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Registration Statement No. 333-187430

## PROSPECTUS



**Offer to Exchange  
Up To \$525,000,000 of  
6.0% Senior Notes due 2020  
That Have Not Been Registered Under  
The Securities Act of 1933  
For  
Up To \$525,000,000 of  
6.0% Senior Notes due 2020  
That Have Been Registered Under  
The Securities Act of 1933**

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### **Terms of the New 6.0% Senior Notes due 2020 Offered in the Exchange Offer:**

- The terms of the new notes are identical to the terms of the old notes that were issued on November 19, 2012 and February 4, 2013, except that the new notes will be registered under the Securities Act of 1933 and will not contain restrictions on transfer, registration rights or provisions for additional interest.

### **Terms of the Exchange Offer:**

- We are offering to exchange up to \$525,000,000 of our old notes for new notes with materially identical terms that have been registered under the Securities Act of 1933 and are freely tradable.
  - We will exchange all old notes that you validly tender and do not validly withdraw before the exchange offer expires for an equal principal amount of new notes.
  - The exchange offer expires at 11:59 p.m., New York City time, on April 26, 2013, unless extended.
  - Tenders of old notes may be withdrawn at any time prior to the expiration of the exchange offer.
  - The exchange of new notes for old notes will not be a taxable event for U.S. federal income tax purposes.
  - Broker-dealers who receive new notes pursuant to the exchange offer acknowledge that they will deliver a prospectus in connection with any resale of such new notes.
  - Broker-dealers who acquired the old notes as a result of market-making or other trading activities may use the prospectus for the exchange offer, as supplemented or amended, in connection with resales of the new notes.
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You should carefully consider the risk factors beginning on page 8 of this prospectus before participating in the exchange offer.

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Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

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The date of this prospectus is April 1, 2013

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This prospectus is part of a registration statement we filed with the Securities and Exchange Commission. In making your investment decision, you should rely only on the information contained in this prospectus and in the accompanying letter of transmittal. We have not authorized anyone to provide you with any other information. We are not making an offer to sell these securities or soliciting an offer to buy these securities in any jurisdiction where an offer or solicitation is not authorized or in which the person making that offer or solicitation is not qualified to do so or to anyone whom it is unlawful to make an offer or solicitation. You should not assume that the information contained in this prospectus is accurate as of any date other than its date.

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In this prospectus we refer to the notes to be issued in the exchange offer as the "new notes" or "new Notes," and we refer to the \$525 million principal amount of our 6.0% senior notes due 2020 issued on November 19, 2012 (\$300 million) and February 4, 2013 (\$225 million) collectively as the "old notes" or "old Notes." We refer to the new notes and the old notes collectively as the "notes." In this prospectus, references to the "issuer" refer to Antero Resources Finance Corporation, a Delaware corporation and an indirect wholly owned subsidiary of Antero Resources LLC, a Delaware limited liability company. Antero Resources Finance Corporation was formed to be the issuer of the notes. References to "Antero," "Antero Resources" or "the Company" refer to Antero Resources LLC unless otherwise indicated or the context otherwise requires. References to "operating subsidiaries" refer to Antero's principal operating subsidiaries, Antero Resources Appalachian Corporation, a Delaware corporation, and Antero Resources Bluestone LLC, a Delaware limited liability company. On March 6, 2013, Antero Resources Arkoma LLC, Antero Resources Piceance LLC and Antero Resources Pipeline LLC were merged into Antero Resources Appalachian Corporation. References to "we," "us" or "our" refer to Antero and its subsidiaries, unless otherwise indicated or the context otherwise requires. References to "guarantors" refer to Antero and each of its subsidiaries that guarantee amounts outstanding on the notes on a joint and several basis.

This prospectus incorporates important business and financial information about us that is not included or delivered with this prospectus. Such information is available without charge to holders of old notes upon written or oral request made to Antero Resources Finance Corporation, 1625 17th Street, Denver, Colorado, 80202, Attention: Chief Financial Officer (Telephone (303) 357-7310). To obtain timely delivery of any requested information, holders of old notes must make any request no later than five business days prior to the expiration of the exchange offer.

## CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

The information in this prospectus includes "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act") and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). All statements, other than statements of historical fact included in this prospectus, regarding our strategy, future operations, financial position, estimated revenues and losses, projected costs, prospects, plans and objectives of management are forward-looking statements. When used in this prospectus, the words "could," "believe," "anticipate," "intend," "estimate," "expect," "project" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain such identifying words. These forward-looking statements are based on our current expectations and assumptions about future events and are based on currently available information as to the outcome and timing of future events. When considering forward-looking statements, you should keep in mind the risk factors and other cautionary statements described under the heading "Risk Factors" included in this prospectus. These forward-looking statements are based on management's current belief, based on currently available information, as to the outcome and timing of future events.

Forward-looking statements may include statements about our:

- business strategy;
- reserves;
- financial strategy, liquidity and capital required for our development program;
- realized natural gas, natural gas liquids ("NGLs") and oil prices;
- timing and amount of future production of natural gas, NGLs and oil;
- hedging strategy and results;
- future drilling plans;
- competition and government regulations;
- pending legal or environmental matters;
- marketing of natural gas, NGLs and oil;
- leasehold or business acquisitions;
- costs of developing our properties and conducting our gathering and other midstream operations;
- general economic conditions;
- credit markets;
- uncertainty regarding our future operating results; and
- plans, objectives, expectations and intentions contained in this prospectus that are not historical.

We caution you that these forward-looking statements are subject to all of the risks and uncertainties, most of which are difficult to predict and many of which are beyond our control, incident to the exploration for and development, production, gathering and sale of natural gas, NGLs and oil. These risks include, but are not limited to, 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, NGLs and oil reserves and in projecting future rates of production, cash flow and access to capital, the timing of development expenditures, and the other risks described under "Risk Factors" in this prospectus.

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Reserve engineering is a process of estimating underground accumulations of natural gas and oil that cannot be measured in an exact way. The accuracy of any reserve estimate depends on the quality of available data, the interpretation of such data and price and cost assumptions made by reservoir engineers. In addition, the results of drilling, testing and production activities may justify revisions of estimates that were made previously. If significant, such revisions would change the schedule of any further production and development drilling. Accordingly, reserve estimates may differ significantly from the quantities of natural gas and oil that are ultimately recovered.

Should one or more of the risks or uncertainties described in this prospectus occur, or should underlying assumptions prove incorrect, our actual results and plans could differ materially from those expressed in any forward- looking statements.

All forward-looking statements, expressed or implied, included in this prospectus are expressly qualified in their entirety by this cautionary statement. This cautionary statement should also be considered in connection with any subsequent written or oral forward-looking statements that we or persons acting on our behalf may issue.

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 prospectus.

## PROSPECTUS SUMMARY

This summary highlights some of the information contained in this prospectus and does not contain all of the information that may be important to you. You should read this entire prospectus and the documents to which we refer you before making an investment decision. You should carefully consider the information set forth under "Risk Factors" beginning on page 8 of this prospectus and the other cautionary statements described in this prospectus. In addition, certain statements include forward looking information that involves risks and uncertainties. See "Cautionary Statement Regarding Forward-Looking Statements." The information in this prospectus with respect to our estimated proved reserves as of December 31, 2012 has been prepared by our internal reserve engineers and audited by our independent reserve engineering firms. Certain operational terms used in this prospectus are defined in "Annex B: Glossary of Natural Gas and Oil Terms."

