

National Chemical Technician Award Candidate Form

Candidate information

Name: Judy L Waters **Title:** Senior Staff Technician
Company name: ConocoPhillips
Complete work address: 260GB, Research Center, Hwy.60 & 123, Bartlesville, OK 74003
Work phone: 918-661-0457 **Email:** Judy.l.waters@conocophillips.com

Candidate's immediate supervisor's information

Supervisor's name: Roger Hudgins **Supervisor's title:** Foreman
Work Phone: 918-661-0167 **Email:** Roger.l.hudgins@conocophillips.com

Nominator's information

Nominator's name: Thomas Baugh **Nominator's title:** Principal Scientist
Work Phone: 918-661-3660 **Email:** Thomas.D.Baugh@conocophillips.com

Candidate Eligibility

All three boxes in the Eligible column must be checked for candidate to be eligible.

	Eligible	Ineligible
1. Is the candidate a chemistry-based laboratory technician, process technician, operator, analyst, or other applied chemical technology professional?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
2. Has the candidate been employed for at least five years as an applied chemical technology professional?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
3. Is the candidate currently a member of the Committee on Technician Affairs Executive Board and/or Advocacy & Public Relations Subcommittee?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes

Candidate's contribution in six areas of award criteria

Make space as necessary under each category. Total packet, including letter(s) of recommendation, must not exceed 6 pages, minimum 10-point font. Do not include proprietary, confidential, or private information.

Technical Achievements (worth 60%)

Worked in close coordination with principal scientist to determine cause of fouling in North Sea glycol system that had potential to shut down production in the field.

Shared 12-hour shifts with supervisor to obtain chemical enhanced oil recovery flowback samples from Kuparuk field trial.

Worked with principal scientist to develop method for differentiating naphthenic acids from total crude oil, as a tool to prevent shutdown of Bohai offshore oil production.

Judy analyzes produced water for dissolved and dispersed naphthenic acids, and isolates those acids from crude oil. Her work with the Water Solutions team has identified the unique structure of the tetraacid responsible for calcium naphthenate formation that is known to cause fouling of topside equipment.

Responsible for making and testing of 120 formulations of Schmo-B-Gone, used in a patented process to provide non-aqueous pre-flush for scale inhibitor squeeze treatment.

Judy assembled and operated a high pressure autoclave for pioneering sour gas hydrates testing for Qatar 3-4 development.

She has provided RFP testing to qualify scale inhibitors for use in Ekofisk, Bohai Bay, Alpine, and

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Cedar Hills production.

Other (Considered together to make up the remaining 40%)

Leadership/Mentoring (15%)

Mentored new employees and contractors in start-up of analytical lab capabilities for ConocoPhillips. Maintained key role in implementation of LIMS and ELN, to move sample information and laboratory test protocols from paper to electronic format.

Number of communications/publications (5%) Please do not include titles.

2014 (6), 2013 (2), 2012 (8), 2011 (5)

External publications, presentations, patents

3

Internal presentations, publications Include SOPs, presentation to teams, etc.

5

Contribution to quality, safety, and other initiatives (5%)

Took lead to insure all Water Solutions labs were in compliance for corporate HSE audit. Previously served as member of BST steering committee.

Awards (5%)

2008 Spirit Award for pioneering high pressure, sour service gas hydrates testing for Qatar 3/4 development. Received three special recognition awards, one for a Norway RFP, one for Kuparuk CEOR trial, and one for work to mitigate Bohai injection well plugging.

Professional and community activities (ACS, AIChE, outreach, etc.) (10%)

Science Night guest speaker at Kerr Elementary School Science Night at Allen, Texas (5/5/2015)
Participated in OSU Womens' Business Leadership Conference
GPE Symposium (Houston) poster session presenter for Bohai Bay oil-in-water measurement
Bartlesville Energy Days volunteer for demonstrating oil spill remediation techniques
Assisted with United Way Day of Caring survey of city ride bus usage

Letter in Support of Judy Water for Technician of the Year: 2015

I am pleased to support the nomination of Judy Waters for ACS technician of the year for 2015.

