EnerCom The Oil and Gas Conference 22
August 14, 2017

Safe Harbor Statement

Forward-Looking Statements and Non-GAAP Disclosure

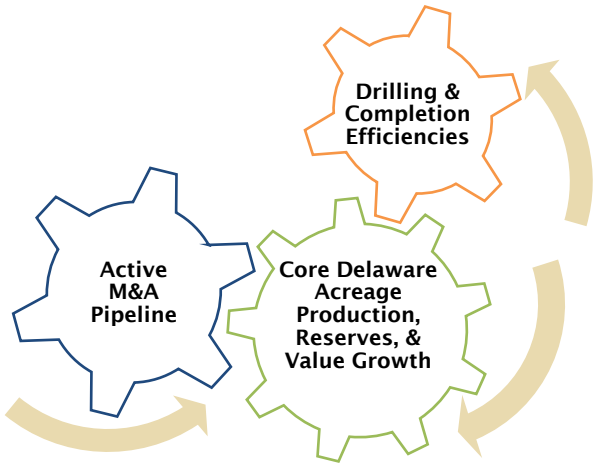
This communication includes certain statements that may constitute "forward-looking statements" for purposes of the federal securities laws. All statements, other than statements of historical fact included in this communication, regarding our opportunities in the Delaware Basin, our strategy, future operations, prospects, plans and objectives of management are forward-looking statements. When used in this communication, the words “could,” “believe,” “anticipate,” “intend,” “estimate,” “expect,” “project,” “forecast” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain such identifying words.

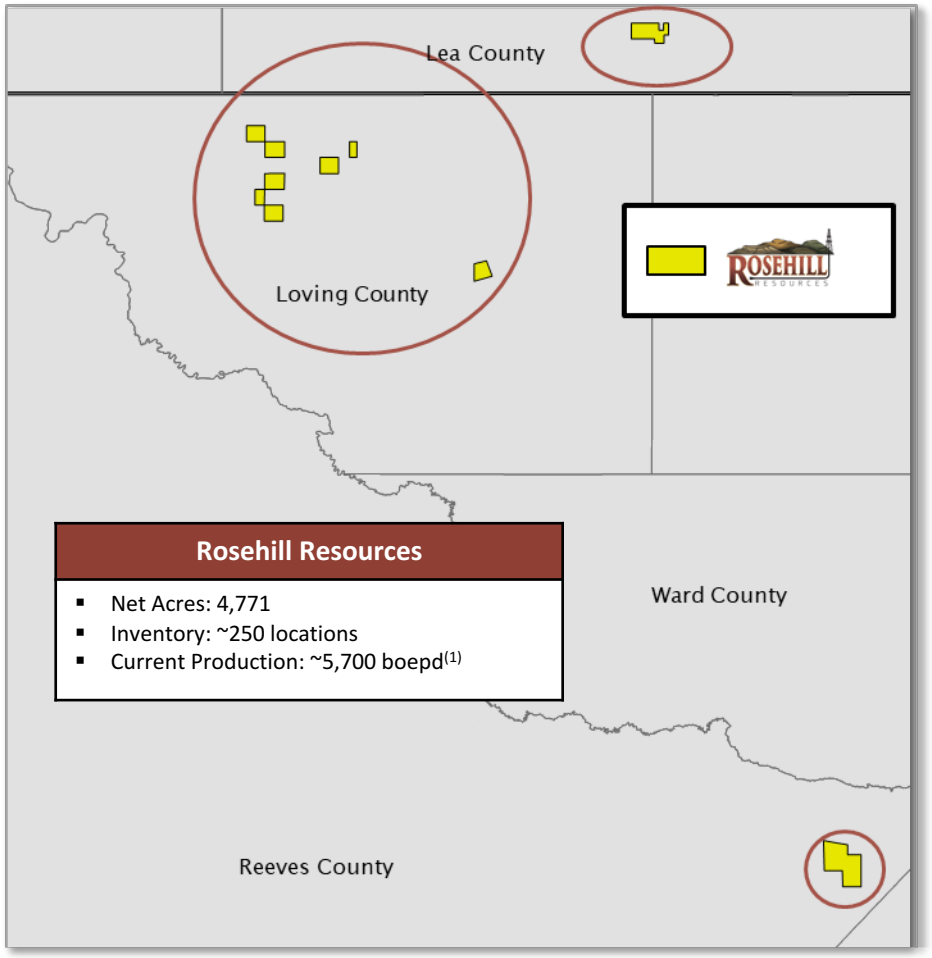
You should not place undue reliance on these forward-looking statements. Although we believe that our plans, intentions and expectations reflected in or suggested by the forward-looking statements we make in this communication are reasonable, we can give no assurance that these plans, intentions or expectations will be achieved or occur, and actual results could differ materially and adversely from those anticipated or implied by the forward-looking statements. Some factors that could cause actual results to differ include: (i) changes in applicable laws or regulations; (ii) the possibility that the Company may be adversely affected by other economic, business, and/or competitive factors , including, but not limited to, future trends in energy markets and commodity prices; and (iii) other risks and uncertainties described herein, as well as those risks and uncertainties discussed under Risk Factors in our Registration Statement on Form S-3, as amended, filed with the SEC on June 14, 2017, and in other public filings with the Securities and Exchange Commission (the “SEC”) by the Company. Our SEC filings are available publicly on the SEC’s website at www.sec.gov. These forward-looking statements are based on management's current expectations and assumptions about future events and are based on currently available information as to the outcome and timing of future events. Except as otherwise required by applicable law, we disclaim any duty to update any forward-looking statements, all of which are expressly qualified by the statements in this section, to reflect events or circumstances after the date of this communication.

PV–10 is a non-GAAP financial measures used by management, investors and analysts to estimate the present value, discounted at 10% per annum, of estimated future cash flows of the Company’s estimated proved reserves before income tax and asset retirement obligations. Management believes that PV-10 provides useful information to investors because it is widely used by professional analysts and sophisticated investors in evaluating oil and natural gas companies. Because there are many unique factors that can impact an individual company when estimating the amount of future income taxes to be paid, the Company believes the use of a pre-tax measure is valuable for evaluating the Company. PV-10 should not be considered as an alternative to the standardized measure of discounted future net cash flows as computed under GAAP.