### **Our Company**

Antero Resources is an independent oil and natural gas company engaged in the exploration, development and acquisition of natural gas, NGLs, and oil properties located in the Appalachian Basin. We focus on unconventional reservoirs, which can generally be characterized as fractured shale formations. As of December 31, 2012, we held approximately 371,000 net acres of rich gas and dry gas properties, which are located in the Appalachian Basin in West Virginia, Ohio and Pennsylvania. Our corporate headquarters are in Denver, Colorado

Our management team has worked together for many years and has a successful track record of reserve and production growth as well as significant expertise in unconventional resource plays. Our strategy is to leverage our team's experience delineating and developing natural gas resource plays to profitably grow our reserves and production, primarily through internally generated projects on our acquired acreage. As of December 31, 2012, our estimated proved reserves were approximately 4.9 Tcfe, consisting of 3.7 Tcf of natural gas, 203 MMBbl of NGLs, and 3 MMBbl of oil.

As of December 31, 2012, 75% of our proved reserves were natural gas, 21% were proved developed and 98% were operated by us. For the year ended December 31, 2012, we generated cash flow from operations of \$332 million, a net loss of \$285 million and EBITDAX of \$434 million. The net loss in 2012 includes, (i) a pre-tax loss of \$796 million on the sale of the Arkoma and Piceance Basin properties, (ii) deferred tax benefit related to the loss on the sale of the Arkoma and Piceance properties and discontinued operations of \$273 million, (iii) a pre-tax gain on the sale of certain Appalachian gathering systems of \$291 million, and (iv) a noncash tax provision related to continuing operations of \$121 million. See "Selected Historical Consolidated Financial Data" for a definition of EBITDAX (a non-GAAP measure) and a reconciliation of EBITDAX to net income (loss).

We have assembled a diversified portfolio of long-lived properties that are characterized by what we believe to be low geologic risk and repeatable drilling opportunities. Our drilling opportunities are focused in the Marcellus, Utica and Upper Devonian Shales of the Appalachian Basin. From inception, we have drilled and operated 520 wells through December 31, 2012 with a success rate of approximately 98%. Our drilling inventory consists of approximately 4,900 potential well locations, all of which are unconventional resource opportunities.

We believe we have secured sufficient long-term firm takeaway capacity on major pipelines that are in existence or currently under construction in each of our core operating areas to accommodate our existing production.

We operate in one industry segment, which is the exploration, development and production of natural gas, NGLs, and oil, and all of our operations are conducted in the United States. Our gathering assets are primarily dedicated to supporting the natural gas volumes we produce.

### **Corporate Sponsorship and Structure**

We began operations in 2004 and the Company, as it exists today, was formed in October 2009. We have funded our development and operating activities primarily through equity capital raised from private equity sponsors and institutional investors, issuance of debt securities, sales of non-core assets, borrowings under our bank credit facilities, and operating cash flows. Our primary private equity sponsors are affiliates of Warburg Pincus, Yorktown Energy Partners and Trilantic Capital Partners.

Antero Resources Finance Corporation was formed in October 2009 as an indirect wholly-owned subsidiary of Antero for the purpose of arranging financing for Antero and the operating subsidiaries, including the 9.375% senior notes due 2017, 7.25% senior notes due 2019 and 6.0% senior notes due 2020. The indentures governing the notes limit Antero Finance's activities to those of a finance subsidiary. Antero Finance does not own any significant assets other than intercompany obligations.

### **Corporate Headquarters**

Our corporate headquarters are located at 1625 17th Street, Denver, Colorado 80202, and our telephone number at that address is (303) 357-7310.

### The Exchange Offer

On November 19, 2012 and February 4, 2013, we completed private offerings of \$300 million and \$225 million, respectively, of the old notes. On each of those dates, we entered into registration rights agreements with the initial purchasers in connection with the offerings pursuant to which we agreed to deliver to you this prospectus and to use commercially reasonable efforts to complete the exchange offer by November 19, 2013.

Exchange Offer	We are offering to exchange new notes for old notes.
Expiration Date	The exchange offer will expire at 11:59 p.m., New York City time, on April 26, 2013, unless we decide to extend it.
Condition to the Exchange Offer	The registration rights agreements do not require us to accept old notes for exchange if the exchange offer, or the making of any exchange by a holder of the old notes, would violate any applicable law or interpretation of the staff of the Securities and Exchange Commission. The exchange offer is not conditioned on a minimum aggregate principal amount of old notes being tendered.
Procedures for Tendering Old Notes	<p>To participate in the exchange offer, you must follow the procedures established by The Depository Trust Company, which we call "DTC," for tendering notes held in book-entry form. These procedures, which we call "ATOP," require that (i) the exchange agent receive, prior to the expiration date of the exchange offer, a computer generated message known as an "agent's message" that is transmitted through DTC's automated tender offer program, and (ii) DTC confirms that:</p> <ul style="list-style-type: none"><li>• DTC has received your instructions to exchange your notes, and</li><li>• you agree to be bound by the terms of the letter of transmittal.</li></ul> <p>For more information on tendering your old notes, please refer to the section in this prospectus entitled "Exchange Offer—Terms of the Exchange Offer," "—Procedures for Tendering," and "Description of Notes—Book Entry; Delivery and Form."</p>
Guaranteed Delivery Procedures	None.
Withdrawal of Tenders	You may withdraw your tender of old notes at any time prior to the expiration date. To withdraw, you must submit a notice of withdrawal to the exchange agent using ATOP procedures before 11:59 p.m., New York City time, on the expiration date of the exchange offer. Please refer to the section in this prospectus entitled "Exchange Offer—Withdrawal of Tenders."
Acceptance of Old Notes and Delivery of New Notes	If you fulfill all conditions required for proper acceptance of old notes, we will accept any and all old notes that you properly tender in the exchange offer before 11:59 p.m., New York City time on the expiration date. We will return any old note that we do not accept for exchange to you without expense promptly after the expiration date and acceptance of the old notes for exchange. Please refer to the section in this prospectus entitled "Exchange Offer—Terms of the Exchange Offer."



Fees and Expenses	We will bear expenses related to the exchange offer. Please refer to the section in this prospectus entitled "Exchange Offer—Fees and Expenses."
Use of Proceeds	The issuance of the new notes will not provide us with any new proceeds. We are making this exchange offer solely to satisfy our obligations under the registration rights agreements.
Consequences of Failure to Exchange Old Notes	If you do not exchange your old notes in this exchange offer, you will no longer be able to require us to register the old notes under the Securities Act except in limited circumstances provided under the registration rights agreements. In addition, you will not be able to resell, offer to resell or otherwise transfer the old notes unless we have registered the old notes under the Securities Act, or unless you resell, offer to resell or otherwise transfer them under an exemption from the registration requirements of, or in a transaction not subject to, the Securities Act.
U.S. Federal Income Tax Consequences	The exchange of new notes for old notes in the exchange offer will not be a taxable event for U.S. federal income tax purposes. Please read "Material United States Federal Income Tax Consequences."
Exchange Agent	<p>We have appointed Wells Fargo Bank, N.A. as exchange agent for the exchange offer. You should direct questions and requests for assistance, requests for additional copies of this prospectus or the letter of transmittal to the exchange agent as follows:</p> <p><i>By Registered &amp; Certified Mail:</i></p> <p>Wells Fargo Bank, N.A. Corporate Trust Operations MAC N9303-121 PO Box 1517 Minneapolis, Minnesota 55480</p> <p><i>By regular mail or overnight courier:</i></p> <p>Wells Fargo Bank, N.A. Corporate Trust Operations MAC N9303-121 Sixth &amp; Marquette Avenue Minneapolis, Minnesota 55479</p> <p><i>In person by hand only:</i></p> <p>Wells Fargo Bank, N.A. 12th Floor—Northstar East Building Corporate Trust Operations 608 Second Avenue South Minneapolis, Minnesota 55402</p> <p>Eligible institutions may make requests by facsimile at (612) 667-6282 and may confirm facsimile delivery by calling (800) 344-5128.</p>

### Terms of the New Notes

The new notes will be identical to the old notes except that the new notes are registered under the Securities Act and will not have restrictions on transfer, registration rights or provisions for additional interest. The new notes will evidence the same debt as the old notes, and the same indenture will govern the new notes and the old notes.

