Made, Crown Block sheave dia.-60"
 - PRS System-NOV, Catwalk Shuttle.

Few Notable Highlights

- ❑ Successfully completed operations in changing environments, especially executing equipment problems -diverter flow line seals got damaged due to which koomey fluid started leaking below rotary, nipple down diverter & changed the lower seal by opening 40 bolts on RIF.
- ❑ Instrumental in replacing flow line & trip tank manual valve with HCR one.
- ❑ Supported TIW/FOSV found leak while testing BOP. So made a temporary new FOSV with saver sub & LIBOP.
- ❑ Instrumental in changing:
 - Roller guide for fast line on derrick.
 - Rubber inside the pulsation dampener of Mud pump 14P-220.
- ❑ Observed Relief valve in mud pump leaking so replaced with new one.
- ❑ Coordinated with other pumpman found 2 mixing pump & one supercharger leaking from housing. So got the mechanic & changes the administered mechanical seals by opening housing.

ABAN Singapore Pvt. Ltd., Persian Gulf, Iran Jan'13 to Jan'15 Graduate Engineer

Cyber Jack up fleet-DEEP DRILLER-4

Roughneck/Shaker Man: 7 Hitches

Derrick Man/Pump Man: 3 Hitches

Trainee A/D: 1 Hitch

All Hitches with 42/21 days On/Off

Technical Skillset

- ❑ **Casing RIH**
 - 9 5/8"(with service company's Spider Elevator, Spider Slips, Picking up joints from catwalk, Cutting final section by picking up BOP & Setting casing slips to wellhead
 - 7" & 5" liner (Using other company's Power tong, Manual slips, and Manual elevator) & setting by running with liner hanger with 5 7/8 drill pipe.
- ❑ **Cementing**
 - 9 5/8 casing (Cementing head, run spacer, lead slurry, Bottom plug, Tail slurry, Top plug).7" & 5" liners (cementing is done through 5 7/8 drill pipe connected through cementing unit. To set Liner Hanger & also to set tubing packer (drop a steel ball inside drill string & apply 2k psi pressure dies will come out & further inc. in pressure will shear ball).
- ❑ **Work-over**
 - Pulling out 3 ½ (9 PPF & 4 ½ 12 PPF) tubing's with Hanger (3 ½ New Vam), Packer, SSSV (3K Psi 3 ½ O.D and Electrical submersible pumps & RIH with new Electrical Submersible Pump.
 - Packer setting procedure, RTTS Packer(To change well head) with FOSV in closed position Assembly -10 5 7/8 drill pipe stands, RTTS Packer,1-circulating head,1 -x-over,1- FOSV in closed position, Bridge plug.
 - Flaring Job-Pumping Nitrogen/ Acid through Coiled tubing unit consist of Injector,BOP,Riser attached to X-mas tree, Flare well through co-flex hose from X-mas tree to choke manifold to flare boom also a kill line lowered from rotary connected to annulus of x-mas tree with cementing unit
- ❑ **Rig Floor Work Knowledge**
 - **Slip & Cut of drill line (110 ft.)** - Hang TDS on hang - off line(9 rounds slip,12 rounds cut,450 lbs. to tight clamp, 850 lbs. for dead line anchor bolts, spanner used 2, 1 5/8, 1 5/16 inch., impact wrench, torque wrench, grinder to cut wire).
 - **Nipple down/up** -X-mas tree, DSA with Riser, BOP & its kill line, Bell Nipple, Overshot, Divertor, O-ring, Master bushing (use 60 ft. SWL-21 ton sling hooked to bails ,to lift diverter use its lifting tool, remove hydraulic hoses, open lock down dogs,& lift up with 5 7/8 manual elevator, Use c-shapes plate & rest diverter on it, then open the thread of diverter & overshot

by using cathead line, then lift divertor, use 35 ton shackles attach it to plate & lift overshot, use man rider to attach 2 -shackles to bell nipple to lift up through rotary, Laid down to cantilever through port aft crane). Lift Divertor-21klbs, bell nipple-11 klbs, overshot-10 klbs, Texas deck 90 lbs.