ROSEHILL COMBINES TWO COMPANIES WITH COMPLIMENTARY VISIONS

- Preeminent Delaware Basin small-cap E&P company
- Experienced technical and operations team
- Proficient and knowledgeable management team
- Focused on shareholder returns





An Organic Growth and Acquisition Strategy Combined with Operational Excellence Makes Rosehill an Attractive Delaware Basin Small-Cap Investment

Source: Company filings
1. Previously disclosed March 2017 E production

ROSEHILL STRATEGY

Optimize Operations	• Continue improvements to drilling and completion techniques to improve EUR, minimize costs and improve F&D metrics • Drive down cash operating costs and improve margins to grow cash flow
Expand Delaware Footprint	• Strong balance sheet allows for organic leasing and bolt-on deals • Explore strategic, accretive acquisitions
Maintain Financial Discipline	• Capital expenditures focused on highest return benches and funded within operational cash flow and credit facility availability • Opportunistically add hedges to minimize downside exposure
Deliver Value to Shareholders	• Sustainable growth in net income and cash flow • Operate safely and efficiently to maximize margins

Deliver Strong, Profitable Growth Through Operational Excellence and Accretive Acquisitions

WHAT SEPARATES THE DELAWARE CORE FROM OTHER PLAYS?

Thickest and Richest Part of the Basin

- Rosehill's core acreage is in the thickest part of the Delaware Basin
- Multiple high-quality source rocks
- 10 distinct productive benches

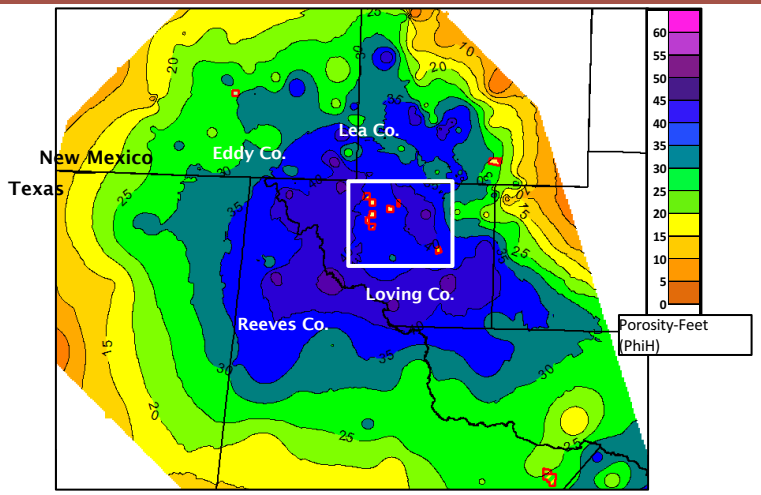
Superior Reservoir Quality

- Several benches are overpressured with good porosity and thickness
- Natural fractures are abundant and increase drainage efficiency
- Strong EURs across multiple benches

Central Delaware Basin Reservoir Thickness

	Gross Reservoir Thickness (ft)	Estimated Locations
Brushy Canyon	210	27
Upper Avalon	325	13
Lower Avalon & 1st Bone Spring Sand	315	13
2nd Bone Spring Shale	200	19
2nd Bone Spring Sand	350	34
3rd Bone Spring Shale	410	19
3rd Bone Spring Sand		
Wolfcamp A (X,Y)	825	83
Wolfcamp A Lower		
Upper and Lower Wolfcamp B	800	44
Total	**3,435**	**252**

Wolfcamp A Porosity (PhiH)