The following summary contains basic information about the new notes and is not intended to be complete. It does not contain all information that may be important to you. For a more complete understanding of the new notes, please refer to the section entitled "Description of Notes" in this prospectus.

Issuer	Antero Resources Finance Corporation
Securities Offered	\$525 million aggregate principal amount of 6.0% senior notes due 2020.
Maturity	December 1, 2020.
Interest Payment Dates	Interest on the notes will be paid semi-annually in arrears on June 1 and December 1 of each year commencing on June 1, 2013. Interest on each new note will accrue from the last interest payment date on which interest was paid on the old note tendered in exchange thereof, or, if no interest has been paid on the old note, from the date of the original issue of the old note.
Guarantees	The payment of the principal, premium and interest on the notes will be fully and unconditionally guaranteed on a senior unsecured basis by Antero, all of its wholly owned subsidiaries (other than the issuer) and certain of its future restricted subsidiaries. The guarantees will be unsecured senior indebtedness of the guarantors and will have the same ranking with respect to the guarantors' indebtedness as the notes will have with respect to the issuer's indebtedness. See "Description of Notes—Guarantees."
Ranking	<p>The new notes will be the issuer's general senior unsecured obligations. The new notes will:</p> <ul style="list-style-type: none"><li>• rank equally in right of payment with all of the issuer's other senior indebtedness (including the issuer's guarantee under our senior secured revolving credit facility, our 9.375% senior notes due 2017, our 7.25% senior notes due 2019 and our 9% note payable due December 1, 2013); and</li><li>• rank senior in right of payment to any of the issuer's future subordinated indebtedness.</li></ul> <p>The guarantees will be the guarantors' general senior unsecured obligations and will rank equally in right of payment with all of the other senior indebtedness of the guarantors (including the guarantors' borrowings under our senior secured revolving credit facility).</p>

The notes and guarantees will effectively rank junior in right of payment to all of the issuer's and the guarantors' existing and future secured indebtedness, including borrowings and guarantees under our senior secured revolving credit facility, to the extent of the value of the collateral securing such indebtedness.

The notes and guarantees will be structurally subordinated to any liabilities (including trade payables) of any future non-guarantor subsidiaries.

Optional Redemption

The issuer will have the option to redeem the new notes, in whole or in part, at any time on or after December 1, 2015, in each case at the redemption prices described in this prospectus under the heading "Description of Notes—Optional Redemption," together with any accrued and unpaid interest to, but excluding, the date of such redemption.

On or prior to December 1, 2015, the issuer may, from time to time, redeem up to 35% of the aggregate principal amount of the notes with the net proceeds of certain equity offerings at a redemption price equal to 106.0% of the principal amount of the notes, plus any accrued and unpaid interest to, but excluding, the date of such redemption.

In addition, at any time prior to December 1, 2015, the issuer may redeem the new notes, in whole or in part, at a "make-whole" redemption price described under "Description of Notes—Optional Redemption," together with any accrued and unpaid interest to, but excluding, the date of such redemption.

If certain transactions that would constitute a change of control occur prior to January 1, 2014, we may redeem all, but not less than all, of the notes at a redemption price equal to 110% of the principal amount of the notes redeemed plus any accrued and unpaid interest to, but excluding, the date of such redemption.

Mandatory Offers to Purchase

Upon the occurrence of a change of control, unless the issuer has exercised its optional redemption right in respect of the notes, holders of the new notes will have the right to require the issuer to repurchase all or a portion of the new notes at a price equal to 101% of the aggregate principal amount of the new notes, together with any accrued and unpaid interest to, but excluding, the date of purchase. In connection with certain asset dispositions, the issuer will be required to use the net cash proceeds of the asset dispositions to make an offer to purchase the new notes at 100% of the principal amount, together with any accrued and unpaid interest to, but excluding, the date of purchase.

Certain Covenants	<p>The issuer will issue the new notes under an indenture with Wells Fargo Bank, National Association, as trustee, dated as of November 19, 2012. The indenture, among other things, limits the ability of Antero and its restricted subsidiaries (including the issuer) to:</p> <ul style="list-style-type: none"><li>• incur, assume or guarantee additional indebtedness or issue preferred stock;</li><li>• pay dividends on equity securities, repurchase equity securities or redeem subordinated indebtedness;</li><li>• issue certain preferred stock or similar equity securities;</li><li>• make investments or other restricted payments;</li><li>• create liens to secure indebtedness;</li><li>• restrict dividends, loans or other asset transfers from our restricted subsidiaries;</li><li>• sell or otherwise dispose of assets, including capital stock of subsidiaries;</li><li>• enter into transactions with affiliates; and</li><li>• consolidate with or merge with or into, or sell substantially all of our properties to, another person.</li></ul> <p>However, many of these covenants will terminate if:</p> <ul style="list-style-type: none"><li>• both Standard &amp; Poor's Ratings Services and Moody's Investors Service, Inc. assign the notes an investment grade rating; and</li><li>• no default under the indenture has occurred and is continuing.</li></ul> <p>These covenants are subject to important exceptions and qualifications, which are described under "Description of Notes—Certain Covenants."</p>
Absence of a Public Market for the New Notes	<p>The new notes generally will be freely transferable, but will also be new securities for which there will not initially be a market. There can be no assurance as to the development or liquidity of any market for the new notes. We do not intend to apply for a listing of the new notes on any securities exchange or any automated dealer quotation system.</p>
Risk Factors	<p>Investing in the new notes involves risks. See "Risk Factors" beginning on page 8 for a discussion of certain factors you should consider in evaluating whether or not to tender your old notes.</p>

## RISK FACTORS

*Investing in the notes involves risks. You should carefully consider the information in this prospectus, including the matters addressed under "Cautionary Statement Regarding Forward-Looking Statements," and the following risks before participating in the exchange offer.*

*We are subject to certain risks and hazards due to the nature of the business activities we conduct. The risks discussed below, any of which could materially and adversely affect our business, financial condition, cash flows, and results of operations, are not the only risks we face. We may experience additional risks and uncertainties not currently known to us or, as a result of developments occurring in the future, conditions that we currently deem to be immaterial may also materially and adversely affect our business, financial condition, cash flows, and results of operations.*

### **Risks Relating to the Exchange Offer**

***If you do not properly tender your old notes, you will continue to hold unregistered old notes and your ability to transfer old notes will remain restricted and may be adversely affected.***

The issuer will only issue new notes in exchange for old notes that you timely and properly tender. Therefore, you should allow sufficient time to ensure timely delivery of the old notes and you should carefully follow the instructions on how to tender your old notes. Neither we nor the exchange agent is required to tell you of any defects or irregularities with respect to your tender of old notes.

If you do not exchange your old notes for new notes pursuant to the exchange offer, the old notes you hold will continue to be subject to the existing transfer restrictions. In general, you may not offer or sell the old notes except under an exemption from, or in a transaction not subject to, the Securities Act and applicable state securities laws. We do not plan to register old notes under the Securities Act unless the registration rights agreements with the initial purchasers of the old notes require us to do so. Further, if you continue to hold any old notes after the exchange offer is consummated, you may have trouble selling them because there will be fewer of the old notes outstanding.

