

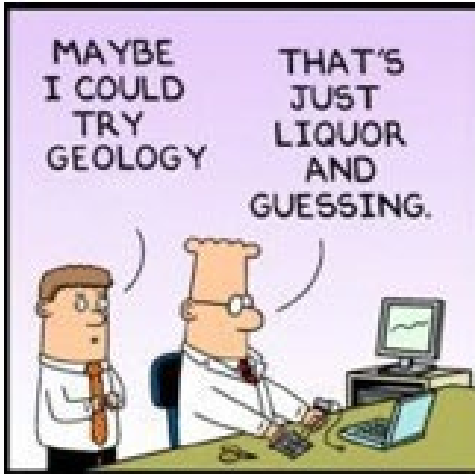
Energy Workforce & Technology Council – Permian Basin Chapter

Lifecycle Of An Asset – An Operator's Perspective

8/23/2022



A Little About Me



- Geologist by training. Made it worse by getting a business degree.
- First 11 years of my career with an EnCap back portco called Bold Energy. Stayed there through all three iterations of the company.
- Joined Henry in 2015. Started as a geologist, transitioned to BD, now in operations.

Outline Of What We'll Talk Through Today

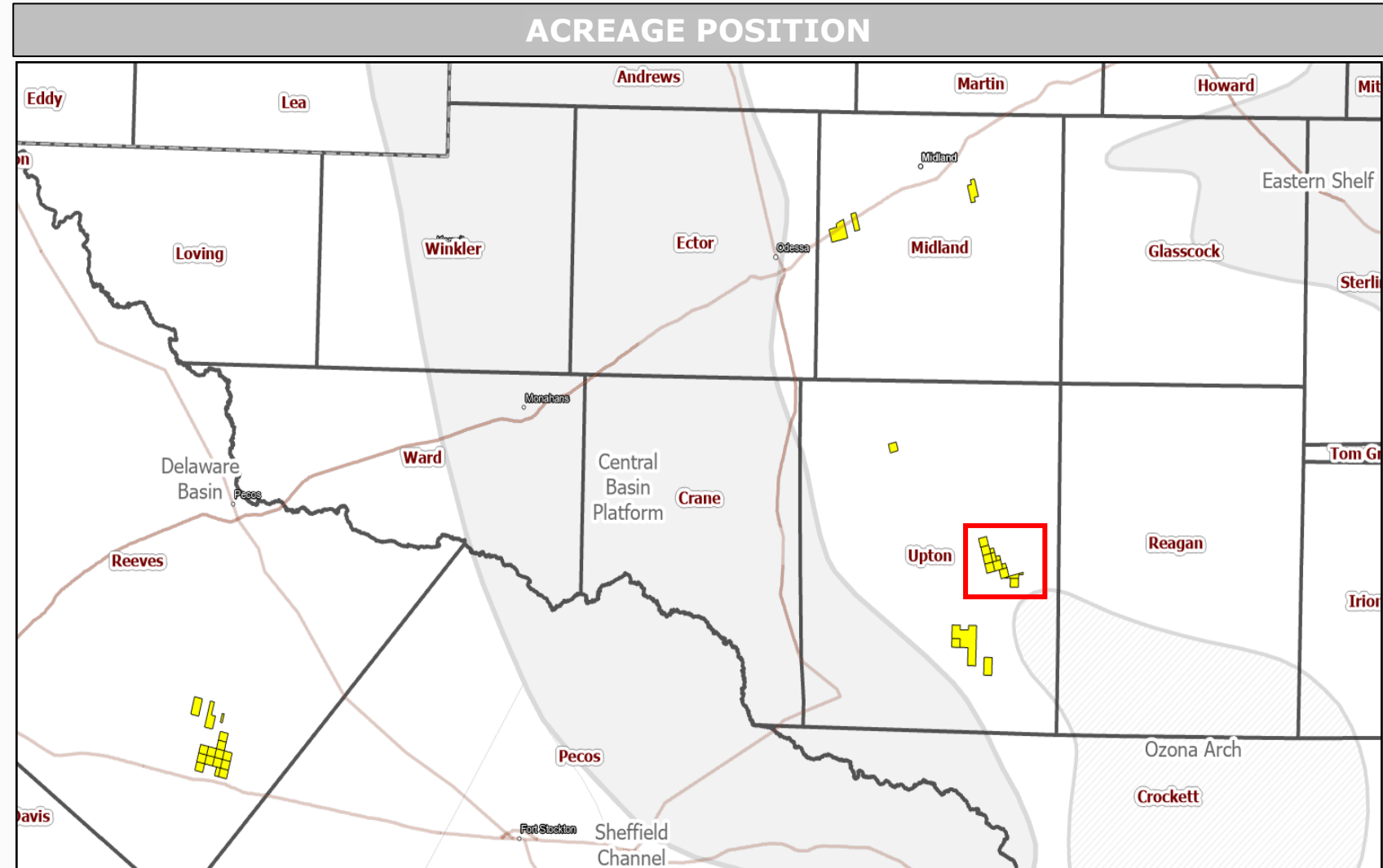
- Company Overview
- Lifecycle of an Asset – Highlighting Critical Services Along The Way
 1. Initial Acquisition & Necessary Consolidation
 2. Project Planning - Inventory
 3. Infrastructure Build-out
 4. Development
 5. Production Management
- Current pain points and potential long-term challenges