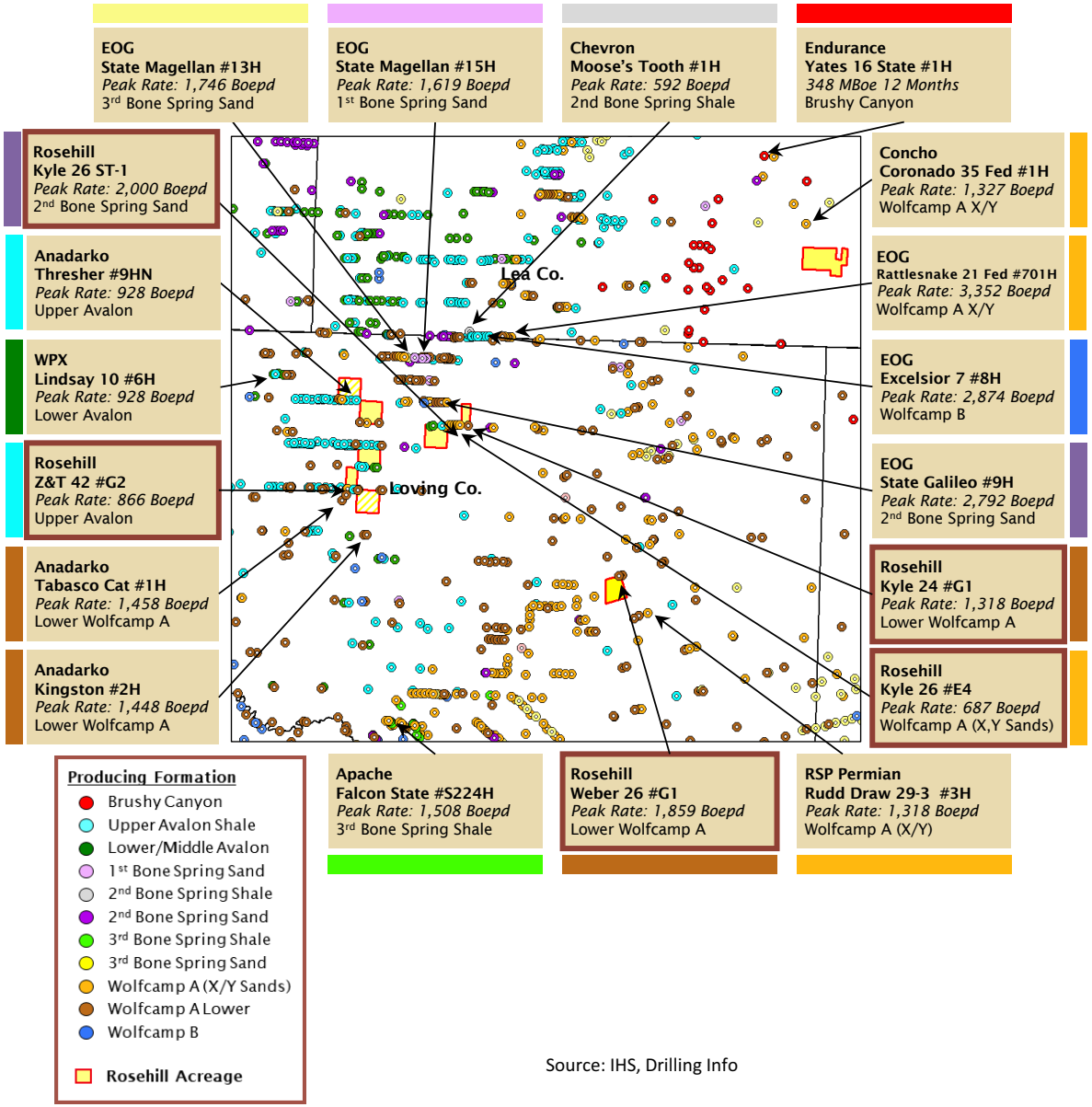


Source: Company filings

PROVEN FIRST CLASS ACREAGE

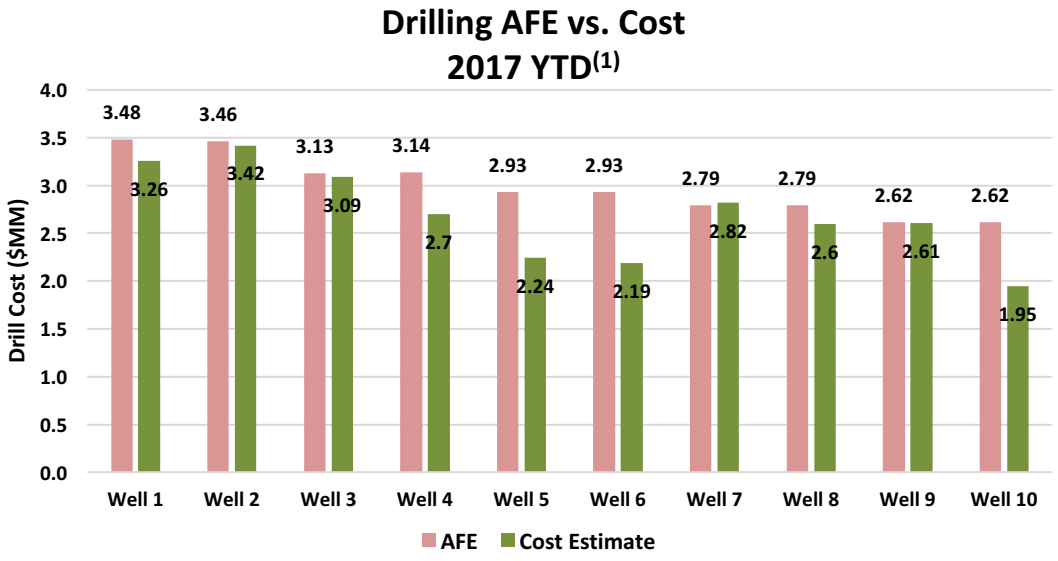
Compelling Area Results

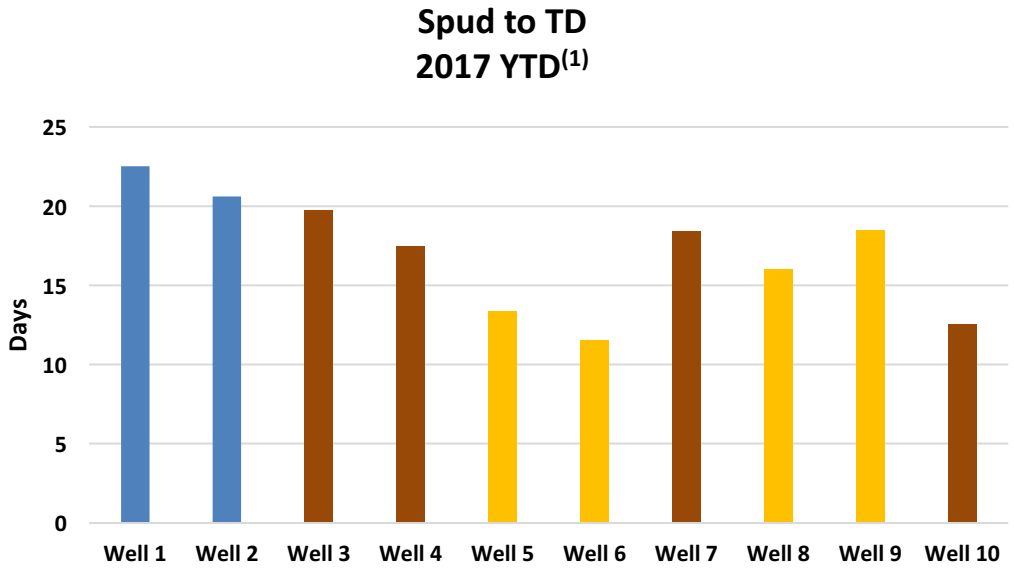
- Significant number of offset operators, enhances knowledge
- Highly repeatable drilling due to close proximity to offset activity and similar geologic features
- Acreage has high oil content
- Rosehill's well results have improved dramatically across its footprint
  - Improving recoveries due to refinement of drilling and completion methodology
- Rosehill recently completed the Kyle 26 ST-1well targeting the 2nd Bone Spring Sand flowing at over 2,000 Boepd, with 84% oil (24 hour rate), while still cleaning up