### **Risks Relating to the Notes**

***Our substantial indebtedness could adversely affect our financial condition and prevent us from fulfilling our obligations under the notes.***

We have, and after this exchange will continue to have, a significant amount of indebtedness. As of December 31, 2012, after giving effect to our February 2013 offering of \$225 million of the existing notes, the resulting borrowing base adjustment and the application of the net proceeds therefrom, we have approximately \$1.5 billion in total indebtedness, no senior secured indebtedness outstanding and \$657 million of available borrowing capacity under our senior secured revolving credit facility (our "Credit Facility") (after deducting \$43 million outstanding letters of credit).

Subject to the limits contained in the credit agreement governing our Credit Facility, the indenture governing the notes, the indentures that govern our other series of senior notes and our other debt instruments, we may be able to incur substantial additional debt from time to time to finance working capital, capital expenditures, investments or acquisitions, or for other purposes. If we do so, the risks related to our high level of debt could intensify. Specifically, our high level of debt could have important consequences to the holders of the notes, including:

- making it more difficult for us to satisfy our obligations with respect to the notes and our other debt;
- limiting our ability to obtain additional financing to fund future working capital, capital expenditures, acquisitions or other general corporate requirements;

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- requiring a substantial portion of our cash flows to be dedicated to debt service payments instead of other purposes, thereby reducing the amount of cash flows available for working capital, capital expenditures, acquisitions and other general corporate purposes;
- increasing our vulnerability to general adverse economic and industry conditions;
- exposing us to the risk of increased interest rates as certain of our borrowings, including borrowings under our Credit Facility, are at variable rates of interest;
- limiting our flexibility in planning for and reacting to changes in the industry in which we compete;
- placing us at a disadvantage compared to other, less leveraged competitors; and
- increasing our cost of borrowing.

***We may not be able to generate sufficient cash to service all of our indebtedness, including the notes, and may be forced to take other actions to satisfy our obligations under our indebtedness, which may not be successful.***

Our ability to make scheduled payments on or to refinance our indebtedness obligations, including the notes, depends on our financial condition and operating performance, which is subject to prevailing economic and competitive conditions and certain financial, business and other factors beyond our control. We may not be able to maintain a level of cash flows from operating activities sufficient to permit us to pay the principal, premium, if any, and interest on our indebtedness, including the notes.

If our cash flows and capital resources are insufficient to fund our debt service obligations, we may be forced to reduce or delay investments and capital expenditures, or to sell assets, seek additional capital or restructure or refinance our indebtedness, including the notes. Our ability to restructure or refinance our indebtedness will depend on the condition of the capital markets and our financial condition at such time. Any refinancing of our indebtedness could be at higher interest rates and may require us to comply with more onerous covenants, which could further restrict our business operations. The terms of existing or future debt instruments, including the indenture governing the notes, may restrict us from adopting some of these alternatives. In addition, any failure to make payments of interest and principal on our outstanding indebtedness on a timely basis would likely result in a reduction of our credit rating, which could harm our ability to incur additional indebtedness. In the absence of sufficient cash flows and capital resources, we could face substantial liquidity problems and might be required to dispose of material assets or operations to meet our debt service and other obligations. Our Credit Facility and the indentures governing our senior notes (including the notes) restrict our ability to dispose of assets and use the proceeds from such disposition. We may not be able to consummate those dispositions, and the proceeds of any such disposition may not be adequate to meet any debt service obligations then due. These alternative measures may not be successful and may not permit us to meet our scheduled debt service obligations.

As of December 31, 2012, after giving effect to our February 2013 offering of \$225 million of the existing notes, the resulting borrowing base adjustment and the application of the net proceeds therefrom, we expect to have approximately \$1.5 billion in total indebtedness, no senior secured indebtedness outstanding and \$657 million of available borrowing capacity under our Credit Facility (after deducting \$43 million outstanding letters of credit).

On February 4, 2013, the borrowing base under our Credit Facility was decreased by \$56 million to \$1.22 billion. The lender commitments under the facility can be expanded from \$700 million to the full \$1.22 billion borrowing base upon bank approval.

In the future, we may not be able to access adequate funding under our Credit Facility as a result of a decrease in our borrowing base due to the issuance of new indebtedness that may result in a decrease in our borrowing base, the outcome of a subsequent semi-annual borrowing base

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redetermination or an unwillingness or inability on the part of our lending counterparties to meet their funding obligations and the inability of other lenders to provide additional funding to cover the defaulting lender's portion. In addition, to the extent that the borrowing base under our Credit Facility exceeds the total lender commitments, our borrowing availability will be limited to the aggregate lender commitments. Declines in commodity prices could result in a determination to lower the borrowing base in the future and, in such a case, we could be required to repay any indebtedness in excess of the redetermined borrowing base. As a result, we may be unable to implement our drilling and development plan, make acquisitions or otherwise carry out our business plan, which would have a material adverse effect on our financial condition and results of operations and impair our ability to service all of our indebtedness, including the new notes.

***If we are unable to comply with the restrictions and covenants in the agreements governing our senior notes and other indebtedness, there could be a default under the terms of these agreements, which could result in an acceleration of payment of funds that we have borrowed and would impact our ability to make principal and interest payments on the notes.***

If we are unable to comply with the restrictions and covenants in the indentures governing our senior notes (including the notes) or in our Credit Facility, or in any future debt financing agreements, there could be a default under the terms of these agreements. Our ability to comply with these restrictions and covenants, including meeting financial ratios and tests, may be affected by events beyond our control. As a result, we cannot assure you that we will be able to comply with these restrictions and covenants or meet these tests. Any default under the agreements governing our indebtedness, including a default under our Credit Facility or the indentures governing our senior notes (including the notes), that is not waived by the requisite number of lenders and the remedies sought by the holders of such indebtedness, could prevent us from paying principal, premium, if any, and interest on the notes and substantially decrease the market value of the notes. If we are unable to generate sufficient cash flow and are otherwise unable to obtain funds necessary to meet required payments of principal, premium, if any, and interest on our indebtedness or if we otherwise fail to comply with the various covenants, including financial and operating covenants in the instruments governing our indebtedness (including covenants in our Credit Facility and in the indentures governing our senior notes), we could be in default under the terms of these agreements. In the event of such default:

- the holders of such indebtedness could elect to declare all the funds borrowed thereunder to be immediately due and payable, together with any accrued and unpaid interest;
- the lenders under our Credit Facility could elect to terminate their commitments thereunder, cease making further loans to us and institute foreclosure proceedings against our assets; and
- we could be forced into bankruptcy or liquidation.

If our operating performance declines, in the future we may need to obtain waivers from the requisite number of lenders under our Credit Facility to avoid being in default. If we breach our covenants under our Credit Facility and seek a waiver, we may not be able to obtain a waiver from the required lenders on terms that are acceptable to us, if at all. If this occurs, we would be in default under our Credit Facility, the lenders could exercise their rights, as described above, and we could be forced into bankruptcy or liquidation. See "—Restrictions in our existing and future debt agreements could limit our growth and our ability to engage in certain activities."

***The notes and the guarantees are unsecured and effectively subordinated to the rights of our secured indebtedness.***

The notes and the guarantees are general unsecured senior obligations ranking effectively junior to all of our existing and future secured indebtedness, including our obligations under our Credit Facility, to the extent of the value of the collateral securing the indebtedness.

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If we were unable to repay such indebtedness under our Credit Facility, the lenders under that facility could foreclose on the pledged assets to the exclusion of holders of the notes, even if an event of default exists under the indenture governing the notes at such time. Furthermore, if the lenders foreclose and sell the pledged equity interests in any guarantor in a transaction permitted under the terms of the indenture governing the notes, then such guarantor will be released from its guarantee of the notes automatically and immediately upon such sale. In any such event, because the notes are not secured by any of such assets or by the equity interests in any such guarantor, it is possible that there would be no assets from which your claims could be satisfied or, if any assets existed, they might be insufficient to satisfy your claims in full.

