



Memorial
Resource Development

Operational, Reserves and Guidance Update

NASDAQ: MRD

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Forward-Looking Statements

This presentation includes "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements can be identified by terminology such as "may," "will," "could," "should," "expect," "plan," "project," "forecast," "intend," "anticipate," "believe," "estimate," "predict," "potential," "pursue," "target," "outlook," "continue," the negative of such terms or other comparable terminology. All statements, other than historical facts included in this presentation, that address activities, events or developments that Memorial Resource Development Corp. (MRD) expects or anticipates will or may occur in the future and such things as MRD's future capital expenditures (including the amount and nature thereof), business strategy and measures to implement strategy, future drilling locations and inventory, competitive strengths, goals, expansion and growth of MRD's business and operations, plans, market conditions, references to future success, references to intentions as to future matters and other such matters are forward-looking statements. All forward-looking statements speak only as of the date of this presentation. Although MRD believes that the plans, intentions and expectations reflected in or suggested by the forward-looking statements are reasonable, there is no assurance that these plans, intentions or expectations will be achieved. Therefore, actual outcomes and results could materially differ from what is expressed, implied or forecast in such statements.

MRD cautions you that these forward-looking statements are subject to risks and uncertainties, most of which are difficult to predict and many of which are beyond MRD's control, incident to the exploration for and development, production, gathering and sale of natural gas and oil. These risks include, but are not limited to: ability to consummate pending acquisitions; commodity price volatility; inflation; lack of availability of drilling and production equipment and services; environmental risks; drilling and other operating risks; regulatory changes; the uncertainty inherent in estimating natural gas and oil reserves and in projecting future rates of production, cash flow and access to capital; and the timing of development expenditures. Information concerning these and other factors can be found in MRD's filings with the Securities and Exchange Commission ("SEC"), including its Forms 10-K, 10-Q and 8-K. Consequently, all of the forward-looking statements made in this presentation are qualified by these cautionary statements and there can be no assurances that the actual results or developments anticipated by MRD will be realized, or even if realized, that they will have the expected consequences to or effects on MRD, its business or operations. MRD has no intention, and disclaims any obligation, to update or revise any forward-looking statements, whether as a result of new information, future results or otherwise.

Initial production rates are subject to decline over time and should not be regarded as reflective of sustained production levels.