Source: IHS, Drilling Info

OPTIMIZING DRILLING TECHNIQUES LEADING TO REDUCTION IN COSTS





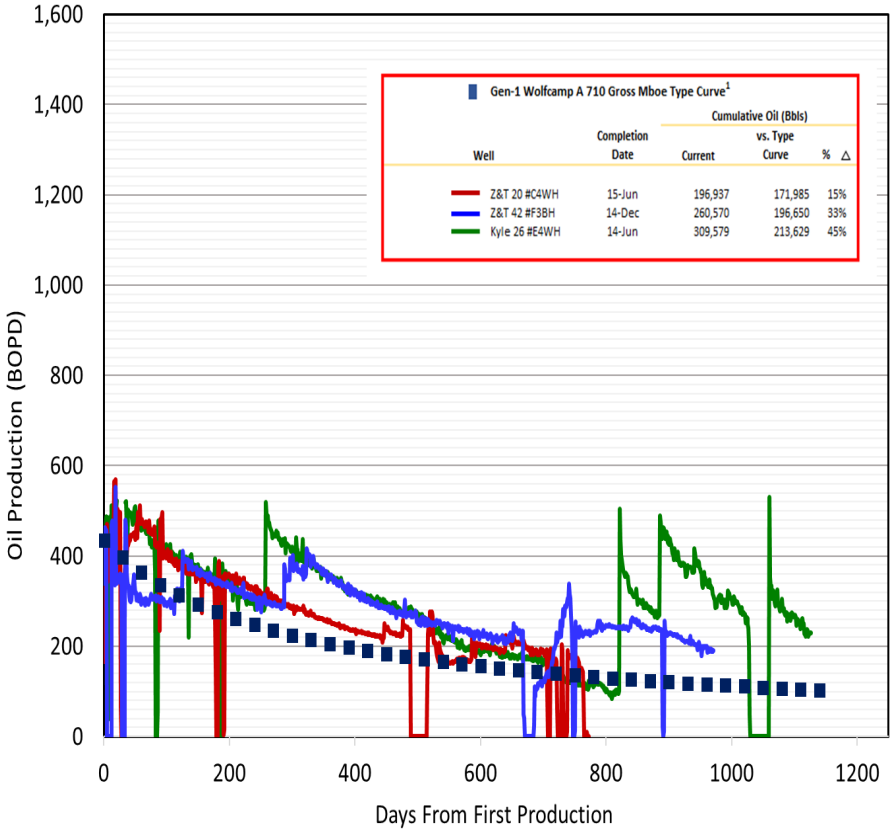
- Better understanding of the acreage and refining drilling techniques has decreased drilling days and costs
  - Drilling 4600' effective laterals
  - Changes in well design and drilling procedures have resulted in savings of ~$0.5 million per well compared to original estimates
- Drilling and completing wells in "clusters" to maximize efficiencies and minimize downtime
- Development wells focused on the Wolfcamp A (X/Y), A lower, & B Shale and the 2nd & 3rd Bone Spring Sand
- Currently drilling with two contracted rigs and one dedicated frac crew for 3rd quarter 2017

1. Excludes two wells, a sidetrack and a well that conducted coring and testing

PERFORMANCE EXCEEDING TYPE CURVE

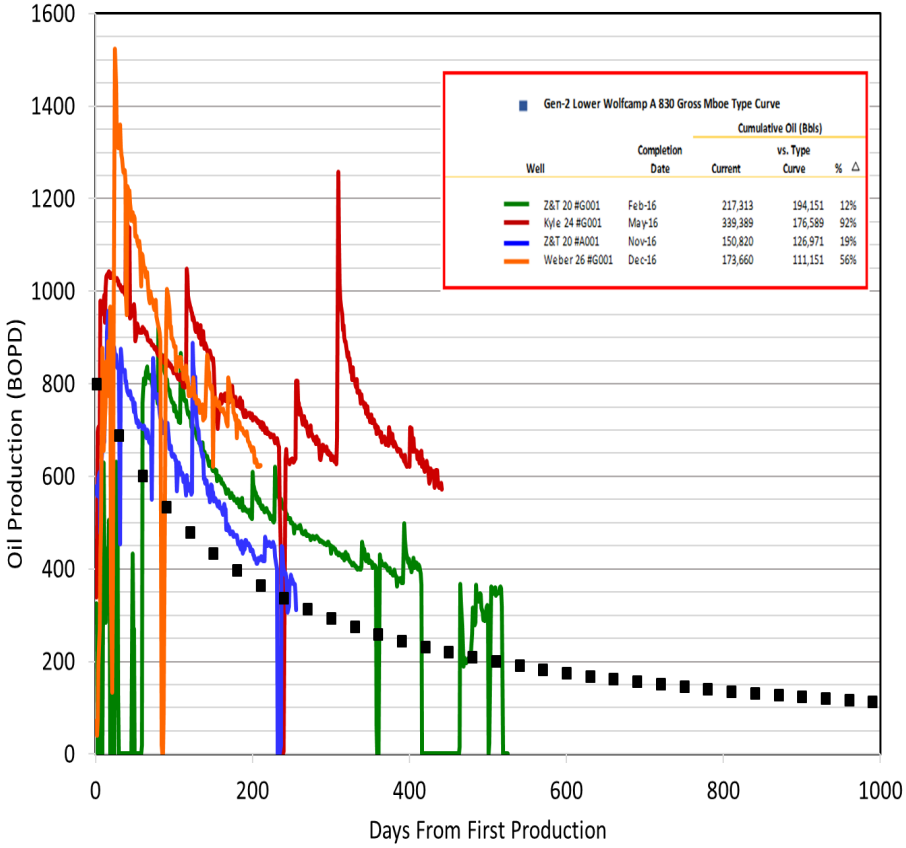
Gen-1 Completions

Gen-1Wolfcamp A 710 Gross MBoe Type Curve(1)