Henry Resources Company Overview

COMPANY OVERVIEW

- **Started in 1969**
- **100% owned and controlled by the Henry family**
- **Name changed from Henry Petroleum to Henry Resources after Concho Sale in 2008**
- **38 Oil & Gas Employees**
 - Office Staff = 30
 - Field Staff = 8
- **31,000 Gross Acres**
 - Midland Basin Acres = 17,000
 - Delaware Basin Acres = 14,000
- **205 Active Wells**
 - Horizontal Wells = 135
 - Vertical Wells = 70
 - 30,000 BOEPD



Asset Lifecycle – Acquisition & Consolidation

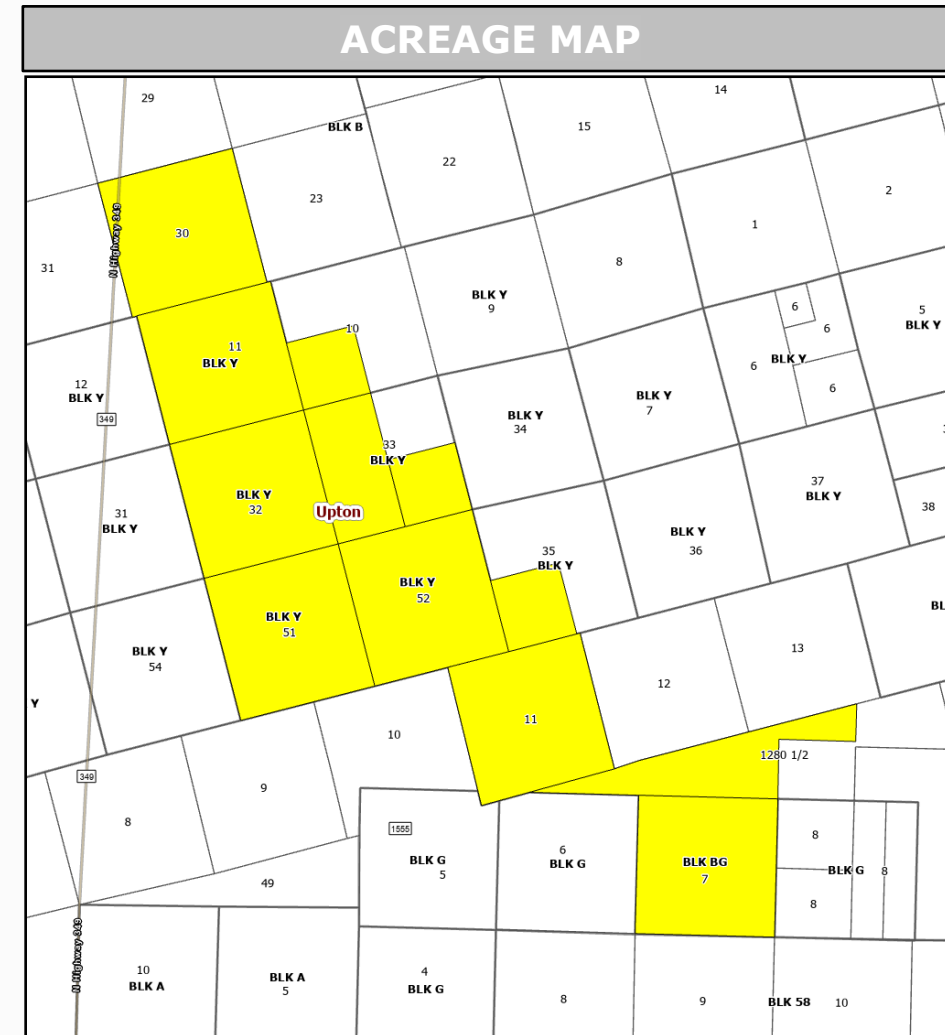
OVERVIEW

Ideal Process

1. Identify prospective area. (Technical Team)
2. Make initial acquisition to gain a foothold. (Land & BD Teams)
3. Identify bolt-on opportunities. (Land Team)
4. Lay out optimal development. (Technical Team)
5. Target specific bolt-ons to maximize lateral length. (Land Team)

