RESUME

JOHN PAT BOYD, PE SPEC dba Boyd Engineering Stillwater, Ok 74074

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Professional Degrees, Certifications and Affiliations:

- Bachelor of Science Petroleum Engineering University of Oklahoma May, 1980;
- Registered Professional Engineer Oklahoma #15906 1989 in good standing;
- SPEC Society of Petroleum Engineers Certified & 30 Year Club.

Chronological Work History Summary – 47+ years

John Pat Boyd, PE SPEC DBA Boyd Engineering – Stillwater, OK

- <u>Advisor, Engineering & Operations -</u> Petroleum & Geological Engineering oversight for drilling, completion, production, workover, reservoir, project management & on-sight supervision domestic USA, Middle East, North Africa & Southeast Asia.
- February, 2015 to Present

Chesapeake Operating / Brammer Engineering - Oklahoma City, Ok

- October, 2014 to February, 2015 (temporary assignment);
- Anadarko Deep & Shelf- western Oklahoma & Texas Panhandle, Granite Wash, Tonkawa & Cleveland Sand horizontal wells - TVD 13,000' / MD 19,000';
- Sr. Drilling Engineer & Advisor Plan, cost & present to wind-down a five rig program. Solely oversee consultants' daily execution of ongoing drilling operations, including geo-steering lead.

<u>Triad Energy / Boyd Engineering</u> - Oklahoma City, OK

- June 2012 to Present
- NW OK Mississippi Horizontals & SWDs, W OK Cleveland Horizontals & S OK properties;
- Contract Drilling Engineering Advisor assist Ops Manager with well planning then oversee consultants' day-to-day execution of ongoing drilling operations, including geo-steering;
- On-site Completion & Frac Supervisor supervise new well work as on-sight "Company Man";
- Workover Rig Supervisor personally supervise production maintenance well-sight work.

Shell Oil Company / Boyd Engineering

- September 2011 to June 2012 SW Kansas & NW OK Mississippi horizontals & SWDs.
- Contract Drilling Rig Supervisor lead drilling company man for producers & salt water disposals Nabors R180.

PetroQuest / Sierra Engineering - Tulsa, OK.

- September 2010 to June 2012;
- SE OK Woodford horizontals, TX Panhandle Wash & N Oklahoma Mississippi horizontals;
- Contract In-House Drilling & Completion Engineer / Supt
 prepare & overseeing execution of horizontal drilling plans including HSE, permit, survey, construction, rig selection, rig contract, casing design, mud, bit, casing running & cementing plans;
- Participate with multi-disciplined drilling team including wellbore placement & steering.

Forest Oil / Bear Creek Engineering

- October 2009 to June 2010;
- Toledo Bend area in Shelby County, E TX & Sabine Parrish, LA;
- Contract Drilling Rig Supervisor for Haynesville Shale horizontals including MPD.

Berry Oil / Bear Creek Engineering – Dallas, TX

- Oct 2008 to Oct 2009:
- East Texas Bossier & Cotton Valley verticals, directionals & Haynesville horizontals;
- Contract Drilling Project Manager prepare drilling program then oversee consultants with drilling operations for five 1,500 HP top drive rig program;

Cabot Oil & Gas / Boyd Engineering - NW Oklahoma -

- Aug 2008 to Oct 2008;
- NW Oklahoma Morrow, Chester & Mississippi gas wells t/ 10,000';
- Contract Completions Onsite Supervisor log, run casing, cement, perf, frac, snub production string in.

<u>ConocoPhillips / Boyd Engineering – Krum, TX</u>

- May 2008 to August 2008;
- Barnett Shale horizontal gas wells;
- Contract Completion Rig Supervisor toe-prep, fracs, flow backs & snub or CT cleanouts & completions including gas lift.

Shell Oil / Signa Engineering -

- March 2006 to May 2008;
- Mars platform, Mississippi Canyon in deep water Gulf of Mexico, USA;
- Contract Managed Pressure Drilling Instructor provided rig crew training @ Slidel Camp in preparation for Managed Pressure Drilling program;
- Supervisor / Engineer on platform managed pressure drilling & well control supervisor of HTHP, ERD t/ 30,000'+ MD in 3,000' seas.

Windsor Energy / Boyd Engineering - Oklahoma City, Oklahoma

- February 2008 April 2008 (part time on days off);
- Permian, Williston and Bakken;
- Contract Drilling Engineer plans for future directional & horizontals drilling wells.