Gen-2 Completions

Gen-2 Lower Wolfcamp A 830 Gross MBoe Type Curve



Enhanced Completion Techniques Have Significantly Improved Well Performance

1. Represents a blended Wolfcamp A (X,Y) and Lower Wolfcamp A type curve

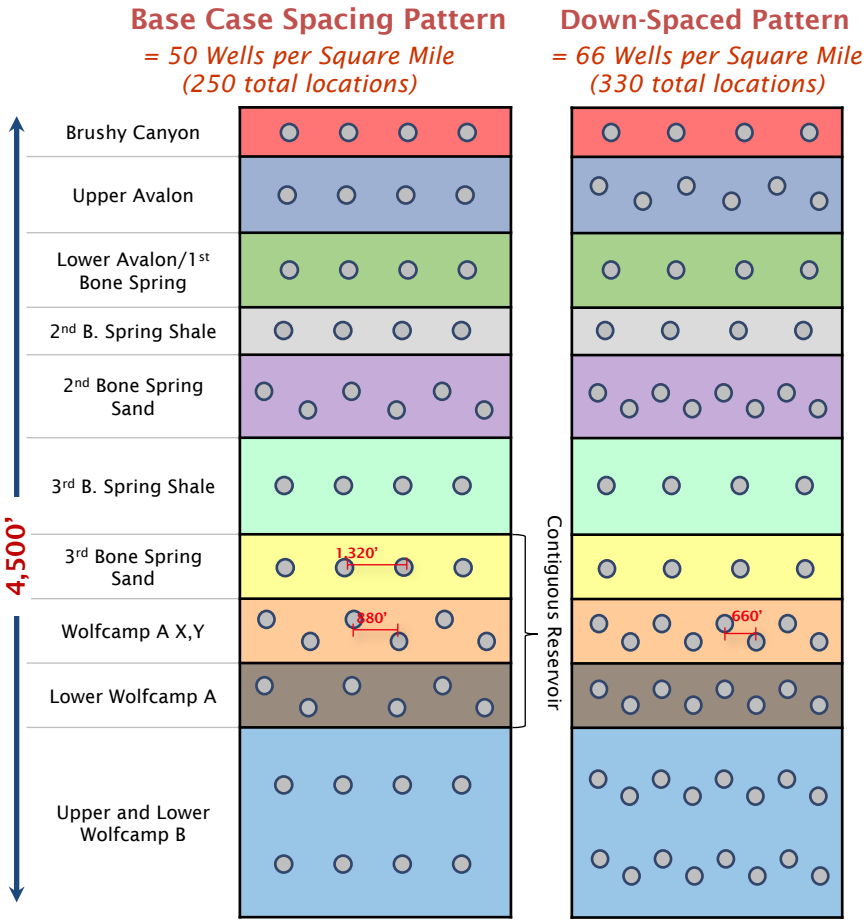
REFINING COMPLETION TECHNIQUES

	Gen-1 Completions	Gen-2 Completions	Gen-3 Completions
Completion Designs	Early designs, ramping up learning curve	Leveraging service company knowledge to improve designs and carrier fluid designs	Internal engineering optimization using Company and offset well treatment reports and results
Sand Volumes	1,100 lbs per lateral foot	2,000 lbs per lateral foot	2,900 – 3,200 lbs per lateral foot
Stage Spacing	300 foot stage with 67 foot spacing	200 foot stage with 50 foot spacing	100 foot stage with 15 foot spacing
# Perferations per stage	46 per stage	36 per stage	72-150 per stage
Fracing Technique	Sliding Sleeve	Plug & perf	Plug & perf
Production Tubing	2 7/8" tubing	2 7/8" tubing	3 1/2" tubing
Choke Management	Conservative choke management – wells were choked back during unloading and early well life	Aggressive choke management during and after flowback	Aggressive choke management dictated by flow characteristics of the well

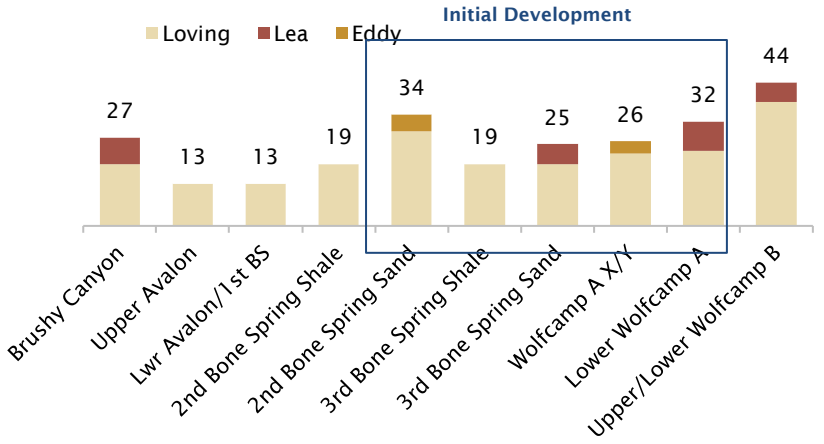
Evaluating Higher Cost Completion Techniques with Improving Production Results to Optimize Returns

UNDEVELOPED LOCATION INVENTORY

Ten Benches of Stacked Pay



Gross Drilling Inventory by County



Optimization Test of Well Spacing

Current 5 spot wine rack well cluster, of Wolfcamp A, X/Y and 3rd Bone Spring, zipper fracing and micro seismic mapping to determine optimal spacing

Stacked Pay With Multiple Horizontal Targets and Downspacing Potential Across Core Acreage