During the past eighteen years, I have had the opportunity and privilege to work with and around Judy Waters. Judy has worked supporting DuPont pilot plant initiatives for the first years of her career and, after that, Upstream Production Assurance. In her current position, she works in the Flow Assurance Services area of Global Production Excellence / Lab Services where tasks and projects are anything but routine. She has worked experimental issues in sour gas hydrates, scale prevention, emulsion formation and breaking, naphthenate chemistry, foam lift and identification of unknown materials isolated from production facilities. Currently she is also updating her skill set to include operation of ion chromatography and X-ray diffraction instruments. This type of work requires a broad range of skills, a drive to learn new technologies and techniques, strong teamwork and networking abilities, and desire to relate laboratory and field issues.

To illustrate these talents, the following project examples are offered. It is noteworthy that participation in these projects requires participation in a team atmosphere usually comprised of scientists and engineers from Global Production Engineering and from the business Units, many of which are international. Accomplishing the task objectives from the BUs requires dedication, an exceptional degree of reliability, self-motivation, and group communication skills in order to deliver the required study goals on time. A few examples should serve to illustrate these points.

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- Determination of the Identity of Unknown Materials. Production operations sometimes come up with material, deposits, gunks, that were not expected. Identification of these materials is the first step in preventing and/or remediating these build-ups. Judy has a long history of identifying unknown materials. For example, she has developed an initial matrix of analytical tests to determine the general make up of unknown samples after which the need for more detailed analytical may be determined. She has worked with me on determining the nature of a material plugging a gas cooler on the Ekofisk platform (Norway). As fouling gets worse, the cooler may require cleaning and require an entire field shut-down. Understanding the nature of this material was the first step; we can now concentrate on stopping its formation. Another example of a major project is the identification of material plugging a separator in Bayu Undan Australia. The material was identified as bio-polymer with much of the analytical work accomplished by Judy.
- Analytical Development. Over the last few years, the Upstream Bartlesville testing laboratories have been developing analytical testing facilities including Ion Coupled Plasma Optical Emission Spectrometry (ICP-OES), Ion Chromatography (IC) and X-Ray diffraction (XRD). Judy has trained on the IC and XRD systems and now operates these as well as performing her functions in wet chemistry. Her ability to utilize these analytical instruments has allowed quick response to the BU's on issues of corrosion and water chemistry.
- Scale Inhibitor Testing and Selection. Judy has developed considerable experience and expertise in the field of scale inhibitor testing for field applications including bottle testing and dynamic testing. She helped develop the first dynamic scale inhibitor testing system at ConocoPhillips and two more have been built off the original design. This work was presented at the Offshore Technology Conference in 2012 where she is a co-author of the paper and presentation. She has participated in scale inhibitor selection for a variety of fields worldwide including Bohai Bay (China), Ekofisk (Norway), and Alpine (Alaska).

Judy shows the dedication, drive to learn new things and apply them to oil production, and ability to reduce to practice new techniques that are the hallmark of excellence. I am proud to work with her both as an individual scientist and as part of larger teams.

Thomas D. Baugh

Principal Scientist, Global Production Excellence

June 16, 2015

June 15, 2015

Recommendation Letter for Judy Waters

Judy is considered a critical team member for the Flow Assurance Labs. She consistently provides excellent quality technical work and her experience assists others to accomplish many tasks. She develops scopes and recommendations that many scientists and engineers depend on to solve critical flow assurance problems in operations and projects. Based on her years of experience she is

able to identify many of the unknown fouling materials through we chemistry.

As the labs have changed and added new analytical equipment Judy has stepped in and has taken on the additional role of analytical instrumentation. Due to her senior status in the Flow Assurance group she has been asked to lead the effort for moving from lab notebooks to electronic lab books and LIMS software.

The distinction the Judy has and what makes her an excellent nomination is her willingness to move forward exploring new avenues to enhance the labs, her “can do” attitude and willingness to help others on a daily basis.

Respectfully,
Cindy Smith
Supervisor, Flow Assurance Services