

# DERRICK A. SHIELDS

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## EDUCATION

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**Master of Science in Chemical Engineering** | Graduation: May 2017 | Minor: **Energy and Mineral Engineering**

Core Competencies: Statistical Thermodynamics, Reaction Engineering, Transport Phenomena

**Bachelor of Science in Petroleum and Natural Gas Engineering** | Graduation: Cum Laude in May 2016 | GPA: **3.75**

The Pennsylvania State University | University Park, PA | Minor: **Energy Business and Finance**

## INDUSTRY EXPERIENCE

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### Armstrong World Industries

*Process Engineer Intern* | Marietta, PA

*Summer 2016*

- Worked in Armstrong's largest Ceiling Manufacturing Plant (produces approximately 1 million sq. ft. of material per day).
- Developed a proactive system which predicts the acoustical performance of ceiling tiles as soon as the raw materials are accumulated into a board. Implemented the system to help prevent large quantities of scrap material from being produced.
- Worked with third party contractors to discover the effect specific chemicals have on the bulk volume of process wool.
- Measured and monitored the equivalent charge of process water and clays. Related measurements to board performance.
- Helped the company deal with \$4 million worth of claims related to calcium carbonate board flaking.

### Chesapeake Energy

*Completions Engineer Intern* | Oklahoma City, OK

*Summer 2015*

- Worked with the completions group in Chesapeake's Rockies Business Unit.
- Reviewed and optimized the stimulation additives for the different horizons Chesapeake is targeting. Required extensive research on the function of chemical additives used throughout the hydraulic fracturing process.
- Recommended the removal or substitution of chemical additives to reduce completion costs by over \$200K per well.
- Wrote the completion procedure for the Smith Creek 8-32-70 B SX 7H, completed August 2015. Specified exactly what volume and concentration of fluids and chemical additives needed to be run.

*Field Intern* | Canton, OH

*Summer 2014*

- Witnessed drilling, completions and production operations in the Utica Shale.
- Worked with the production group in Chesapeake's Appalachian South Business Unit. Exposed to a variety of different production equipment and facilities for handling dry gas, wet gas, condensate and oil.

## LEADERSHIP EXPERIENCE

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**Society of Petroleum Engineers (Penn State Chapter)** | *President* | University Park, PA

*2015 – 2016*

- Awarded Outstanding Student Chapter – the highest honor a chapter can achieve – for the first time since 1991. Accepted the award in Dubai, UAE on September 27<sup>th</sup>, 2016.

**The Penn State Energy Marketing Association** | *Co-Founder and Director* | University Park, PA

*2015 – 2016*

- Established an intellectual forum where individuals can engage in and debate on content related to energy marketing.
- Publish a bi-weekly newsletter with elaborate price forecasts for the crude oil, natural gas, and power markets.

**Penn State IFC/Panhellenic Dance Marathon** | *Committee Member* | University Park, PA

*2013 – 2015*

- Worked on the operations and finance committees. This is the largest student run philanthropy in the world.

## ACTIVITIES, HONORS, AND AWARDS

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**Senior Merit Award Winner – Recognized as the top senior student in Petroleum Engineering as voted by the faculty** | *Eagle Scout* | *Mathew J. Wilson Honors Scholarship (2X)* – Given to outstanding students in The College of Earth and Mineral Sciences | *Dean's List (6X)* – over 3.5 GPA | *Army Reserve National Scholar* | *BP Exploration Scholarship* – Given to students who have demonstrated academic excellence as well as involvement in professional societies | *John and Willie Leone Family Scholarship* – Given to the most outstanding students in The Department of Energy and Mineral Engineering | *Club Baseball* | *Club Basketball* | *American Association of Drilling Engineers*

## SKILLS

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Excel VBA | Mathematica | SolidWorks | AutoCAD | Matlab | C++ | HTML | Minitab | ARIES | General Algebraic Modeling System (GAMS) | CMG | MFrac | FracPro | Well Control Certified | Natural Resource Estimation | Leadership | Public Speaking