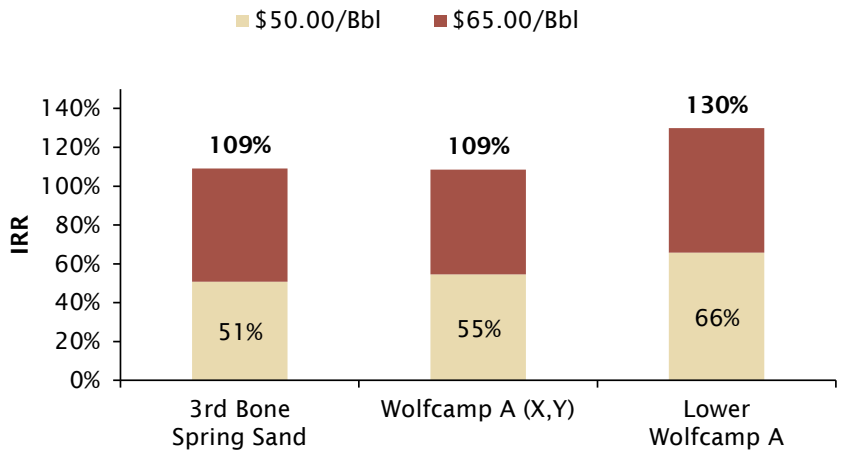
Source: Company filings

INDICATIVE WELL ECONOMICS & HORIZONTAL DEVELOPMENT PLAN

Commentary

- Currently, Rosehill is running 2 rigs and 1 frac spread
- The drilling plan calls for a focus on the following benches:
  - 2nd Bone Spring Sand
  - 3rd Bone Spring Sand
  - Wolfcamp A (X,Y)
  - Lower Wolfcamp A

Type Curve WTI Price Sensitivities(1)



Type Curve Economics(2)

	3rd Bone Spring Sand	Wolfcamp A (X,Y)	Lower Wolfcamp A
Locations			
Gross Locations	25.0	20.0	24.0
Net Locations	23.4	15.7	22.4
Average Operated WI	93.5%	95.2%	93.2%
Average Royalty	21.9%	19.8%	21.7%
Type Curve Parameters			
Gross EUR (MBoe)	622	691	747
Initial rate (Bopd)	800	700	800
Initial decline (%)	74.0%	67.0%	70.0%
Initial GOR	3,000	3,000	3,300
Final GOR	3,000	3,000	3,300
Final decline (%)	3.0%	3.0%	2.8%
Hyperbolic coefficent	0.9	0.9	0.9
Abandonment rate (Bopd)	1.0	1.0	1.0
End of Life (Years)	23.5	28.5	34.5
Gas %	8.0%	8.0%	8.6%
NGL %	18.2%	18.2%	19.6%
Oil %	73.8%	73.8%	71.9%
Type Curve Economics			
Capex ($)	$6,000,000	$6,250,000	$6,250,000
IRR	55.8%	60.2%	71.1%
PV-10 ($MM)	$4.0	$5.2	$6.0
Net Cash Flow ($MM)	$6.9	$9.1	$10.6
ROI	2.2x	2.5x	2.7x
Payback (Months)	18	18	16

Rosehill's Development Program Will Target the Highest Economic Benches Based on Latest Well Results

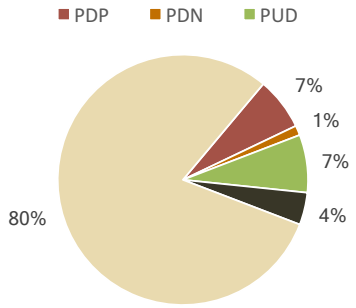
1. Gas pricing held flat at $3.00/MMBtu.
2. Based on internal company type curves. NYMEX strip pricing as of 9 December 2016. Average annual NYMEX WTI strip pricing as of 9 December 2016 was $47.64 (Q4 2016), $54.19 (2017), $54.94 (2018), $54.88 (2019), $55.22 (2020), and escalating to $58.30 (2025+); average annual NYMEX HHUB strip pricing as of 9 December 2016 was $2.92 (Q4 2016), $3.52 (2017), $3.08 (2018), $2.89 (2019), $2.90 (2020), and escalating to $3.36 (2025+). NGLs priced at 27.5% of WTI.

RESERVE PROFILE

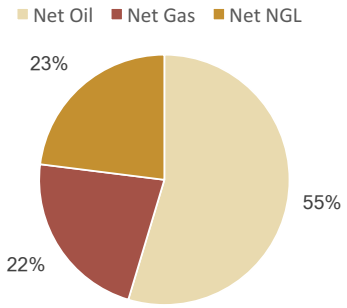
December 31, 2016 Reserves

	Net Oil	Net Gas	Net NGL	Net Equiv.	PV10[1]
	(Mbbls)	*(MMcf)*	*(Mbbls)*	*(MBoe)*	*($MM)*
PDP	3,082	9,180	1,550	6,162	83
PDN	213	2,721	475	1,141	8
PUD	4,396	6,957	1,214	6,770	52
Total Proved	**7,691**	**18,858**	**3,239**	**14,073**	**143**
PROB	1,839	5,683	992	3,778	15
POSS	41,332	92,069	16,069	72,746	271

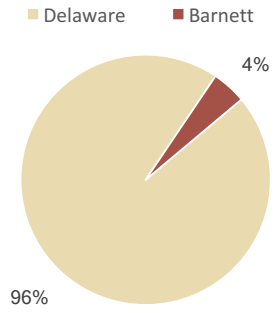
Reserves by Category



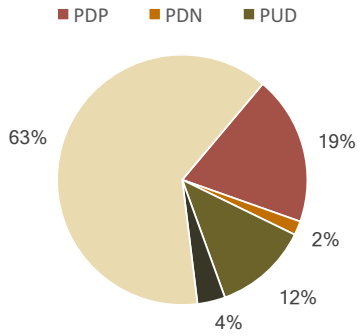
Proved Reserves by Commodity



Proved Reserves by Area



PV-10 by Category[1]



Continued Drilling and Completion Successes Should Result in Significant Increases to Reserves

Note: December 31, 2016 reserve quantities audited by Ryder Scott.

