MLPA Presentation

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June 2016

VANGUARD NATURAL RESOURCES, LLC
NASDAQ: VNR

Forward Looking Statements

Statements made by representatives of Vanguard Natural Resources, LLC during the course of this presentation that are not historical facts are forward looking statements. These statements are based on certain assumptions and expectations made by the Company which reflect management’s experience, estimates and perception of historical trends, current conditions, anticipated future developments and other factors believed to be appropriate. Such statements are subject to a number of assumptions, risks and uncertainties, many of which are beyond the control of the Company, which may cause actual results to differ materially from those implied or anticipated in the forward looking statements. These include risks relating to the satisfaction of the conditions to closing of the acquisition, uncertainties as to timing, financial performance and results, our indebtedness under our revolving credit facility, availability of sufficient cash to pay our distributions and execute our business plan, prices and demand for oil, natural gas and natural gas liquids, our ability to replace reserves and efficiently develop our reserves, our ability to make acquisitions on economically acceptable terms and other important factors that could cause actual results to differ materially from those anticipated or implied in the forward looking statements. See “Risk Factors” in our most recent annual report on Form 10-K and Item 1A. of Part II “Risk Factors” in our subsequent quarterly reports on Form 10-Q and any other public filings and press releases. Vanguard Natural Resources, LLC undertakes no obligation to publicly update any forward looking statements, whether as a result of new information or future events. This presentation has been prepared as of May 25, 2016.

Overview of Vanguard Natural Resources

- Upstream oil & gas LLC, headquartered in Houston, TX; Initial Public Offering – “**VNR**” – October 2007 had a Total Enterprise Value of ~$240mm
- In Feb 2016, VNR issued ~$75.6 million of new 7.0% Senior Secured Lien Notes due 2023 to certain eligible holders of our outstanding 7.7875% Senior Notes due 2020 in exchange for ~$168.2 million of the Senior Notes due 2020
- In 2013, VNR was the first master limited partnership to issue publicly traded preferred units with its initial 7.875% Series A Cumulative Redeemable Perpetual Preferred Units
  - In total, VNR has raised net proceeds of more than $328 million from three preferred equity offerings
- At-the-Market Program (ATM) allows us to systematically sell equity at a much more cost effective means
  - In 2014 and 2015, VNR raised net proceeds of approximately $148 million and $36 million, respectively

Asset Profile(1)

Twenty five strategic acquisitions totaling ~$5.0 bn

- ~2.05 Tcfe (~342 MMBoe) total proved reserves
- 75% proved developed
- 31% liquids / 69% gas
- 2014 Production: 327 MMcfe/d
- 2015 Production: 415 MMcfe/d
- PF Q1’16 Production: 423 MMcfe/d **(2)**