Winn Exploration / Signa Engineering - Corpus Christi, TX

- October 2007 to March 2008; Grimes County, TX;
- Contract Drilling Supervisor for 22k' Exploration Wildcat, HTHP, H2S, 3,000 HP Rowan Rig 15

Nations Petroleum & Cooper Energy / Signa Engineering --

- April 2007 to January 2008;
- Jakarta, Madura & Papua, Indonesia S Pacific mangrove swamp exploration;
- On-Site Drilling & Completion Engineer supervisor for HTHP, high rate exploration wildcats.

Brooks Range Petroleum / Signa Engineering - Anchorage, AK

- October 2006 to April 2007;
- Gwyder Bay, North Slope Alaska
- Contract Drilling Rig Supervisor / On-Sight Commander for drilling & completion of HTHP, ERD exploration wildcat to 10,600 TVD / 14,000' MD.

Special Energy / Boyd Engineering - Stillwater, Oklahoma

- June 2006 to October 2006;
- Northwest OK & N OK Project Manager;
- Sr. Petroleum Engineer & Rig Supervisor oversee drilling, completion & production of multi-lateral Hunton horizontals to 10,000' MD. ESP including fluid levels.

BP Production / Wellsite Specialists, Inc. - Wamsutter, Wyoming.

- June 2005 to May 2006;
- Contract Drilling Rig Supervisor on sight supervision of 12,000' vertical Almond Sand gas wells including pad directional drilling.

Devon Energy / Plaster & Wald Consulting - Oklahoma City, Oklahoma

- November 2004 to June 2005;
- OK & TX Anadarko Basin & Arkoma HTHP vertical gas wells;
- Contract In-House Drilling & Completion Engineer prepare drilling plans including HSE, permit, survey, construction, rig selection, rig contract, casing design, mud, bit, casing running & cementing plans including CBM & Woodford horizontals;
- Participate on multi-disciplined oversight team including wellbore placement & steering.

Newfield Exploration / Plaster & Wald Consulting -Tulsa, OK

- November 2003 to December 2004 –
- Anadarko Basin & Shelf, N OK, Arkoma & W AR. Granite Wash, Morrow, CBM & Woodford directional / horizontals;
- Contract Drilling & Completion Manager Oversee Drilling & Completions Department with team
 of engineers, technicians, foremen & consultants for 12 rig operation 70+ wells.
- Participate with multi-disciplined drilling oversight team including wellbore placement & steering.

Total E&P USA / Signa Engineer – Houston, TX

- February 2003 to November 2003;
- Rio Grande Valley, S TX;
- Drilling Rig Supervisor 14,500-20,000' HTHP, casing drilling, sidetrack re-entrys.

BP America / Eaton Engineering & Consulting- Katy, TX

- February 2001 February 2003;
- Arkoma, Red Oak Field, SE OK:
- Contract Drilling & Completion Engineer-design & oversee air, oil base verticals & directionals to 21,000'. HP-HR frac's, snubbing, CT, flow tests. Institute Tech Limits program.

Mewbourne Oil Co. / Boyd Engineering - Woodard, OK-

- April 1999 to February 2001;
- W TX, Panhandle TX, SE New Mex, Anadarko Shelf & Panhandle OK;
- Contract Drilling, Completion & Workover Engineer / Rig Supervisor multi-zone, CT & conventional, HP acid & frac, snubbing, H2S, rod & tubing jobs, foam-air cleanouts, recompletions & P&A.

BP Alaska / FAIRWEATHER SERVICES, INC.-Anchorage, AK

- November 1997 to January 1999;
- Badami Eastern North Slope & Prudhoe Bay Alaska isolated, onshore, arctic camps;
- Drilling & Completion Rig Supervisor- 16,000' MD / 10,500' TVD, HTHP sidetracks, ERD open-hole horizontals tri-laterals, G&I (ran ball mill), MWD, LWD & DPC in over-pressured H2S oil reservoir, fishing, CT & casing drilling.

<u>BOYD ENGINEERING-Alva, OK- January 1984 to January 1998 - clients & locations summarized:</u>

Mari Gas / GSM - Amarillo, TX;

- Thar Desert, Eastern Pakistan;
- Drilling Rig Supervisor 12,000' HPHT exploration well. PDC, packed-hole, DST's.