1. December 31, 2016 pricing for reserves: WTI – $54.24 (2017), $54.80 (2018), $54.88 (2019), $55.37 (2020), $56.02 (2021), and $56.87 thereafter; HHUB – $3.36 (2017), $3.04 (2018), $2.89 (2019), $2.90 (2020), $2.93 (2020), and $2.98 thereafter; NGL at 27.5% of WTI. PV10 is a Non-GAAP measure

HEDGING OVERVIEW

	Three Months Ended				
	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018
NYMEX WTI Crude Swaps:					
Notional volume (Bbl)	53,000	57,000	93,000	42,000	9,000
Weighted average fixed price ($/Bbl)	$50.91	$54.29	$54.19	$54.20	$50.68
NYMEX WTI Crude Options:					
Puts:					
Notional volume (Bbl)	110,000	114,000	24,000	--	--
Weighted average fixed price ($/Bbl)	$43.41	$42.87	$40.00	$ --	$ --
Calls:					
Notional volume (Bbl)	55,000	15,000	--	--	--
Weighted average fixed price ($/Bbl)	$63.64	$60.00	$ --	$ --	$ --
NYMEX HH Natural Gas Swaps:					
Notional volume (Mcf)	300,000	390,000	390,000	630,000	--
Weighted average fixed price ($/Mcf)	$3.08	$3.12	$3.13	$3.42	$ --
NYMEX HH Natural Gas Options:					
Puts:					
Notional volume (Mcf)	580,000	660,000	420,000	--	--
Weighted average fixed price ($/Mcf)	$2.86	$2.87	$3.01	$ --	$ --
Calls:					
Notional volume (Mcf)	290,000	330,000	210,000	--	--
Weighted average fixed price ($/Mcf)	$3.68	$3.72	$3.84	$ --	$ --

- Flexible approach to hedging with both swaps and options being utilized
- Ensure a level of downside protection and provide exposure to upward price movements
- Continue to opportunistically add hedges

As of June 30, 2017

FOCUSED ON THE FUTURE

Profitable Growth

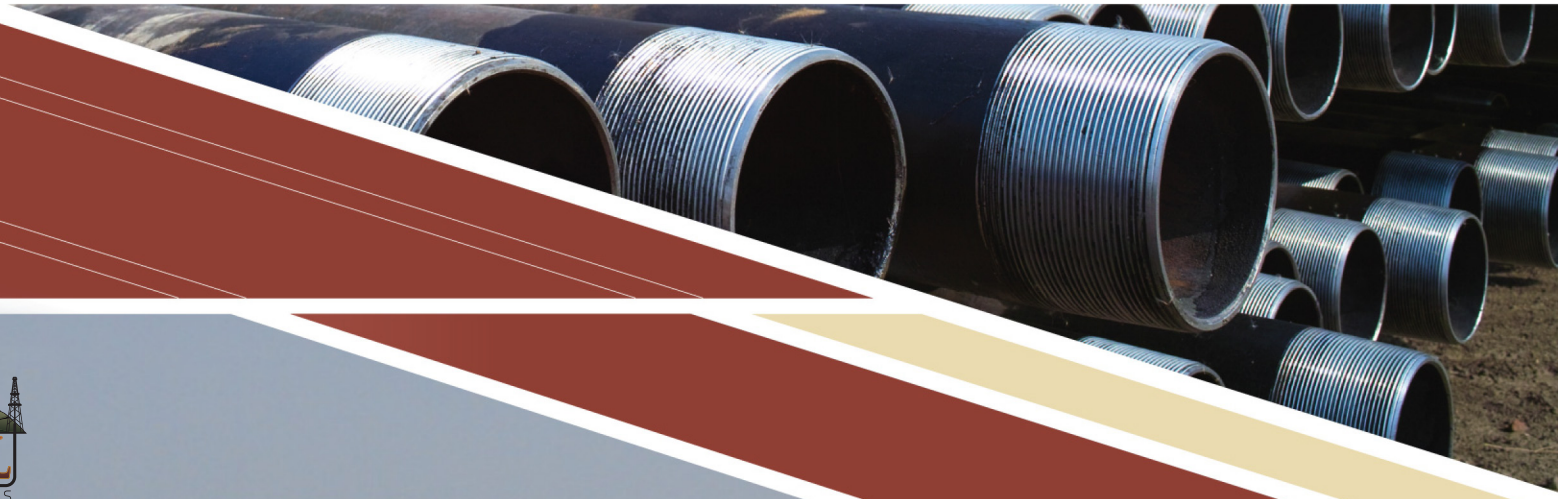
- Drill and Complete Existing Inventory of 250+ Locations
- Organic Leasing
- Accretive Acquisitions

Conservative Financial Management

- Maintain Strong Balance Sheet
- Grow Cash Flow to Support Drilling and Acquisitions
- Expand Liquidity and Borrowing Base

Increase Shareholder Value

APPENDIX



MANAGEMENT BIOS

- **J. A. (Alan) Townsend** – *President & CEO*
  - Over 44 years of industry experience – with Tema since 2001
  - Former President of Equitable Resources and CEO of Camelot Oil and Gas
  - BS and Masters in Petroleum Engineering from the Colorado School of Mines

- **Craig Owen** – *CFO*
  - Over 24 years of financial experience in the energy industry – joined Rosehill in June 2017
  - Former Senior VP and CFO of Southwestern Energy
  - BBA Accounting from Texas A&M University and Certified Public Accountant

- **Brian K. Ayers** – *Vice President of Geology*
  - Over 35 years of industry experience – with Rosehill since 2012
  - Former CEO of Centurion Exploration and VP of Domestic Exploration at Coastal Oil & Gas
  - BA Geophysical Science from University of Chicago – MBA (Finance) from Millsaps College

- **R. Colby Williford** – *Vice President of Land*
  - Over 28 years of petroleum land management experience – with Rosehill since 2014
  - Former VP of Land at Momentum Oil & Gas, America Capital Energy and Centurion Exploration
  - BBA in International Business from University of Houston - Downtown

- **Paul Larson** – *Vice President of Engineering*
  - Over 25 years of petroleum engineering experience – with Rosehill since 2015
  - Former Asset Manager at SM-Energy and Sinochem, Project Manager/Team Lead at Unocal 76
  - BS and MS in Petroleum Engineering from Tulsa University – BS in Mechanical Engineering from University of New York

- **Bryan Freeman** – *Vice President of Operations*
  - Over 15 years of petroleum engineering experience – with Rosehill since 2016
  - Former Production and Operations Manager at SM-Energy and Engineer at Chevron
  - BS of Engineering from University of Texas at Tyler – MS in Engineering from University of Texas

- **Johnnye Yearwood** – *Controller*
  - Over 24 years of oil and gas accounting experience – with Rosehill since 2016
  - Former Controller at Gulf Coast Energy Resources and Harvest Natural resources
  - BBA in Accounting from California State University - Bakersfield

BOARD OF DIRECTOR BIOS

- **Gary Hanna** – *Chairman*
  - Over 30 years of industry experience
  - Former CEO and chairman of EPL Oil & Gas, Inc. prior to sale to Energy XXI in 2014
  - Currently a member of the board of Aspire Holdings Corp.