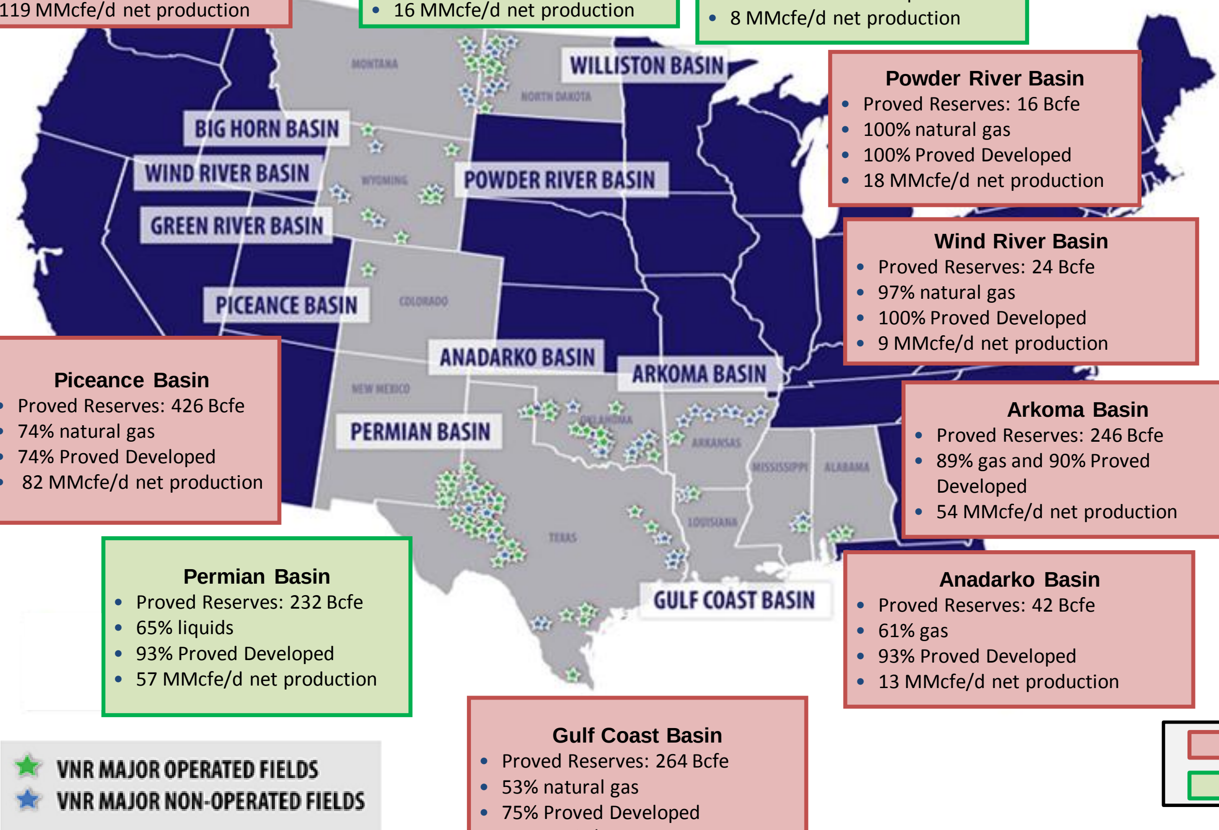
Market Valuation

Company Profile (3)	(in millions)
COMMON UNITS	**131.4 MM**
PREFERRED UNITS	**13.8 MM**
EQUITY MARKET CAP (incl. preferred)	$232
TOTAL DEBT(4)	$1,955
ENTERPRISE VALUE	**$2,187**

(1) Proved reserves as of 12/31/2015 based on SEC reserve report, pro forma for SCOOP/STACK divestiture.
(2) Q1 2016 production pro forma for SCOOP/STACK divestiture.
(3) Market data as of 5/25/16 and includes 420,000 Class B units. Based off VNR closing price of $1.49.
(4) Debt as of 5/26/16, pro forma for SCOOP/STACK divestiture.

Geographically Diversified Operated Reserve Base

Core Operating Areas



Green River Basin
- Proved Reserves: 684 Bcfe
- 87% gas
- 56% Proved Developed
- 119 MMcfe/d net production

Big Horn Basin
- Proved Reserves: 89 Bcfe
- 95% liquids
- 100% Proved Developed
- 16 MMcfe/d net production

Williston Basin
- Proved Reserves: 27 Bcfe
- 96% liquids
- 100% Proved Developed
- 8 MMcfe/d net production

Powder River Basin
- Proved Reserves: 16 Bcfe
- 100% natural gas
- 100% Proved Developed
- 18 MMcfe/d net production

Wind River Basin
- Proved Reserves: 24 Bcfe
- 97% natural gas
- 100% Proved Developed
- 9 MMcfe/d net production

Piceance Basin
- Proved Reserves: 426 Bcfe
- 74% natural gas
- 74% Proved Developed
- 82 MMcfe/d net production

Arkoma Basin
- Proved Reserves: 246 Bcfe
- 89% gas and 90% Proved Developed
- 54 MMcfe/d net production

Permian Basin
- Proved Reserves: 232 Bcfe
- 65% liquids
- 93% Proved Developed
- 57 MMcfe/d net production

Anadarko Basin
- Proved Reserves: 42 Bcfe
- 61% gas
- 93% Proved Developed
- 13 MMcfe/d net production