How it played out

1. Initial acquisition - 2016
2. Acreage trade - 2017
3. Drill-to-earn with multiple parties – 2018
4. Acreage trade with multiple parties & bolt-on leasing – 2019
5. Bolt-on leasing – 2020
6. Acquisition of multiple WIOs – 2021
7. Final Position 5800 GMA



Asset Lifecycle – Project Planning - Inventory

Goal – Identify Optimal Development Plan

Considerations

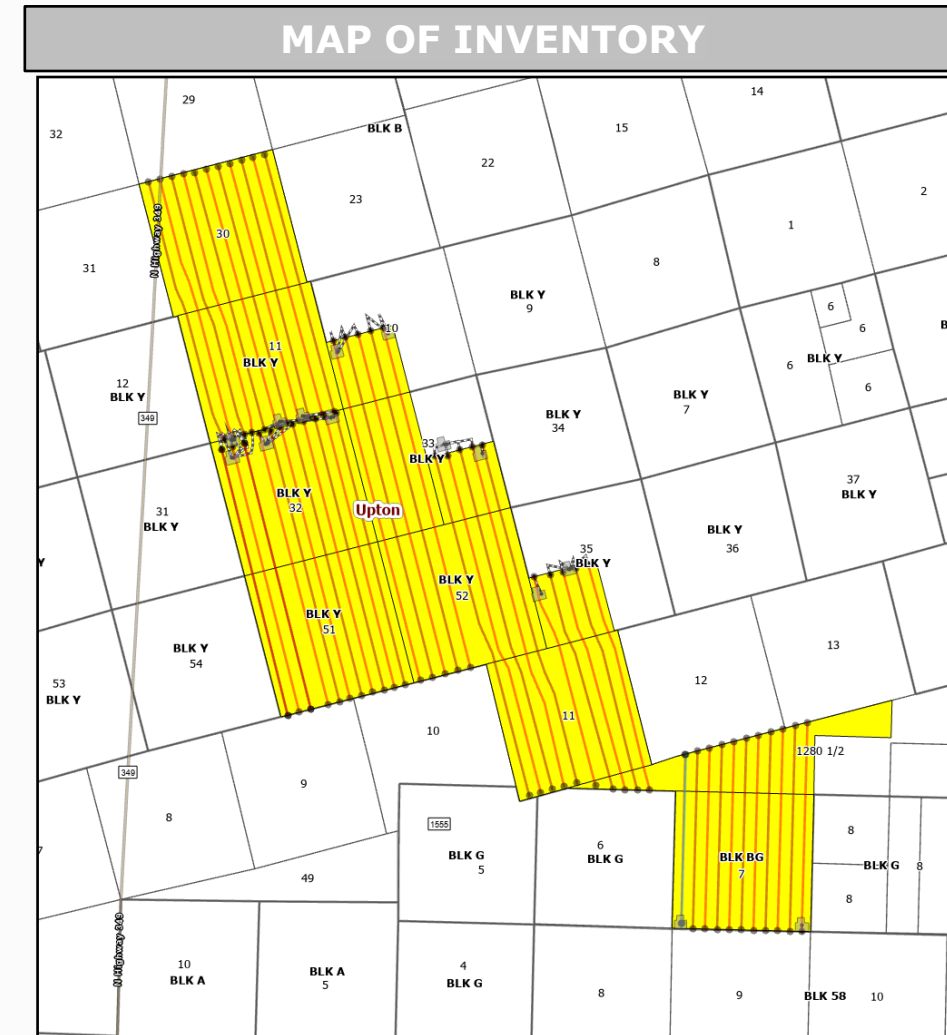
1. Horizontal targets (Technical Team)
2. Spacing (Technical Team)
3. Development logistics (Operations)
4. Development pace (Management with Technical and Ops Input)

Data & Tools Used for Process

1. Offset well performance via data trades & public sources (Operator data, IHS, Enverus, SQL, Spotfire)
2. Type Logs, Type Curves, & Reservoir models (Pilot Logs, Q Eng., Petro.ai)
3. Operational logistics (ArcGIS, Google Earth, Power BI)
4. Return sensitivities (Aries)
5. Development pace sensitivities (Actenum DSO, Aries)

Results

1. 51 total locations identified
2. Two primary targets in WCB, with several strategic test wells
3. Delineate, then develop at a financially acceptable pace. Focus placed on minimizing downtime and performance degradation.
4. Initial development began YE 2019. Currently ~75% developed.