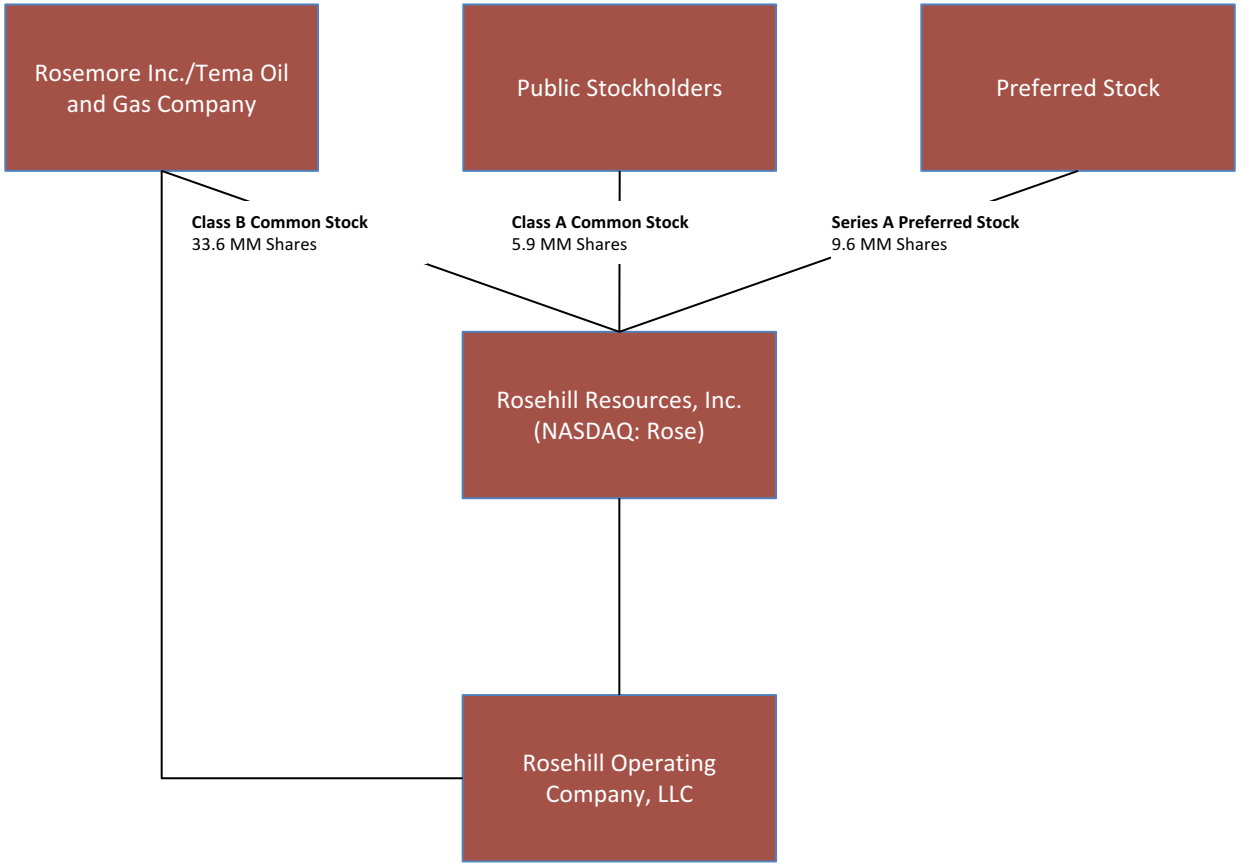
- **Ed Kovalik** – *Director*
  - Over 17 years of experience in the financial services industry, primarily in the energy space
  - Former head of Rodman & Renshaw's Energy Investment Banking team
  - Currently a director on the boards of River Bend Oil and Gas as well as Marathon Patent Group

- **J. A. (Alan) Townsend** – *President & CEO*
  - Over 44 years of industry experience – with Tema since 2001
  - Former President of Equitable Resources and CEO of Camelot Oil and Gas
  - BS and Masters in Petroleum Engineering – Colorado School of Mines

- **Frank Rosenberg** – *Director*
  - Former President and CEO of Crown Central Petroleum Corporation; Current Co-Chair and Chief Investment Officer of Rosemore, Inc.
  - Currently Director of Tema Oil & Gas, Gateway Gathering & Marketing, and Glen Eagle Resources and Chairman of Attransco

- **Harry Quarls** – *Director*
  - Managing Director of Global Infrastructure Partners; Former Managing Director & Practice Leader for Global Energy, Booz & Co.
  - Currently Chairman of the Board of Penn Virginia Corporation and Woodbine Holdings LLC and Director of US Oil Sands Corporation and Opal Resources

- **William Mayer** – *Director*
  - Over 45 years of financial services experience
  - Founding Partner of Park Avenue Equity Partners; Former President and CEO of The First Boston Corporation
  - Currently a Director of Rosemore, Inc.; Lee Enterprises; BlackRock Capital Investment Corporation; Premier, Inc.; Finworx, Inc.; Hambrecht Partners Holdings; and Miller Buckfire

- **Francis Contino** – *Director*
  - Former EVP – Strategic Planning and CFO of McCormick & Co., Inc.; Managing Partner of Baltimore office of Ernst & Young.
  - Currently Director of Mettler-Toledo International Inc.

CORPORATE STRUCTURE