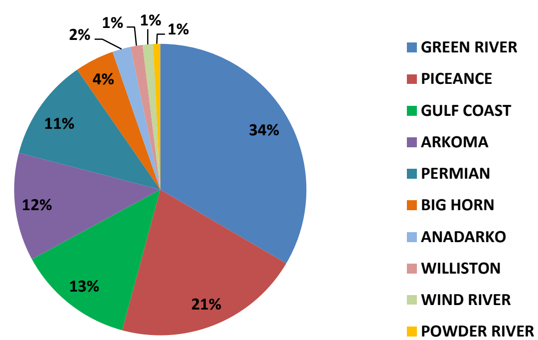
Gulf Coast Basin
- Proved Reserves: 264 Bcfe
- 53% natural gas
- 75% Proved Developed
- 47 MMcfe/d net production

Overview

- ~2.05 Tcfe (~342 MMBoe) Proved reserves
- 69% gas and 31% liquids
- 75% proved developed
- R/P is ~13 years

Operated Proved Reserves By Area

~2.05 Tcfe (~342 MMBoe)



- Primarily Natural Gas
- Primarily Oil

Note: Proved reserves as of 12/31/2015 based on 2015 SEC reserve report, pro forma for SCOOP/STACK divestiture. Production based on Q1 2016 average daily net production, pro forma for SCOOP/STACK divestiture.

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Pro Forma Capitalization and Liquidity

Capitalization Table			
($ in millions)	**December 31, 2015**	**May 26, 2016**	**December 31, 2016E**
Cash	-	40	40
Credit Facility [1]	1,688	1,424	1,314
7.0% Secured Second Lien due 2023	-	76	76
7.875% Senior Notes due 2020	550	382	382
8.375% Senior Notes due 2019	51	51	51
Lease Financing Obligations	25	23	20
Total Debt	**2,314**	**1,955**	**1,843**
Member's Equity Market Capitalization [2]			
Common and Class B Units	390	196	196
Series A Preferred units	28	8	8
Series B Preferred units	64	18	18
Series C Preferred units	41	10	10
Total Members' Equity	**523**	**232**	**232**
Total Capitalization	**2,836**	**2,187**	**2,075**
Borrowing Base	1,800	1,325	1,325
Liquidity (including cash) [3] [4]	**108**	**(64)**	**47**
Metrics:			
Net Debt / LTM Adjusted EBITDA [5]	4.3x	4.1x	5.0x
Net Debt / Capitalization	82%	88%	87%
Net Debt / Proved Reserves ($/Mcfe) [6]	$1.01	$0.93	$0.88
Net Debt / Proved Developed Reserves ($/Mcfe) [6]	$1.40	$1.25	$1.18

(1) May 26, 2016 credit facility includes impact of $261 MM pay down from SCOOP/STACK proceeds, after consideration of $9.4 MM to be held in escrow and other closing adjustments. December 31, 2016E credit facility balance includes estimated debt pay down over the course of 2016 based on mid-point of publicly issued guidance on May 19, 2016.
(2) December 31, 2016E estimate assumes May 25, 2016 close for VNR common and preferred unit pricing.
(3) Includes $4.5 million in outstanding letters of credit.
(4) Not including $40 MM of cash on hand, the deficiency is approximately $103.5 MM as of May 26, 2016. Vanguard's Credit Agreement allows deficiencies to be cured through six equal monthly installments of approximately $17.3 MM, which the Company believes it will satisfy through excess cash flow.
(5) December 31, 2015 Adjusted EBITDA includes pro forma impact of the LRE and EROC transactions for the full year 2015. May 26, 2016 LTM EBITDA assumes LTM EBITDA at Q1 2016, pro forma for SCOOP/STACK divestiture. December 31, 2016E LTM EBITDA pro forma for SCOOP/STACK divestiture.
(6) December 31, 2015 reserves based on year-end 2015 SEC reserves. May 26, 2016 and December 31, 2016E reserves pro forma for SCOOP/STACK divestiture.