If the issuer or any guarantor is declared bankrupt, becomes insolvent or is liquidated or reorganized, any of its secured indebtedness will be entitled to be paid in full from its assets or the assets of any guarantor securing that indebtedness before any payment may be made with respect to the notes or the affected guarantees. Holders of the notes will participate ratably in our remaining assets with all holders of any unsecured indebtedness that does not rank junior to the notes, based upon the respective amounts owed to each holder or creditor. In any of the foregoing events, there may not be sufficient assets to pay amounts due on the notes or the guarantees. As a result, holders of the notes would likely receive less, ratably, than holders of secured indebtedness.

As of December 31, 2012, after giving effect to our February 2013 offering of \$225 million of the existing notes, the resulting borrowing base adjustment and the application of the net proceeds therefrom, we expect to have approximately \$1.5 billion in total indebtedness, no senior secured indebtedness outstanding and \$657 million of available borrowing capacity under our Credit Facility (after deducting \$43 million outstanding letters of credit).

***We may incur substantially more indebtedness, including indebtedness ranking equal to the notes and the guarantees. This could increase the risks associated with the notes.***

Subject to the restrictions in the indenture governing the notes, the indentures governing our other senior notes and our Credit Facility, we may incur substantial additional indebtedness (including secured indebtedness) in the future. Although the instruments governing our Credit Facility and the indentures governing our senior notes (including the notes) each contain restrictions on the incurrence of additional indebtedness, these restrictions are subject to certain qualifications and exceptions, and indebtedness incurred in compliance with these restrictions could be substantial. These restrictions also will not prevent us from incurring obligations that do not constitute indebtedness.

If the issuer or any guarantor incurs any additional indebtedness that ranks equally with the notes (or with the guarantees thereof), including trade payables, the holders of that indebtedness will be entitled to share ratably with noteholders in any proceeds distributed in connection with any insolvency, liquidation, reorganization, dissolution or other winding-up of the issuer or such guarantor. This may have the effect of reducing the amount of proceeds paid to noteholders in connection with such a distribution. As of December 31, 2012, after giving effect to our February 2013 offering of \$225 million of the existing notes and the application of the net proceeds therefrom, we would have had total long-term indebtedness of approximately \$1.5 billion.

Any increase in our level of indebtedness will have several important effects on our future operations, including, without limitation:

- we will have additional cash requirements in order to support the payment of interest on our outstanding indebtedness;
- increases in our outstanding indebtedness and leverage will increase our vulnerability to adverse changes in general economic and industry conditions, as well as to competitive pressure;



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- depending on the levels of our outstanding indebtedness, our ability to obtain additional financing for working capital, capital expenditures, general corporate and other purposes may be limited; and
- our level of indebtedness may prevent us from engaging in certain transactions that might otherwise be beneficial to us.

Any of these factors could result in a material adverse effect on our business, financial condition, results of operations, business prospects and ability to satisfy our obligations under the notes.

### ***The notes are structurally subordinated to all obligations of our future subsidiaries that do not become guarantors of the notes.***

The notes are guaranteed by all of Antero's existing subsidiaries (except the issuer), and by (a) any wholly-owned domestic subsidiary of Antero formed after the issue date of the existing notes and (b) any domestic subsidiary of Antero that guarantees any indebtedness of the issuer, Antero or any other subsidiary guarantor (in each case, other than an immaterial subsidiary). Our subsidiaries that do not guarantee the notes will have no obligation, contingent or otherwise, to pay amounts due under the notes or to make any funds available to pay those amounts, whether by dividend, distribution, loan or other payment. The notes are structurally subordinated to all indebtedness and other obligations of any non-guarantor subsidiary such that in the event of insolvency, liquidation, reorganization, dissolution or other winding up of any subsidiary that is not a guarantor, all of that subsidiary's creditors (including trade creditors) would be entitled to payment in full out of that subsidiary's assets before we would be entitled to any payment.

In addition, the indenture governing the notes, subject to some limitations, permits these subsidiaries to incur additional indebtedness and does not contain any limitation on the amount of other liabilities, such as trade payables, that may be incurred by these subsidiaries.

Further, our subsidiaries that provide, or will provide, guarantees of the notes will be automatically released from those guarantees upon the occurrence of certain events, including the following:

- the designation of that subsidiary guarantor as an unrestricted subsidiary;
- the release or discharge of any guarantee or indebtedness that resulted in the creation of the guarantee of the notes by such subsidiary guarantor; or
- the sale or other disposition, including the sale of substantially all the assets, of that subsidiary guarantor.

If any subsidiary guarantee is released, no holder of the notes will have a claim as a creditor against that subsidiary, and the indebtedness and other liabilities, including trade payables and preferred stock, if any, whether secured or unsecured, of that subsidiary will be effectively senior to the claim of any holders of the notes. See "Description of Notes—Guarantees."

### ***Restrictions in our existing and future debt agreements could limit our growth and our ability to engage in certain activities.***

Our Credit Facility contains a number of significant restrictive covenants (in addition to covenants restricting the incurrence of additional indebtedness) that may limit our ability to, among other things:

- sell assets;
- make loans to others;
- make investments;
- enter into mergers;

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- make certain payments;
- hedge future production;
- incur liens; and
- engage in certain other transactions without the prior consent of the lenders.

The indentures governing our senior notes (including the notes) contain similar restrictive covenants. In addition, our Credit Facility requires us to maintain certain financial ratios or to reduce our indebtedness if we are unable to comply with such ratios. These restrictions, together with those in the indentures governing our senior notes (including the notes), may also limit our ability to obtain future financings to withstand a future downturn in our business or the economy in general, or to otherwise conduct necessary corporate activities. We may also be prevented from taking advantage of business opportunities that arise because of the limitations that the restrictive covenants under the indentures governing our senior notes (including the notes) and our Credit Facility impose on us.

Our Credit Facility limits the amounts we can borrow up to the lesser of (a) the total commitments or (b) a borrowing base amount, which the lenders, in their sole discretion, determine on a semi-annual basis based upon projected revenues from the natural gas properties securing our loan. Currently, our Credit Facility has a borrowing base of \$1.22 billion, but the total lender commitments are only \$700 million but can be expanded to the full \$1.22 billion borrowing base upon bank approval.

The lenders can unilaterally adjust the borrowing base and the borrowings permitted to be outstanding under our Credit Facility. Any increase in the borrowing base requires the consent of the lenders holding 100% of the commitments. If the requisite number of lenders do not agree to an increase, then the borrowing base will be the lowest borrowing base acceptable to such lenders. Increases in total lender commitments require the approval of the individual lenders who wish to increase their commitment.

Outstanding borrowings in excess of the borrowing base must be repaid, or we must pledge other natural gas properties as additional collateral. We do not currently have any substantial unpledged properties, and we may not have the financial resources in the future to make mandatory principal prepayments required under our Credit Facility.

A breach of any covenant in our Credit Facility would result in a default under that agreement after any applicable grace periods. A default, if not waived, could result in acceleration of the indebtedness outstanding under the facility and in a default with respect to, and an acceleration of, the indebtedness outstanding under other debt agreements. The accelerated indebtedness would become immediately due and payable. In addition, an event of default under our Credit Facility would permit the lenders under our Credit Facility to terminate all commitments to extend further credit under that facility. Furthermore, if we were unable to repay the amounts due and payable under our Credit Facility, those lenders could proceed against the collateral granted to them to secure that indebtedness.

If that occurs, we may not be able to make all of the required payments or borrow sufficient funds to refinance such indebtedness. Even if new financing were available at that time, it may not be on terms that are acceptable to us. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Debt Agreements and Contractual Obligations—Senior Secured Revolving Credit Facility" and "Description of Notes—Events of Default."