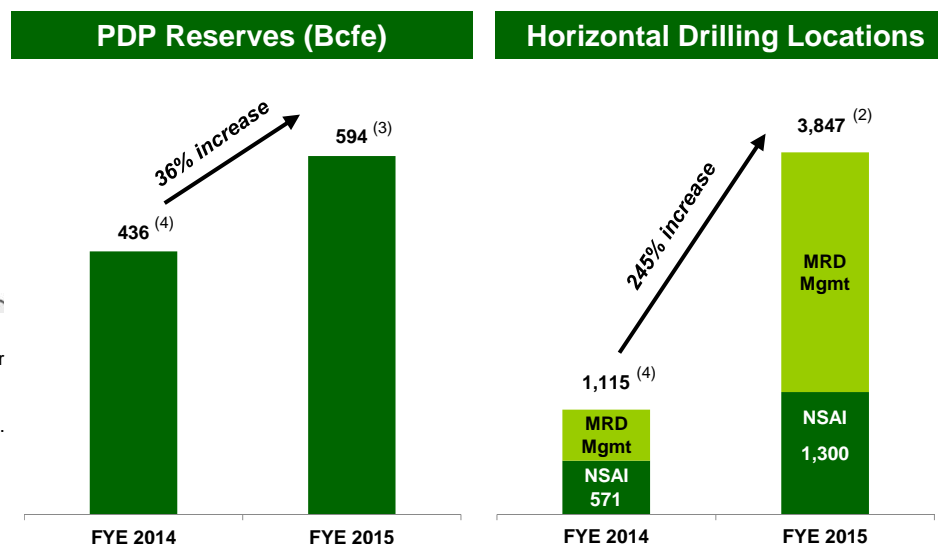
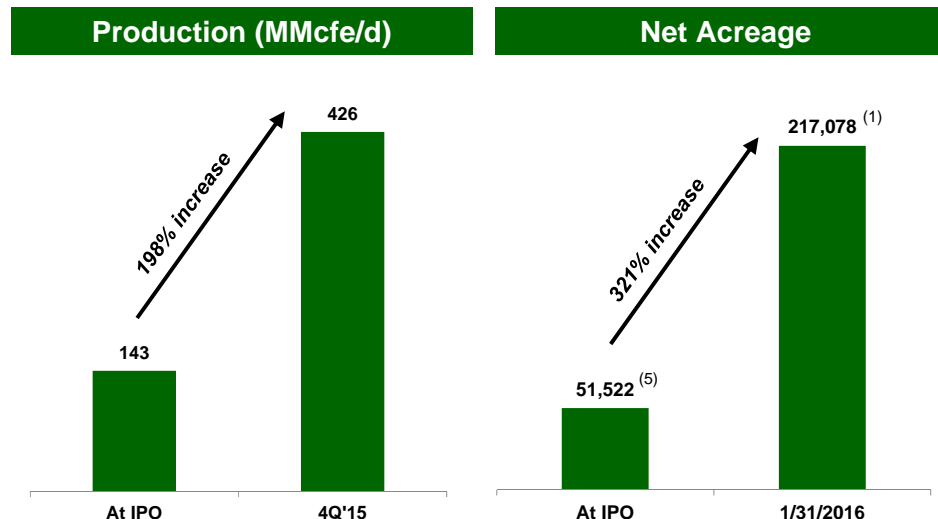
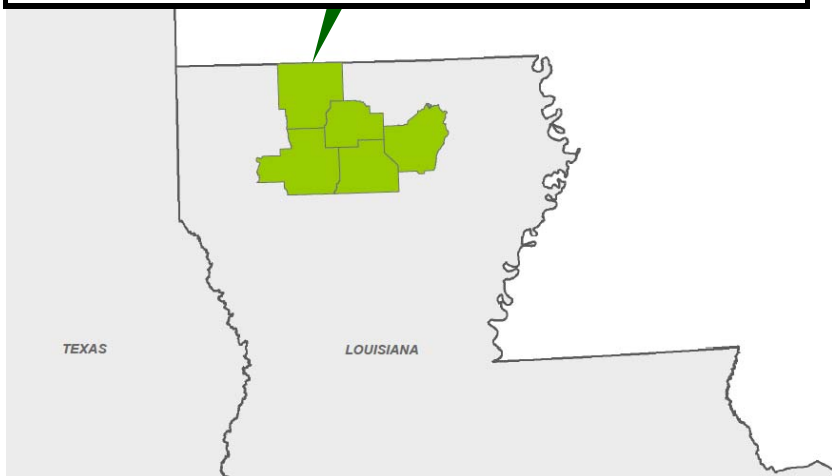
Jay Graham: Experienced and Proven Leader

- **Terryville Founder: Instrumental in development of Terryville Field**
 - Former President and Co-Founder of WildHorse Resources, LLC which drilled the initial horizontal wells in Terryville Field
 - Former Co-CEO and Co-Founder of WildHorse Resources II, LLC
 - Drilled first 55 horizontal wells in Terryville Field and 64 total horizontal Cotton Valley wells in North Louisiana
 - Applied for and received the first Cotton Valley cross unit lateral approval for a horizontal well in North Louisiana in 2013 allowing for the successful development of the Terryville Field
- **Industry Veteran: 23 years of experience in the oil and gas industry**
 - Prior technical and leadership positions with Halliburton, Devon Energy and Anadarko Petroleum
 - Led drilling of Anadarko's first horizontal well in the Carthage Field in 2007
- **Incentivized and Aligned: Current MRD share ownership position of 11.6 million shares**
 - Long history working alongside MRD dating back to pre-IPO
 - Strongly incentivized to grow company and drive NAV

MRD Continues to Execute on its Core Strategy

Increasing production through efficient drilling and expanding its asset footprint via accretive acquisitions while maintaining a strong balance sheet and generating strong shareholder returns

MRD Key Statistics	
Gross Acres ⁽¹⁾	239,475
Net Acres ⁽¹⁾	217,078
Proved Reserves at December 31, 2015 (Bcfe) ⁽³⁾	1,378
% Gas Reserves	71%
Avg. Q4 Daily Production (MMcfe/d)	426
Proved Reserve Life (R/P) ⁽⁶⁾	11.1



- (1) As of 1/31/16 – Includes full exercise of NLA acreage option and does not include Other Louisiana acreage of 13,653 gross (8,342 net) acres
- (2) As of 12/31/15
- (3) Proved, probable and possible reserves audited by Netherland, Sewell & Associates, Inc. (NSAI); report based on SEC pricing as of December 31, 2015.
- (4) As of 12/31/14
- (5) As of 12/31/13
- (6) Proved Reserve Life (R/P) = YE 2015 reserves divided by 2015 production