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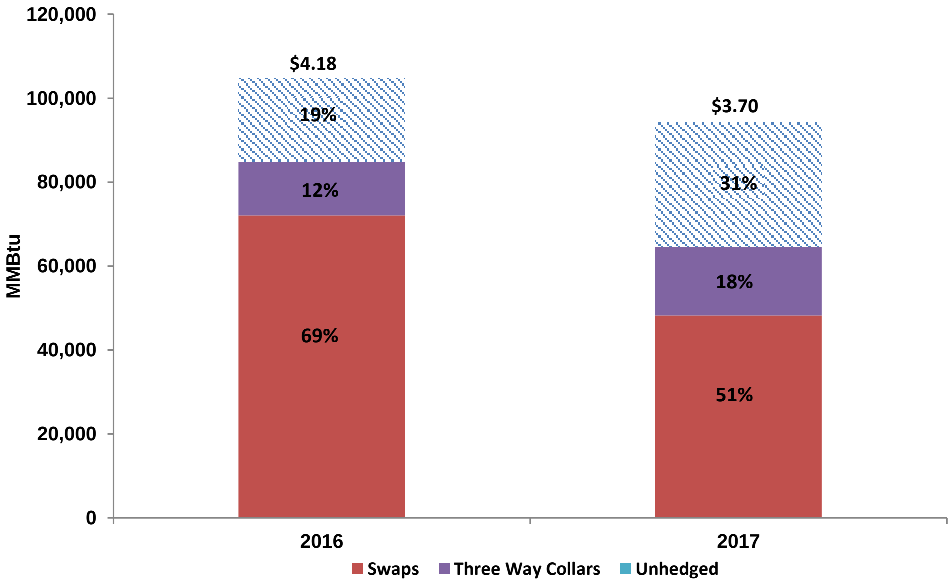
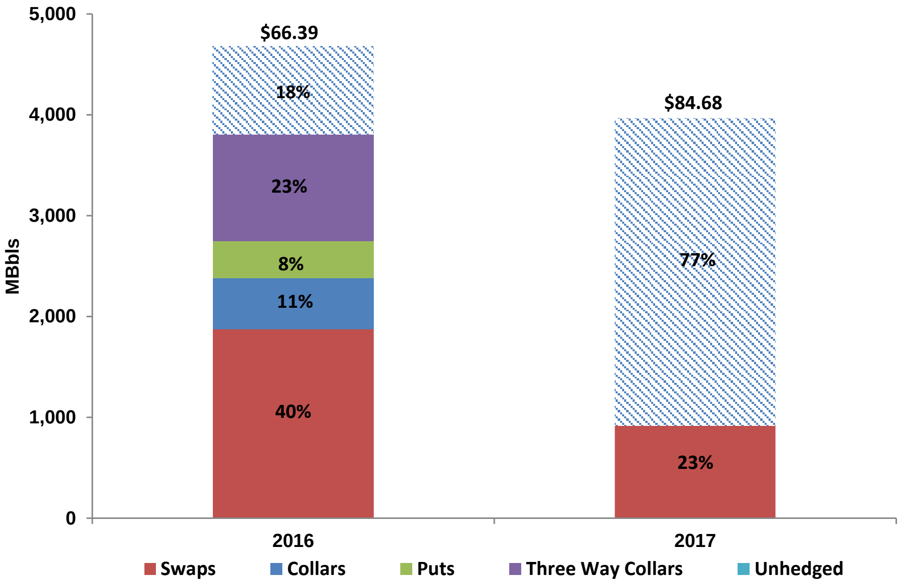
Hedges Mitigate Commodity Price Risk

Natural Gas Hedges



Oil Hedges



Note: The weighted average price for oil and natural gas will fluctuate based on the value of existing three-way collars and short puts as the respective prices settle. The above weighted average prices are calculated based on forward commodity pricing as of 5/13/16.