***Our ability to repay our indebtedness, including the notes, is dependent on the cash flow generated by our operating subsidiaries.***

The operating subsidiaries own substantially all of our assets and conduct all of our operations. Accordingly, repayment of our indebtedness, including the notes, will be dependent on the generation of cash flow by the operating subsidiaries and their ability to make such cash available to the issuer,

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directly or indirectly, by dividend, debt repayment or otherwise. All of the operating subsidiaries guarantee the issuer's obligations under the notes. Unless they guarantee the notes, our future subsidiaries will not have any obligation to pay amounts due on the notes or to make funds available for that purpose. The operating subsidiaries may not be able to, or may not be permitted to, make distributions to enable the issuer to make payments in respect of its indebtedness, including the notes. Each operating subsidiary is a distinct legal entity and, under certain circumstances, legal and contractual restrictions may limit the issuer's ability to obtain cash from the operating subsidiaries. While the indentures governing our senior notes (including the notes) and our Credit Facility limit the ability of the operating subsidiaries to incur consensual encumbrances or restrictions on their ability to pay dividends or make other intercompany payments to Antero, those limitations are subject to certain qualifications and exceptions. In the event that we do not receive distributions from our subsidiaries, we may be unable to make required principal and interest payments on our indebtedness, including the notes.

***Your ability to transfer the notes may be limited by the absence of an active trading market, and an active trading market may not develop for the notes.***

The old notes have not been registered under the Securities Act, and may not be resold by holders thereof unless the old notes are subsequently registered or an exemption from the registration requirements of the Securities Act is available. However, we cannot assure you that, even following registration or exchange of the old notes for new notes, an active trading market for the old notes or the new notes will exist, and we will have no obligation to create such a market. At the time of the private placements of the old notes, the initial purchasers advised us that they intended to make a market in the old notes and, if issued, the new notes, as permitted by applicable laws and regulations. However, the initial purchasers are not obligated to make a market in the old notes or the new notes and they may discontinue their market making activities at any time without notice. In addition, market making activities may be limited during an exchange offer or while the effectiveness of a shelf registration statement is pending.

Therefore, an active market for the notes may not develop or be maintained, which would adversely affect the market price and liquidity of the notes. In that case, the holders of the notes may not be able to sell their notes at a particular time or at a favorable price. If a trading market were to develop, future trading prices of the notes may be volatile and will depend on many factors, including:

- the number of holders of notes;
- prevailing interest rates;
- our operating performance and financial condition;
- the interest of securities dealers in making a market for them; and
- the market for similar securities.

Even if an active trading market for the notes does develop or is maintained, there is no guarantee that it will continue. Historically, the market for non-investment grade debt has been subject to severe disruptions that have caused substantial volatility in the prices of securities similar to the notes. The market, if any, for the notes may experience similar disruptions, and any such disruptions may adversely affect the liquidity in that market or the prices at which you may sell your notes. In addition, subsequent to their initial issuance, the old notes or the new notes may trade at a discount from the old notes' initial offering price, depending upon prevailing interest rates, the market for similar notes, our performance and other factors.

***The issuer may not be able to repurchase the notes in certain circumstances.***

Under the terms of the indentures governing our senior notes (including the notes), holders may require us to repurchase all or a portion of the outstanding senior notes if we sell certain assets or in the event of a change of control. We may not have enough funds to pay the repurchase price on a purchase date (in which case, we could be required to issue equity securities to pay the repurchase price). Additionally, under our Credit Facility, a change of control (as defined therein) constitutes an event of default that permits the lenders to accelerate the maturity of borrowings under the credit agreement and terminate their commitments to lend. The source of funds for any purchase of our senior notes (including the notes) and repayment of borrowings under our Credit Facility would be our available cash or cash generated from our subsidiaries' operations or other sources, including borrowings, sales of assets or sales of equity. We may not be able to repurchase our outstanding senior notes (including the notes) upon a change of control because we may not have sufficient financial resources to purchase all of the debt securities that are tendered upon a change of control and repay our other indebtedness that will become due. We may require additional financing from third parties to fund any such purchases, and we may be unable to obtain financing on satisfactory terms or at all. Further, our ability to repurchase our outstanding senior notes (including the notes) may be limited by law. In order to avoid the obligations to repurchase our outstanding senior notes (including the notes) and events of default and potential breaches of the credit agreement governing our Credit Facility, we may have to avoid certain change of control transactions that would otherwise be beneficial to us.

In addition, some important corporate events, such as leveraged recapitalizations, may not, under the indentures governing our outstanding senior notes (including the notes), constitute a "change of control" that would require us to repurchase our outstanding senior notes (including the notes), even though those corporate events could increase the level of our indebtedness or otherwise adversely affect our capital structure, credit ratings or the value of the notes. See "Description of Notes—Change of Control."

One of the circumstances under which a change of control may occur is upon the sale or disposition of all or substantially all of our consolidated assets. However, the phrase "all or substantially all" will likely be interpreted under applicable state law and will be dependent upon particular facts and circumstances. As a result, there may be a degree of uncertainty in ascertaining whether a sale or disposition of "all or substantially all" of our consolidated assets has occurred, in which case, the ability of a holder of the notes to obtain the benefit of an offer to repurchase all or a portion of the notes held by such holder may be impaired.

The exercise by the holders of notes of their right to require us to repurchase the notes pursuant to a change of control offer could cause a default under the agreements governing our other indebtedness, including future agreements, even if the change of control itself does not, due to the financial effect of such repurchases on us. In the event a change of control offer is required to be made at a time when we are prohibited from purchasing notes, we could attempt to refinance the borrowings that contain such prohibitions. If we do not obtain a consent or repay those borrowings, we will remain prohibited from purchasing notes. In that case, our failure to purchase tendered notes would constitute an event of default under the indenture which could, in turn, constitute a default under our other indebtedness.

***Any guarantees of the notes by Antero or the operating subsidiaries could be deemed fraudulent conveyances under certain circumstances, and a court may subordinate or void the guarantees.***

Antero and the operating subsidiaries are the current guarantors of the notes. In certain circumstances, any of Antero's future subsidiaries may be required to guarantee the notes. A court

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could subordinate or void the guarantees under various fraudulent conveyance or fraudulent transfer laws. Generally, to the extent that a U.S. court were to find that at the time the guarantee was entered:

- the guarantee was incurred with the intent to hinder, delay, or defraud any present or future creditor, or contemplated insolvency with a design to favor one or more creditors to the exclusion of others; or
- the guarantor did not receive fair consideration or reasonably equivalent value for issuing the guarantee and, at the time the guarantor issued the guarantee, it:
  - was insolvent or became insolvent as a result of issuing the guarantee,
  - was engaged or about to engage in a business or transaction for which its remaining assets constituted unreasonably small capital, or
  - intended to incur, or believed that it would incur, debts beyond its ability to pay those debts as they matured;

then the court would void or subordinate the guarantees in favor of the guarantor's other obligations.

As a general matter, value is given for a transfer or an obligation if, in exchange for the transfer or obligation, property is transferred or a valid antecedent debt is secured or satisfied. A court would likely find that a subsidiary guarantor did not receive reasonably equivalent value or fair consideration for its guarantee to the extent the guarantor did not obtain a reasonably equivalent benefit directly or indirectly from the issuance of the notes.

We cannot be certain as to the standards a court would use to determine whether or not we or the guarantors were insolvent at the relevant time or, regardless of the standard that a court uses, whether the notes or the guarantees would be subordinated to our or any of our guarantors' other debt. In general, however, a court would deem an entity insolvent if:

- the sum of its debts, including contingent liabilities, was greater than the fair saleable value of all its assets;
- the present fair saleable value of its assets was less than the amount that would be required to pay its probable liability on its existing debts, including contingent liabilities, as they became absolute and mature; or
- it could not pay its debts as they became due.

