Brandon Highsmith

PRODUCTION ENGINEERING MANAGER, DATA TECHNOLOGY

Grounded in firsthand field experience, I bring **systems thinking** to complex operational challenges, understanding how people, processes, and technology work together. I **connect the dots** across disciplines to identify opportunities, then **turn vision into execution** by aligning teams and building scalable solutions that deliver measurable business value.

FOUR CHAPTERS

01 2012-2016

Building A Foundation

Learned how production works through close collaboration with field operations, turning that understanding into practical digital improvements and cost savings.

02 2016-2018

Thinking in Systems

Expanded into reservoir development and complex planning, connecting people, decisions, and dependencies at enterprise scale.

03 2018-2022

Returning to the Field

Deliberately returned offshore on a 14/14 rotation to deepen operational expertise, then translated that experience into analytics across Gulf assets.

04 2022-Present

Scaling Through People & Technology

Led the rigorous work of contextualizing operational time series, then scaled the people, platforms, and agentic solutions built on it.

PROFESSIONAL EXPERIENCE

Occidental Petroleum Corporation — 2019 - Present

Production Engineering Manager, Data Technology

Aug 2022 - Present · The Woodlands, TX

Led the sustained effort to standardize and contextualize time-series data, creating the trusted backbone for agentic applications and operational workflows.

- **Agentic applications & workflows.** Led the move from conventional analytics to agentic solutions, directing the team that built a natural-language assistant for operational time series and multi-agent workflows supporting engineering analysis.
- **Trusted knowledge for AI.** Led the team that built automated pipelines connecting engineering source documents to enterprise AI applications, enabling knowledge-backed agents for engineering and operational documentation.
- **Enterprise application platform.** Created a governed, centralized platform for **dozens of engineering tools across multiple disciplines**, including live surveillance and operating workflows, designed to improve engineering productivity at scale.
- **Contextualized time-series backbone.** Led a sustained, multi-year effort to standardize and contextualize operational data through **dozens of reusable templates across topside, well, and subsea elements**, mapping **tens of thousands of data tags** and developing core automation scripts. Established the trusted foundation for today's analytics and agentic applications.
- **Operational automation.** Directed **Manage by Exception** automation across multiple operational categories, monitoring **thousands of elements** with near-real-time alerts and machine-learning surveillance to prompt action and eliminate **thousands of hours** of annual manual work.
- **Team and delivery foundations.** Built and developed the engineering team, established separate development, test, and production environments, integrated core operational systems, and enabled engineers and technicians to develop AI-powered solutions.

EDUCATION

B.S., Petroleum Engineering
Louisiana State University · 2011 - 2013

Nanodegree, Machine Learning Engineer
Udacity · 2019

Associate of Arts
Hillsborough Community College

LICENSES

- FAA Commercial Pilot · Instrument · CFI
- CDL Class A

Staff Production Engineer, Gulf of Mexico

Aug 2020 - Aug 2022 · The Woodlands, TX

Brought offshore lessons onshore, turning operational insight into repeatable surveillance and cross-functional analytics across Gulf assets.

- **Production outcomes.** Created surveillance analytics that accelerated production revenue through faster well ramp-up decisions.
- **Cross-functional innovation.** Led advanced controller-tuning work across operations, automation, process engineering, and data science, increasing production.
- **Analytics adoption.** Championed Seeq ahead of its enterprise-wide adoption; developed Python/Seeq dashboards and downtime classification for Gulf assets.
- **Process automation.** Automated production-data loading, delivering **recurring annual savings**, while serving as production engineer for three offshore assets.

Sr Production Engineer, Gulf of Mexico (14/14 rotation)

Aug 2019 - Aug 2020 · Offshore Gulf of Mexico

Applied firsthand offshore experience to uncover drivers of well performance and automate the work behind better decisions.

- **Subsea performance.** Identified controllable drivers of subsea well performance, informing improved operating strategies and equipment standards.
- **Operational automation.** Built data loaders and reporting that delivered **recurring annual savings**; applied analytics to subsea and facility surveillance.

Anadarko Petroleum Corporation 2012 - 2019

Acquired by Occidental Petroleum Corporation in August 2019. Continued with Occidental following the acquisition.

Sr Production Engineer, Gulf of Mexico (14/14 rotation)

Aug 2018 - Aug 2019 · Offshore Gulf of Mexico

Deliberately returned offshore on a 14/14 rotation to deepen my understanding of operations, working alongside the people running the facilities.

- **Hands-on operations.** Returned offshore on a **14/14 rotation**, partnering with operators and control-room teams to improve processes at the source.
- **Operating-cost reduction.** Evaluated chemical-treatment alternatives that **reduced annual operating expense**; led injection, corrosion, and facility optimization projects.

Sr Planning Engineer, Delaware Basin

Jun 2017 - Aug 2018 · Midland, TX

Connected the dependencies of a complex drilling program and turned a local planning tool into the foundation for an enterprise platform.

- **Enterprise adoption.** Established the business case for an enterprise well-execution planning platform, growing a local scheduling tool into a company-wide solution.

- **Measured impact.** Reduced manual work by **4,000+ hours/year** and significantly improved on-time milestone completion quarter-over-quarter.
- **Planning at scale.** Built VBA/Primavera automation for **thousands of milestones annually**, providing 120+ stakeholders real-time status and priorities.

Sr Reservoir Engineer, Delaware Basin

Apr 2016 - Jun 2017 · The Woodlands, TX

Expanded from production improvement to capital strategy, connecting technical, commercial, and development decisions.

- **Development leadership.** Served on a three-person team guiding a **large multi-well development**; integrated reservoir forecasts, economics, and capital planning.
- **Commercial strategy.** Supported integrated development and commercial planning, connecting technical, economic, and strategic decisions.

Production Engineer, Marcellus

Jun 2013 - Apr 2016 · Williamsport, PA

Learned from field operations and recognized that fragmented water logistics could become one connected digital workflow.

- **Digital transformation.** Conceived and led a digital water-logistics workflow linking SCADA, dispatch, field capture, and invoicing; reduced operating expense and **~1,500 manual hours**.
- **2016 – Capital delivery.** Managed a **multi-million-dollar capital program** within 5% of budget; keynote speaker at the Pittsburgh Water Conference.
- **2015 – Engineering standards.** Reduced capital spend by revising equipment mechanical standards.
- **2014 – Operating efficiency.** Reduced operating expense by halving equipment deployments after analyzing operating-pressure requirements.

Technical Services, Gulf of Mexico

May 2012 - Jun 2013 · The Woodlands, TX

Built my foundation by connecting engineering data to physical assets, making complex operations easier to understand and improve.

- **Integrity insight.** Integrated corrosion and chemical surveillance into interactive process diagrams, reducing quarterly review work **60%**.
- **Digital foundation.** Mapped **thousands of drawings** to assets and developed a cross-functional asset-integrity workflow.