Operational Results Drive Significant Momentum

- **Completed 6 gross horizontal wells in the Terryville Field during Q4 2015**
 - Includes the 2-well Temple pad completed in November with 7,009 average lateral length and 50.6 MMcfe/d 30-day IP
- **Scheduled to complete 15 gross horizontal wells in Q1 of 2016**
 - Consisting of 11 Upper Red and 4 Lower Red Wells
 - Initial flowback rates have been encouraging
- **4 rig program planned in North Louisiana for 2016**
 - Significant flexibility in development plan (only 1 rig contracted into 2017)
- **Expect to spud 15-20 gross wells and complete 30-35 gross wells during 2016**
 - Includes development of MRD's recently acquired acreage position by year-end 2016

Summary of FYE 2015 Gross Horizontal Drilling Locations

Well	Management Locations ⁽¹⁾	NSAI Locations
Upper Red	1,773	525
Lower Red	1,140	431
Lower Deep Pink	465	214
Upper Deep Pink	469	130
Total	3,847	1,300

- 245% increase in management locations from 2014 to 2015
- 128% increase in NSAI locations during same time period

(1) See Appendix for additional information regarding management locations

Strong Financial Position Entering 2016

Financial Update

- Projected to exit 2016 with net debt to annualized Adjusted EBITDA of <2.5x and total liquidity of over \$500 million

(\$ in MM)	As of 12/31/2015
Cash and Cash Equivalents	\$1.6
MRD Revolving Credit Facility	\$423.0
5.875% Senior Notes due 2022	600.0
Total MRD Segment Debt	\$1,023.0
Total Liquidity⁽¹⁾	\$578.6

2016 Guidance and Strategy

- D&C capital budget: \$350 million
 - 50% recognized in 1Q'16 to bring 15 wells online
 - 75% of wells completed targeting Upper Red
 - Includes development of MRD's recently acquired acreage position by year-end 2016
- Significant flexibility in 2016 plan
 - Expect to have ~30 drilled but uncompleted wells ("DUCs") at end of 2Q'16
 - Only 1 rig contracted into 2017
- Expect to operate within cash flow
- Focus on maintaining strong balance sheet, ample liquidity and low leverage

Note: Guidance as of February 2, 2016

(1) Total liquidity is calculated as cash and cash equivalents plus revolver availability

(2) Amount varies based on abatement credits from newer horizontal wells

(3) Based on strip pricing as of January 22, 2016

(4) Does not include gathering, processing and transportation costs

Full Year 2016 Guidance

	2016 FY Guidance	
	Low	High
Net Average Daily Production (MMcfe/d)	390 - 420	
Natural Gas (% of production)	74% - 76%	
NGLs (% of production)	18% - 22%	
Oil (% of production)	4% - 6%	
Average Costs (per Mcfe)		
Lease Operating	(\$0.25) - (\$0.15)	
Gathering, Processing and Transportation and BTU Adjustment (\$/Mcfe)	(\$1.05) - (\$0.75)	
Production and Ad Valorem Taxes ⁽²⁾	(\$0.15) - (\$0.10)	
Cash General and Administrative	(\$0.30) - (\$0.25)	
Commodity Price Realizations (Unhedged)⁽³⁾		
Natural Gas Realized Price (% of NYMEX to Henry Hub) ⁽⁴⁾	95% - 100%	
NGL Realized Price (% of WTI NYMEX)	30% - 40%	
Crude Oil Realized Price (% of WTI NYMEX)	95% - 100%	
Drilling Program		
Wells Spud (Gross)	15	20
Wells Completed (Gross)	30	35
D&C Capital Expenditure (\$MM)	\$325	\$375

Hedge Restructure Solidifies Cash Flow

- During Q4'15, MRD restructured its existing 2018 hedges into new oil and NGL swaps in 2016
- Results in approximately 100% of expected 2016 production hedged at total weighted average price of \$4.85/MMBtue
- Further strengthens peer-leading balance sheet and generates additional free cash flow
- Supports 2016 capital program and delineation plans
- Expect to opportunistically re-hedge expected 2018 production volumes
- As of December 31, 2015, mark-to-market value of MRD hedge book was ~\$365 million