2016E Guidance Table

	Post SCOOP/STACK Sale Guidance FY 2016E		Midpoint Of Previously Announced Guidance FY 2016E [1]
Net Production:			
Oil (Bbls/d)	12,100	- 13,400	13,500
Natural gas (Mcf/d)	272,000	- 300,000	295,000
Natural gas liquids (Bbls/d)	9,700	- 10,700	11,400
Total (Mcfe/d)	402,800	444,600	444,400
Costs:			
Lease operating expenses	$ 160,000	- $ 177,000	$170,750
Production taxes	$ 37,000	- $ 41,000	$36,500
G&A expenses (excluding non-cash compensation)	$ 39,000	- $ 43,000	$41,000
Depreciation, depletion, amortization and accretion	$ 160,000	- $ 180,000	$227,500
Costs per Mcfe:			
Lease operating expenses	$ 1.05	- $ 1.15	$1.05
Production taxes (% of revenue)	10.0%	- 12.0%	11.5%
G&A expenses (excluding non-cash compensation)	$ 0.24	- $ 0.28	$0.25
Depreciation, depletion, amortization and accretion	$ 1.00	- $ 1.20	$1.40
Cash Flow Calculation (in thousands):			
Adjusted EBITDA [2]	$370,000		$360,000
Interest expense, including settlements paid on interest rate derivatives	$(104,000)		$(105,000)
Capital expenditures	$(73,000)		$(63,000)
Distributions to Preferred Unitholders [3]	$(2,230)		$(2,230)
Distributable cash flow	$190,770		$189,770
Excess of net cash after distributions to unitholders [4]	$150,000		$145,000
Mid-point adjusted net income per unit [2]	$0.60		$0.10
Units outstanding (millions)	131.4		131.0

Assumed NYMEX Pricing (May 13, 2016) [5]:	Q1 2016A	Q2 2016E	Q3 2016E	Q4 2016E
Oil ($/Bbl)	$33.23	$44.45	$47.37	$48.51
Natural gas ($/MMBtu)	$2.10	$2.01	$2.22	$2.48
Average NYMEX Differentials:				
Oil ($/Bbl)	$(6.66)	$(7.00)	$(7.00)	$(7.00)
Natural gas ($/MMBtu)	$(0.80)	$(0.85)	$(0.80)	$(0.80)
NGL realization as a percentage of crude oil NYMEX price [6]	24%	25%	25%	25%
Capital Expenditures Details (in thousands):	**Q1 2016A**	**Q2 2016E**	**Q3 2016E**	**Q4 2016E**
Operated	$(3,000)	$(8,000)	$(8,000)	$(7,000)
Non-Operated	$(17,000)	$(14,000)	$(10,000)	$(6,000)
Total Capital Expenditures	$(20,000)	$(22,000)	$(18,000)	$(13,000)

Note: Footnotes on Slide 9.

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2016 Guidance Table (footnotes)

(1) Previously announced guidance numbers released March 4, 2016.

(2) Adjusted EBITDA and adjusted net income exclude the amortization of value on derivative contracts acquired (approximately $16.1 million for the FY 2016).

(3) Reflects current monthly preferred distributions which were suspended effective with the February 2016 distribution and would have been paid in April 2016.

(4) Excess of net cash after distributions is net of any expected working capital adjustments and cash reserves and does not consider the payment of any accrued preferred distributions.

(5) NYMEX pricing includes actual settlements for January, February, March and April 2016, and NYMEX strip pricing on May 13, 2016 thereafter.

(6) Assumes a weighted average product breakout of 21% ethane, 35% propane, 11% isobutane, 15% n-butane and 18% pentane.