If a court were to find that the issuance of the notes or the incurrence of a guarantee was a fraudulent transfer or conveyance, the court could void the payment obligations under the notes or that guarantee, could subordinate the notes or that guarantee to presently existing and future indebtedness of ours or of the related guarantor or could require the holders of the notes to repay any amounts received with respect to that guarantee. In the event that a finding that a fraudulent transfer or conveyance occurred, you may not receive any repayment on the notes. Further, the avoidance of the notes could result in an event of default with respect to our and our subsidiaries' other debt that could result in acceleration of that debt.

Finally, as a court of equity, the bankruptcy court may subordinate the claims in respect of the notes to other claims against us under the principle of equitable subordination if the court determines that (1) the holder of notes engaged in some type of inequitable conduct, (2) the inequitable conduct resulted in injury to our other creditors or conferred an unfair advantage upon the holders of notes and (3) equitable subordination is not inconsistent with the provisions of the bankruptcy code.

Each guarantee contains a provision intended to limit the guarantor's liability to the maximum amount that it could incur without causing the incurrence of obligations under its guarantee to be a

fraudulent conveyance or fraudulent transfer. This provision may not be effective to protect the guarantees from being voided under applicable law.

***A lowering or withdrawal of the ratings assigned to our debt securities by rating agencies may increase our future borrowing costs and reduce our access to capital.***

Our debt currently has a non-investment grade rating, and any rating assigned to the notes could be lowered or withdrawn entirely by a rating agency if, in that rating agency's judgment, future circumstances relating to the basis of the rating, such as adverse changes, so warrant. Consequently, real or anticipated changes in our credit ratings will generally affect the market value of the notes. Credit ratings are not recommendations to purchase, hold or sell the notes. Additionally, credit ratings may not reflect the potential effect of risks relating to the structure or marketing of the notes.

Any future lowering of our ratings likely would make it more difficult or more expensive for us to obtain additional debt financing. If any credit rating initially assigned to the notes is subsequently lowered or withdrawn for any reason, you may not be able to resell your notes without a substantial discount.

***Many of the covenants contained in the indenture governing the notes will terminate if the notes are rated investment grade by both Standard & Poor's Ratings Services and Moody's Investors Service, Inc.***

Many of the covenants in the indenture governing the notes will terminate if the notes are rated investment grade by both Standard & Poor's Ratings Services and Moody's Investors Service, Inc., provided at such time no default under the indenture governing the notes has occurred and is continuing. These covenants will restrict, among other things, our ability to pay dividends, to incur indebtedness and to enter into certain other transactions. There can be no assurance that the notes will ever be rated investment grade, or that if they are rated investment grade, that the notes will maintain such ratings. However, termination of these covenants would allow us to engage in certain transactions that would not be permitted while these covenants were in force. See "Description of Notes—Covenant Termination."

#### **Risks Relating to Our Business**

Our business involves a high degree of risk. If any of the following risks, or any risk described elsewhere in this prospectus, actually occur, our business, financial condition or results of operations could suffer. Additional risks not presently known to us or which we currently consider immaterial also may adversely affect our company.

***Natural gas prices are volatile. A substantial or extended decline in natural gas prices may adversely affect our business, financial condition or results of operations and our ability to meet our capital expenditure obligations and financial commitments.***

The prices we receive for our natural gas production heavily influence our revenue, profitability, access to capital and future rate of growth. Natural gas is a commodity and, therefore, its prices are subject to wide fluctuations in response to relatively minor changes in supply and demand. Historically, the market for natural gas has been volatile. This market will likely continue to be volatile in the future. The prices we receive for our production, and the levels of our production, depend on numerous factors beyond our control. These factors include the following:

- worldwide and regional economic conditions impacting the global supply and demand for natural gas;
- the price and quantity of imports of foreign natural gas, including liquefied natural gas;

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- political conditions in or affecting other natural gas-producing countries, including conflicts in the Middle East, Africa, South America, and Russia;
- the level of global natural gas exploration and production;
- the level of global natural gas inventories;
- prevailing prices on local natural gas price indexes in the areas in which we operate;
- localized and global supply and demand fundamentals and transportation availability;
- weather conditions;
- technological advances affecting energy consumption;
- the price and availability of alternative fuels; and
- domestic, local and foreign governmental regulation and taxes.

Furthermore, the worldwide financial and credit crisis in recent years has reduced the availability of liquidity and credit to fund the continuation and expansion of industrial business operations worldwide resulting in a slowdown in economic activity and recession in parts of the world. This has reduced worldwide demand for energy and resulted in lower natural gas prices. Natural gas spot prices have been particularly volatile and declined from record high levels in early July 2008 of over \$13.00 per Mcf to approximately \$3.50 per Mcf in March 2013 as a result of increased natural gas supplies and economic conditions.

Continued lower natural gas prices will reduce our cash flows and borrowing ability. We may be unable to obtain needed capital or financing on satisfactory terms, which could lead to a decline in our natural gas reserves as existing reserves are depleted. Continued lower natural gas prices may also reduce the amount of natural gas that we can produce economically.

If natural gas prices remain at their current levels for a significant period of time, a significant portion of our exploration, development and exploration projects could become uneconomic. This may result in our having to make significant downward adjustments to our estimated proved reserves. As a result, a substantial or extended decline in natural gas prices may materially and adversely affect our future business, financial condition, results of operations, liquidity or ability to finance planned capital expenditures.

***Our exploration, development and exploitation projects require substantial capital expenditures. We may be unable to obtain required capital or financing on satisfactory terms, which could lead to a decline in our natural gas reserves.***

The natural gas industry is capital intensive. We make and expect to continue to make substantial capital expenditures for the development, exploitation, production and acquisition of natural gas reserves. Our cash flow used in investing activities related to capital and exploration expenditures was approximately \$1.69 billion in 2012. Our board of directors has approved a capital budget for 2013 of \$1.65 billion, including \$1.15 billion for drilling and completion, \$350 million for the construction of gathering pipelines and facilities in the Appalachian Basin (including \$150 million for water-handling infrastructure, primarily in the Marcellus Shale) and \$150 million for leasehold. Our capital budget excludes acquisitions. We expect to fund these capital expenditures with cash generated by operations, through borrowings under our Credit Facility, the issuance of the old notes, and possibly through additional sales of gathering assets or capital market transactions. The actual amount and timing of our future capital expenditures may differ materially from our estimates as a result of, among other things, commodity prices, actual drilling results, the availability of drilling rigs and other services and equipment, and regulatory, technological and competitive developments. A reduction in commodity prices from current levels may result in a decrease in our actual capital expenditures. Conversely, a

significant improvement in product prices could result in an increase in our capital expenditures. We intend to finance our future capital expenditures primarily through cash flow from operations and through borrowings under our Credit Facility; however, our financing needs may require us to alter or increase our capitalization substantially through the issuance of debt or equity securities or the sale of assets. The issuance of additional indebtedness may require that a portion of our cash flow from operations be used for the payment of interest and principal on our indebtedness, thereby reducing our ability to use cash flow from operations to fund working capital, capital expenditures and acquisitions.

Our cash flow from operations and access to capital are subject to a number of variables, including:

- our proved reserves;
- the level of natural gas we are able to produce from existing wells;
- the prices at which our natural gas is sold;
- our ability to acquire, locate and produce new reserves; and
- the ability of our banks to lend.