Hedge Summary as of February 2, 2016			
	4Q 2015	2016	2017
Natural Gas Derivative Contracts:			
Total natural gas volumes hedged (MMBtu)	22,890,000	116,040,000	98,040,000
Total weighted-average price ⁽¹⁾	\$3.94	\$3.76	\$3.78
Crude Oil Derivative Contracts:			
Total crude oil volumes hedged (Bbl)	249,000	1,075,960	336,000
Total weighted-average price ⁽¹⁾	\$88.57	\$93.04	\$84.70
Natural Gas Liquids Derivative Contracts:			
Total natural gas liquids volumes hedged (Bbl)	489,000	5,238,004	–
Total weighted-average price ⁽¹⁾	\$41.52	\$40.09	–
Total Derivative Contracts:			
Total Hedged Production (MMBtue)	27,318,000	153,923,781	100,056,000
Total weighted-average price ⁽¹⁾	\$4.85	\$4.85	\$3.99
Percent of expected production hedged ⁽²⁾	70%	~100%	

Note: 4Q 2015 hedge volumes represent the period October – December 2015

(1) Utilizing the mid-point for collars

(2) Using MRD's 2015 and 2016 guidance ranges

Appendix

MRD NSAI Reserve Detail

2015 (1)

	Oil (MBbl)	Natural Gas (MMcf)	NGLs (MBbl)	Total (MMcfe)	% Gas (%)
PDP	5,605	420,938	23,296	594,345	71%
PDNP	495	23,045	1,286	33,737	68%
PUD	7,053	529,831	29,577	749,613	71%
Total Proved	13,154	973,814	54,160	1,377,695	71%
Probable	13,155	937,776	52,350	1,330,803	70%
2P Reserves	26,308	1,911,590	106,510	2,708,498	71%
Possible	32,751	4,672,137	78,416	5,339,143	88%
3P Reserves	59,059	6,583,727	184,926	8,047,641	82%

2014 (2)

	Oil (MBbl)	Natural Gas (MMcf)	NGLs (MBbl)	Total (MMcfe)	% Gas (%)
PDP	3,122	316,475	16,774	435,853	73%
PDNP	608	30,666	1,739	44,751	69%
PUD	7,988	640,428	34,920	897,881	71%
Total Proved	11,719	987,570	53,434	1,378,485	72%
Probable	8,251	550,339	36,899	821,243	67%
2P Reserves	19,970	1,537,909	90,333	2,199,728	70%
Possible	35,452	1,524,282	87,595	2,262,561	67%
3P Reserves	55,422	3,062,191	177,928	4,462,289	69%

(1) Proved, probable and possible reserves audited by NSAI; report based on SEC pricing as of December 31, 2015

(2) Proved reserves are engineered by NSAI as of December 31, 2014; probable and possible reserves prepared by MRD and audited by NSAI; reports based on SEC pricing as of December 31, 2014

Cautionary Statements and Additional Disclosures

Except as otherwise indicated, the description of MRD's business, properties, strategies and other information in this presentation relates solely to the MRD Segment, which excludes the business, properties, strategies and other information regarding Memorial Production Partners LP and its subsidiaries ("MEMPP").

This presentation has been prepared by MRD and includes market data and other statistical information from sources believed by MRD to be reliable, including independent industry publications, government publications or other published independent sources. Some data is also based on MRD's good faith estimates, which are derived from its review of internal sources as well as the independent sources described herein. Although MRD believes these sources are reliable, it has not independently verified the information and cannot guarantee its accuracy and completeness.

PV-10, 3P Reserves and Management 3P Resources

PV-10 is a non-GAAP financial measure and represents the period-end present value of estimated future cash inflows from MRD's natural gas and crude oil reserves, less future development and production costs, discounted at 10% per annum to reflect timing of future cash flows and using SEC pricing assumptions in effect at the end of the period. SEC pricing for natural gas and oil of \$2.59 per MMBtu and \$46.79 per Bbl and \$4.35 per MMBtu and \$91.48 per Bbl was based on the unweighted average of the first-day-of-the-month prices for each of the twelve months preceding December 2015 and December 2014, respectively. PV-10 differs from standardized measure, the most directly comparable GAAP financial measure, because it does not include the effects of income taxes. Moreover, GAAP does not provide a measure of estimated future net cash flows for reserves other than proved reserves. Because PV-10 estimates of probable and possible reserves are more uncertain than PV-10 and standardized estimates of proved reserves, but have not been adjusted for risk due to that uncertainty, they may not be comparable with each other. Nonetheless, MRD believes that PV-10 estimates for reserve categories other than proved present useful information for investors about the future net cash flows of its reserves in the absence of a comparable GAAP measure such as standardized measure. Because of this, PV-10 can be used within the industry and by creditors and securities analysts to evaluate estimated net cash flows from reserves on a more comparable basis. MRD expects to include a full reconciliation of PV-10 as of December 31, 2015 to standardized measure in its Form 10-K for the year ended December 31, 2015. Neither PV-10 nor standardized measure represents an estimate of fair market value of MRD's natural gas and oil properties. MRD and others in the industry use PV-10 as a measure to compare the relative size and value of estimated reserves held by companies without regard to the specific tax characteristics of such entities.