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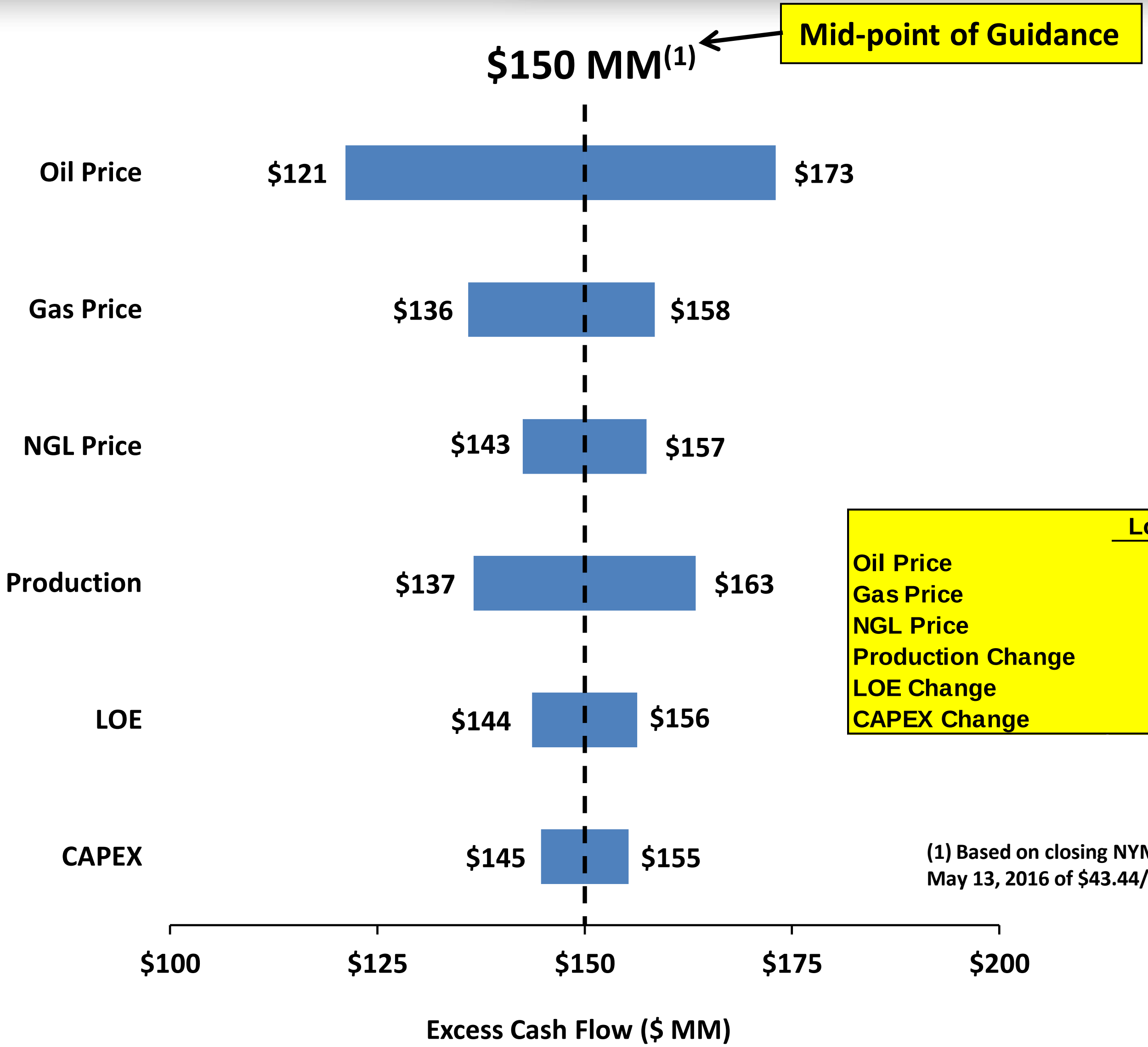
Excess Cash Flow Sensitivities Chart



	Low Case	High Case
Oil Price	$20.00	$70.00
Gas Price	$1.00	$3.50
NGL Price	$19.00	$28.50
Production Change	(5)%	5%
LOE Change	5%	(5)%
CAPEX Change	10%	(10)%

(1) Based on closing NYMEX futures strip pricing on May 13, 2016 of $43.44/Bbl and $2.20/Mcf for 2016.

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Our Focused Goals 2015 and Into 2016

1) Living Within Cash Flows
   - Focused on achieving adequate rates of return on our development capital program; remain flexible and reallocate capital as appropriate
   - 2015-2016 budgets designed to generate excess cash flow
2) Opportunistic Hedging- Take advantage of opportunistic pricing shifts
   - Have added hedges throughout 2015 and 2016 YTD
3) Reduce Leverage- Prudent stewards of balance sheet
   - Utilize equity to purchase assets from private sellers (EROC/LRE Mergers)
   - Monetize assets (SCOOP/STACK properties)
   - Reduction and subsequent suspension of common and preferred distributions
   - Second lien debt exchange for unsecured notes
   - Reduced capital budget to improve excess cash flow
   - Excess cash flow to pay down credit facility
4) Continue to Make Accretive Acquisitions- Took advantage of opportunities in 2015
   - Completed the LRE and EROC mergers in October 2015
   - Alternative financing strategies are being pursued to acquire additional assets (acquisition co type structures)

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