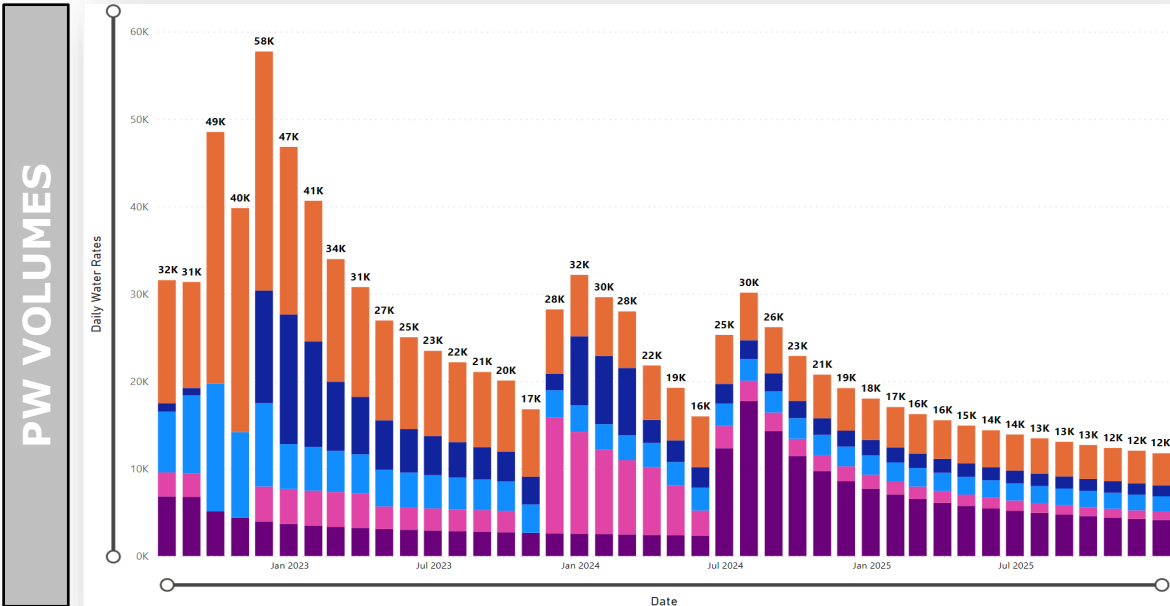


*Will soon begin trialing ComboCurve as possible process improvement tool



Asset Lifecycle – Production Management

PEAK RATE MANAGEMENT



Flowback

- Flowback strategy – How do you manage flowback?
- 1st A-lift install – ESP, Annular Gas Lift?

Produced Water Management

- Ability to manage water volumes that come with multi-pad development is critical.
- Recycling capacity with SWD contingency a must. Must have redundancy across the system.

LONG-TERM PRODUCTION MANAGEMENT

Focus

- Critical for team to remain focused on keeping production online and consistent.
- Harder than it sounds when the rest of the organization is hyper-focused on high value flush production elsewhere.

A-lift Progression

1. ESP – What configuration?
2. Gas Lift – when is the appropriate time to make the change?
3. PAGL
4. Plunger Lift
5. GAPL
6. Do these wells ever go on rod pump?

Frac Hits

- Offset frac hits are critical to recognize and prepare for operationally. May alter planned A-lift progression.
- Production downtime critical to model for short-term liquidity management.





Pain Points & Potential Long-Term Issues

Current Pain Points

- **Shallow SWD** – Apparent breakthrough into productive intervals via legacy vertical wells. H₂S and higher than expected water cuts result.
- **ESPs** – Several stuck pumps that resulted in costly fishing jobs. Pump clearance inside our 20# csg with current designs has been problematic.
- **Development Timing & Frac Hits** – You can't manage your business in a vacuum any longer. Timing of drilling, completion and A-lift, all must consider what the neighbors are doing.
- **WSU Availability** – Quality units are few and far between. Our workload has increased substantially with A-lift installs, repairs, TA & P&A work of verticals around the rig and completion crew.
- **H₂S** – Mitigating and managing H₂S. A key concern in the Delaware and becoming more critical in the Midland Basin.

Long-Term Challenges

- **A-lift** – Artificial lift is going to become more and more important to optimize as our wells age. Wellbore geometries, frac hits, etc. leave our current A-lift tool kit in need of some innovation.
- **SWD** – The issues that we are seeing today will only continue to get worse over time. Casing leaks, H₂S etc. will develop in high traffic areas and impact large swaths of production.
- **Power** – Infrastructure is reaching a tipping point. Many areas that will be developed in the coming years need substantial upgrades. Crypto mining, which has moved into the Permian due to our cheap power, will only exacerbate the issue.
- **Regulation** – RRC Rule 65 and more importantly Rule 66 may have impacts that we have yet to fully understand or appreciate. Participation in programs like LR at risk along with prohibitive weatherization requirements.

Parting Thought – Partnership beats price, every time. Companies that align with our values, are willing to be flexible, and provide great service will almost always earn and keep our business over the cheapest bid. If we are important to you, you will be important to us.