MRD has provided summations of its proved, probable and possible reserves and summations of its PV-10 for its proved, probable and possible reserves in this press release. The SEC strictly prohibits companies from aggregating proved, probable and possible reserves in filings with the SEC due to the different levels of certainty associated with each reserve category. Investors should be cautioned that estimates of PV-10 of probable reserves, as well as the underlying volumetric estimates, are inherently more uncertain of being recovered and realized than comparable measures for proved reserves, and that the uncertainty for possible reserves is even more significant. Further, because estimates of probable and possible reserve volumes have not been adjusted for risk due to this uncertainty of recovery, their summation may be of limited use.

Cautionary Statements and Additional Disclosures

The SEC permits oil and gas companies, in their filings with the SEC, to disclose only proved, probable and possible reserves that meet the SEC's definitions for such terms. "3P resources" is not a term defined by the SEC or by the Society of Petroleum Engineers; instead, MRD management believes that it is a reasonable estimate of the potential hydrocarbons recoverable from the relevant properties using assumptions regarding well spacing, lateral lengths and offset well performance that are different than those used in determining proved, probable or possible reserves. Management's estimate of 3P resources is based on analogy to MRD's existing models applied to additional acres and differs from NSAI's reserve estimation methodology in certain respects, including spacing assumptions and recognizing hydrocarbons at identified drilling locations that would not constitute proved undeveloped locations. MRD's estimate of 3P resources includes hydrocarbons that may potentially be discoverable through exploratory drilling or recovered with additional drilling or recovery techniques. These hydrocarbons may not constitute "reserves" within the meaning of the Society of Petroleum Engineer's Petroleum Resource Management System or SEC rules. Other companies may use a different term or may define that term differently. While MRD believes its calculation of 3P resources is reasonable, such estimate has not been reviewed by third party engineers or appraisers. Investors are cautioned to review 3P resources together with the breakdown of MRD's reserves by category as set forth in this press release. You should not assume that management's estimate of 3P resources is comparable to proved, probable or possible reserves or represents an estimate of future production from properties. Management's estimate of 3P resources and drilling locations have not been fully risked by MRD management and are inherently more speculative than proved, probable or possible reserves estimates. Actual locations drilled and quantities that may be ultimately recovered from MRD's interests could differ substantially. There is no commitment by MRD to drill all of the drilling locations which have been attributed to these quantities.

Adjusted EBITDA

Adjusted EBITDA is defined as net income (loss), plus interest expense; debt extinguishment costs; income tax expense; depreciation, depletion and amortization; impairment of goodwill and long-lived properties; accretion of asset retirement obligations; losses on commodity derivative contracts and cash settlements received; losses on sale of properties; stock-based compensation; incentive-based compensation expenses; exploration costs; provision for environmental remediation; equity loss from MEMP; cash distributions from MEMP; transaction related costs; amortization of investment premium; and other non-routine items, less interest income; income tax benefit; gains on commodity derivative contracts and cash settlements paid; equity income from MEMP; gains on sale of assets and other non-routine items.

Management Locations

MRD has disclosed gross horizontal drilling locations in this presentation in the proved, probable, and possible categories as audited by NSAI, MRD's third party engineers, as well as 2,547 drilling locations that have been identified by MRD's management. MRD identified those additional locations using the same methodology as those locations to which probable and possible reserves are attributed—by using existing geologic and engineering data from vertical production and seismic data. Of those 2,547 gross horizontal drilling locations, 1,536 lie within the geographic areas to which proved, probable and possible reserves are attributed. The remaining 1,011 management identified gross horizontal drilling locations are within geographic areas to which proved, probable or possible reserves are not attributed, but nonetheless are locations that MRD has specifically identified based on its evaluation of applicable geologic and engineering data accrued over our multi-year historical drilling activities in the surrounding area. MRD has also disclosed gross horizontal drilling locations in this presentation in connection with the recent third party acquisition. The locations have been identified by MRD's management based on its evaluation of applicable geologic and engineering data from historical drilling activities in the surrounding area. The locations on which MRD actually drills wells will ultimately depend upon the availability of capital, regulatory approvals, seasonal restrictions, oil and natural gas prices, costs, actual drilling results and other factors, and may differ from the locations currently identified.