Questar Exploration / Sierra Engineering

- Texas & Oklahoma Anadarko Basin;
- Drilling Rig Supervisor for turnkey 10,000-12,000' multi-cased, weighted mud wells.

Louis Dreyfus Natural Gas / Boyd Engineering - Oklahoma City, OK

- TX Panhandle Anadarko Basin Upper Morrow gas wells;
- Drilling Rig Supervisor 13,000' Well control, open hole snubbing;
- Completion Rig Supervisor Multi-zoned CT & conventional. HP casing frac, flow & snub;

Ensign O&G / Tahoe Consulting -Oklahoma City, OK;

- NW OK & TX Panhandle
- Drilling, Completion & Workover Rig Supervisor-10,000';

Samson Resources / Sierra Engineering - Tulsa, OK

- NW LA, SE OK, NW OK, TX Panhandle-
- Drilling Rig Supervisor 8,800-12,500', multi-cased, over-pressured, directional.
- Workover Rig Supervisor -Sidetrack cased or OWWD abandoned holes for re-completions.

Oryx (Sun Oil) - Sierra Engineering

- Arkoma, SE Oklahoma, Red Oak
- Drilling Rig Supervisor- 8,800' UBD hammer & rotary air while jetting flow line for gas;
- Completion Rig Supervisor Multi-zoned CT & conventional. HP-HR casing frac, flow, snub;
- Workover Rig Supervisor -Anadarko Basin-16,500' foam-air, fishing, stripping, HP frac.

Vastar (Arco) / Sierra Engineering

- SE Oklahoma Arkoma Basin;
- Drilling Rig Supervisor -8,800 to 13,500' UBD air hammer, air/ OBM rotary, OBM, directional;
- Completion Rig Supervisor- Multi-zone rig less wireline & CT. HP acid & casing frac. Snub high flow rates. Foam-air / N2 cleanouts. Flow tests. Fishing.

Marmik Oil- Boyd Engineering

- NW Oklahoma, SW Kansas;
- Drilling Rig Supervisor -5,500-8,000' footage drilled wells;
- Completion Rig Supervisor -TCP, acidize, casing frac, snubbing, construction
- Workover Rig Supervisor –Rod &tubing jobs, casing leaks, re-completions, commingles, deepenings, pluggings;
- Drilling & Prod Engineer-design, planning & supervision, regulatory, environmental

<u>Axem Resources- Boyd Engineering – Woodward, OK</u>

- NW Oklahoma, SW Kansas, E Colorado;
- Drilling Rig Supervisor- 5,500-8,000', enviro-sensitive;
- Completion Rig Supervisor-acid, binary foam casing frac, UB foam-air clean-outs;
- Workover Rig Supervisor Rod & tubing jobs, casing leaks, re-completions, commingles, deepenings & pluggings.

GADSCO/Dune Resources, Noble Affiliates- / Davis Petroleum Consultants - Oklahoma City

- N, S, SW, NW & Central Oklahoma;
- Drilling Rig Supervisor contract & turnkey drilling operations;
- Completion Rig Supervisor -Wireline, casing fracs, snubbing;
- Workover Rig Supervisor Rod & tubing jobs, casing leaks, re-completions, commingles.

Pen-Ocean Oil- / Boyd Engineering - Lagos & Warri, Nigeria

- Bendel State Mangrove Swamp;
- Contract Workover Rig Supervisor -WOR reduction for 10,500' x 9 5/8" dual, selective high flow oil well.

O.I.L. Energy - Oklahoma City, OK & Dallas, TX-full time

- July 1982 to January 1984;
- Central & western Oklahoma, Oklahoma Panhandle, Rocky Mountain, south & west Texas & Louisiana Gulf Coast:
- Division Drilling & Production Engineer-Supervised drilling, completion & work overs to 22,000'
 MD. Production/reservoir engineering monitoring for ~250 wells with company rigs & a staff of engineers, foremen, clerks, technicians, pumpers & contract consultants;
- Drilling & Prod Engineer-Oklahoma City, Oklahoma;
- Completion rig Supervisor Oklahoma City, Oklahoma;

Continental Resources (JD Allen, not H Hamm) - Oklahoma City, OK

Drilling Rig Supr-18,000' multi-cased, Anadarko Basin HPHT gas wells:

<u>Amarex</u> – Oklahoma City, OK

Drilling Rig Supr-16,000 –18,000' multi-cased, Anadarko Basin HPHT gas wells

DI Energy (Drillers, Inc.)- Oklahoma City, Ok - full time, five rigs

- Drilling and Prod Engineer-Design, planning, AFE's, supervision;
- Drilling Rig Supr-17,500' multi-cased, Anadarko Basin HPHT gas wells;
- Completion Supervisor (from drilling rig)-Wireline, slick line, HP frac

Trigg Drilling / Liles Engineering - Oklahoma City, OK

- Drilling Rig Supr-16,500' multi-cased, Anadarko Basin HPHT gas wells;
- Completion Rig Supervisor Wireline, slick line, HP acid and frac. Up to 18,000' Anadarko Basin;
- Workover Rig Supervisor -Re-completions, clean-outs, tubing / rod jobs & pluggings.

TENNECO OIL COMPANY-Oklahoma City, OK- full time

- January 1980 to June 1981;
- Kansas, Texas & Oklahoma up to 22,500' Anadarko Basin;
- Drilling Rig Supervisor;
- Completion Rig Supervisor-completions and work overs;
- Drilling Engineer- Drilling, completion & work over planning, AFE's, reports, supervision.

BEFORE AND DURING COLLEGE: 1973-1980

- Test well at University of Oklahoma BOP School work study;
- Laborer for University of Oklahoma Deep Drilling Research Program- work study;
- Warehouseman at OU Core/Sample Library work study;
- Rig supervisor for Ed Prier, Inc. in Norman, OK during school;
- Roughneck worked floors, motors & derrick for H&P 41, Rowan 5,9,14, Robinson Bros 29 & Top Drilling 3 in central & western Oklahoma to 25,000';
- Rental, fishing & BOPE helper/truck driver for Acme Tool in Oklahoma City;
- Warehouseman, jar-hand & hydraulics mechanic for Bowen Tools in Oklahoma City;
- Hot shot driver for Leo Muse Trucking Co;
- Frac, acid, cement operator for Halliburton in Enid, OK;
- AFL-CIO construction laborer Tinker AFB;
- Teamster freight dock Lee Way & Trans Con Motor Freight non-bid breakout hand.

MEMBERSHIPS:

- Nat'l/State Societies of Professional Engineers;
- Society of Petroleum Engineers 25 year club;
- Society of Petroleum Engineers United States Professional Registration Examinations Committee - 8 years good standing volunteer service;
- American Petroleum Institute OKC;
- Society of Professional Well Log Analysis's;
- American Association of Drilling Engineering;
- International Association of Drilling Contractors-Midcontinent;
- Society of Petroleum Evaluation Engineers;
- Oklahoma City Geological Society;
- International Society of Oilfield Trash (charter member).

Professional Degrees, Certifications and Affiliations:

- Bachelors of Science Petroleum Engineering University of Oklahoma May, 1980;
- WCS Drilling, Completion, Work over, Snubbing, Wire line, Coiled Tubing BOP Card Expired
- Registered Professional Engineer Oklahoma #15906 1989 in good standing;
- SPEC Society of Petroleum Engineers Certified & 30 Year Club;

Skills, Software & Training

- Sonic Fluid Level / Dyno / Pump-off machine owner & operator;
- Well sight safety leadership instruction and implementation;
- Conducting Rig Team safety, proficiency and pre-spud well plan presentation;
- Pore pressure prediction, casing design & set point;
- Mud system, hydraulics optimization planning and surveillance;
- Drilling waste management, noise abatement and community impact;
- Bit selection, ROP / Days-to-Depth optimization;
- Rig Team structure, chain-of-command and communication planning;
- Digital Daily Drilling Reports and Daily Drilling Cost accuracy;
- Past BOP & Well Control from LSU, OU, Randy Smith Horizontal IWCF including snubbing, wire line, coiled tubing for completions and work overs;
- Clean-up, reclamation and regulatory relationships;
- Acid and frac design and surveillance;
- Managed Pressure Drilling design and field implementation;
- Underbalanced drilling design and field implementation;
- Snubbing and stripping tubulars rig assist and stand alone;
- Coiled Tubing on drilling rigs;
- Stuck pipe prevention instruction and implementation;
- Lost circulation prevention and response instruction and implementation;
- Fishing pipe, wire line, objects in cased or open hole;
- OSHA, HAZWOP 40 hr & HAZCOM;
- Recycling of ground water used in drilling and completion:
- Professional well log analyst.