- **BOP TEST** its assembly (Test plug, port sub, x-over, drill pipe, 2 FOSV, Side entry sub with chiksons, low torque valve ,swivels & procedures using cementing unit, Rams test-10k psi & Annular-7k psi) Procedure of Rig floor & Cantilever skidding.
- **Changing RAMS of BOP**(open Bonnet, put eye bolt, use chain block to lift up ram), **Choke Manifold Test** (offline test with Barton test pump-upstream valves -5k & downstream valves-3k psi for 5 min.,low pressure test-500 psi & high pressure test-5k psi for 10 min., open all valves, test one by one, close valve going to MGS & flow line & open for flare boom side to check for leak),Choke manifold line up(Hard shut-in, soft shut-in, line up with stand pipe & cementing unit, its greasing). Stand pipe valve size-5-1/8,Bleed off valve-2 1/16.
- **Crown Greasing** (Sheaves of 3 rig floor air tuggers,2 manual tong sheaves,1 man rider sheave & 2 derrick air tugger sheaves) & Derrick Greasing-RIH/POOH with 5 7/8 & 3 1/2 drill pipe, HWDP, drill collar(8 1/4,6 3/4), Drifting pipe from monkey board for cementing job, Manual elevators(3 1/2,4 1/2) for tubing rack back to fingerboard,
- TOP DRIVE services using man rider winch,**Changing Saver Sub**(XT-57 pin to 6 5/8 reg. box)/LIBOP/UIBOP(all 6 5/8 reg. box) (Put 1 dp stand in rotary, lift grapper with 2 tuggers & remove pin from torque tube, remove nut of hydra lock ring with 1/2 in. spanner 7 join both rings, then driller will use grapper die to hold saver sub & will rotate shaft ,also can use manual tong for back up, Wash Pipe of TDS(open in antic lock wise), Bails & BX/Manual Elevator.
- Servicing of Desilters & Desander cones, Gate valve of divider, changing screens of shakers, Monitoring Mud wt. & Viscosity during drilling, cleaning & lineup of sand traps with Degasser, disilter, Mud gutter, Vacuum Degasser.
- **Pump Room Knowledge** -Mopping in pump room pit room, Servicing Fluid End of Pump-Suction/Discharge Modules(remove cap with hammer, lift retainer cap, remove ring gasket, spring & valve, check for damage on seat & valve body),Suction(use 1 7/16 spanner)Discharge strainer(use 2" spanner, impact wrench & chain block 1/2 ton), Changing Seat(Remove cap, spring & valve, put seat puller inside, screw a rod with seat puller, then put a c- shaped plate, then put a H-shaped plate, put jack & connect with hydraulic pump,& screw fully with hammer, then put pressure with pump & seat will come out),change pistons, swabs, Sounding on Modules,
- Line up of stand pipe, Mixing line, Mud line, All lines line up in pit room, Pit cleaning & dumping, displacement of obm to wbm.
- Understanding of client (Mud Engineer) requirements, mixing chemicals in required RATIO, Continuous Monitoring of Mud Weight, Viscosity & Volume of pits, Pit to pit circulation, transfer to Boat, Trip tank, cement unit, Taking barite from silo room etc. Changed Butterfly valve of mud line, jetting line Gate Valve, Mix pump discharge valve.

Trainings Undertaken during university studies

Period - 1 June 2011 -15 July 2011

Summer Internship Training

Company: Selan Exploration Limited,Gandhinagar,Gujrat

Project Title: Drilling & Production Operations

Description:

1. Introduction to Geology & Geophysical work in oil fields including study of seismic data - Reservoir Department.
2. Study & Analysis of LOGS obtained after Logging Operations.
3. Exposure to activities on Land Rig of John Energy including complete Drilling Job(RIH,POOH), Casing lowering, Cementing operations, Mud logging, Mud Engineering, Side Wall Coring & Logging Operations
4. Production EPS installation Operations.
5. Well Work over Operations.
6. Sucker Rod Pump Optimisation Work.
7. Oil Custody Transfer in Tank Farms of ONGC.

Period - 16 July 2010 -31 July 2010

Company: Halliburton Offshore Services,Mumbai, India

Description:

This exposure was at their Workshop located in Mumbai. I worked in complete servicing of MUD MOTORS,MWD/LWD tools including their assembling & disassembling of various parts,greasing, checks for cracks,leaks detection using oil penetration test etc.

I worked in the calibration of various LOGGING TOOLS, PULSAR and the assembling of LITHIUM BATTERIES that are used inside the tools.

EDUCATION

2012	B.Tech (Petroleum Engineering)	University of Petroleum & Energy Studies Dehradun, India	72%
2008	12 th	D.A.V Centenary Public School, Haridwar, India	75%
2006	10 th	D.A.V Centenary Public School, Haridwar, India	77.4%

TRAININGS

- ☐ Valid **IWCF level 2 & 3-Drillers level certificate**- surface stack from Institute Of Drilling Technology, ONGC, Dehradun, India in Nov. 2014
- ☐ Offshore Survival Certificate **BOSIET & HUET trainings** from Naval Maritime Academy, Mumbai, India in January 2013 valid for 4 years.

STRENGTHS

- ☐ Outstanding time management skills & ability to respond well in high stress-situations.
- ☐ Physically, mentally & emotionally very stable to work under tough conditions.
- ☐ Worked in pump room in summer, june-july at the temp. of around 60 c.
- ☐ Can mix up my petroleum engg. knowledge along with offshore rig jobs.
- ☐ As an A/D can manage multiple operational work at different areas of rig by properly managing co-workers.

PERSONAL DETAILS

Date of Birth: 19th October 1990
Languages Known: English, Hindi
Hometown: Bikaner,Rajasthan,India