If our revenues or the borrowing base under our Credit Facility decrease as a result of lower natural gas prices, operating difficulties, declines in reserves or for any other reason, we may have limited ability to obtain the capital necessary to sustain our operations at current levels. If additional capital is needed, we may not be able to obtain debt or equity financing on terms acceptable to us, if at all. If cash flow generated by our operations or available borrowings under our Credit Facility are not sufficient to meet our capital requirements, the failure to obtain additional financing could result in a curtailment of our operations relating to development of our properties, which in turn could lead to a decline in our reserves, and could adversely affect our business, financial condition and results of operations.

***Drilling for and producing natural gas are high risk activities with many uncertainties that could adversely affect our business, financial condition or results of operations.***

Our future financial condition and results of operations will depend on the success of our exploitation, exploration, development and production activities. Our natural gas exploration, exploitation, development and production activities are subject to numerous risks beyond our control, including the risk that drilling will not result in commercially viable natural gas production. Our decisions to purchase, explore, develop or otherwise exploit prospects or properties will depend in part on the evaluation of data obtained through geophysical and geological analyses, production data and engineering studies, the results of which are often inconclusive or subject to varying interpretations. For a discussion of the uncertainty involved in these processes, see "—Reserve estimates depend on many assumptions that may turn out to be inaccurate. Any material inaccuracies in our reserve estimates or underlying assumptions will materially affect the quantities and present value of our reserves." In addition, our cost of drilling, completing and operating wells is often uncertain before drilling commences.

Further, many factors may curtail, delay or cancel our scheduled drilling projects, including the following:

- delays imposed by or resulting from compliance with regulatory requirements;
- pressure or irregularities in geological formations;
- shortages of or delays in obtaining equipment and qualified personnel or in obtaining water for hydraulic fracturing activities;



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- equipment failures or accidents;
- adverse weather conditions, such as blizzards, tornados, hurricanes, and ice storms;
- issues related to compliance with environmental regulations;
- environmental hazards, such as natural gas leaks, oil spills, pipeline and tank ruptures, encountering naturally occurring radioactive materials, and unauthorized discharges of brine, well stimulation and completion fluids, toxic gases or other pollutants into the surface and subsurface environment;
- declines in natural gas prices;
- limited availability of financing at acceptable rates;
- title problems, including in connection with our Utica operations in Ohio, where we have faced claims that certain leases we have acquired are invalid due to production from other horizons being insufficient to hold title by production with respect to the Utica formation rights that we have purchased; and
- limitations in the market for natural gas.

***We may not be able to generate sufficient cash to service all of our indebtedness and may be forced to take other actions to satisfy our obligations under our indebtedness, which may not be successful.***

Our ability to make scheduled payments on or to refinance our indebtedness obligations, including our Credit Facility, our 9.375% senior notes due 2017, our 7.25% senior notes due 2019 and the notes depends on our financial condition and operating performance, which is subject to prevailing economic and competitive conditions and certain financial, business and other factors beyond our control. We may not be able to maintain a level of cash flows from operating activities sufficient to permit us to pay the principal, premium, if any, and interest on our indebtedness, including the senior notes.

If our cash flows and capital resources are insufficient to fund our debt service obligations, we may be forced to reduce or delay investments and capital expenditures, or to sell assets, seek additional capital or restructure or refinance our indebtedness, including the senior notes. Our ability to restructure or refinance our indebtedness will depend on the condition of the capital markets and our financial condition at such time. Any refinancing of our indebtedness could be at higher interest rates and may require us to comply with more onerous covenants, which could further restrict our business operations. The terms of existing or future debt instruments, including the indentures governing our series of senior notes, may restrict us from adopting some of these alternatives. In addition, any failure to make payments of interest and principal on our outstanding indebtedness on a timely basis would likely result in a reduction of our credit rating, which could harm our ability to incur additional indebtedness. In the absence of sufficient cash flows and capital resources, we could face substantial liquidity problems and might be required to dispose of material assets or operations to meet our debt service and other obligations. Our Credit Facility and the indentures governing our series of senior notes currently restrict our ability to dispose of assets and use the proceeds from such disposition. We may not be able to consummate those dispositions, and the proceeds of any such disposition may not be adequate to meet any debt service obligations then due. These alternative measures may not be successful and may not permit us to meet our scheduled debt service obligations.

The borrowing base under our Credit Facility is currently \$1.22 billion, and lender commitments under the Credit Facility are \$700 million. Our next scheduled borrowing base redetermination is expected to occur in May 2013. In the future, we may not be able to access adequate funding under our Credit Facility as a result of a decrease in our borrowing base due to the issuance of new indebtedness, the outcome of a subsequent semi-annual borrowing base redetermination or an unwillingness or inability on the part of our lending counterparties to meet their funding obligations

and the inability of other lenders to provide additional funding to cover the defaulting lender's portion. Declines in commodity prices could result in a determination to lower the borrowing base in the future and, in such a case, we could be required to repay any indebtedness in excess of the redetermined borrowing base. As a result, we may be unable to implement our drilling and development plan, make acquisitions or otherwise carry out our business plan, which would have a material adverse effect on our financial condition and results of operations and impair our ability to service our indebtedness.

***Restrictions in our existing and future debt agreements could limit our growth and our ability to engage in certain activities.***

Our Credit Facility contains a number of significant covenants (in addition to covenants restricting the incurrence of additional indebtedness). Our Credit Facility contains restrictive covenants that may limit our ability to, among other things:

- sell assets;
- make loans to others;
- make investments;
- enter into mergers;
- make certain payments;
- hedge future production;
- incur liens; and
- engage in certain other transactions without the prior consent of the lenders.

The indentures governing our series of senior notes contain similar restrictive covenants. In addition, our Credit Facility requires us to maintain certain financial ratios or to reduce our indebtedness if we are unable to comply with such ratios. These restrictions, together with those in the indentures governing our series of senior notes, may also limit our ability to obtain future financings to withstand a future downturn in our business or the economy in general, or to otherwise conduct necessary corporate activities. We may also be prevented from taking advantage of business opportunities that arise because of the limitations that the restrictive covenants under the indentures governing our series of senior notes and our Credit Facility impose on us.

Our Credit Facility limits the amounts we can borrow up to a borrowing base amount, which the lenders, in their sole discretion, determine on a semi-annual basis based upon projected revenues from the natural gas properties securing our loan. The lenders can unilaterally adjust the borrowing base and the borrowings permitted to be outstanding under our Credit Facility. Any increase in the borrowing base requires the consent of the lenders holding 100% of the commitments. If the requisite number of lenders do not agree to an increase, then the borrowing base will be the lowest borrowing base acceptable to such lenders. Outstanding borrowings in excess of the borrowing base must be repaid, or we must pledge other natural gas properties as additional collateral. We do not currently have any substantial unpledged properties, and we may not have the financial resources in the future to make mandatory principal prepayments required under our Credit Facility. The borrowing base under our Credit Facility is currently \$1.22 billion and lender commitments are \$700 million. Our next scheduled borrowing base redetermination is expected to occur in May 2013.

A breach of any covenant in our Credit Facility would result in a default under that agreement after any applicable grace periods. A default, if not waived, could result in acceleration of the indebtedness outstanding under the facility and in a default with respect to, and an acceleration of, the indebtedness outstanding under other debt agreements. The accelerated indebtedness would become immediately due and payable. If that occurs, we may not be able to make all of the required payments

or borrow sufficient funds to refinance such indebtedness. Even if new financing were available at that time, it may not be on terms that are acceptable to us. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Debt Agreements and Contractual Obligations—Senior Secured Revolving Credit Facility" and "Management's Discussion and Analysis of Financial Condition and Results of Operations—Debt Agreements and Contractual Obligations—Senior Notes."

***Currently, we receive significant incremental cash flows as a result of our hedging activity. To the extent we are unable to obtain future hedges at effective prices consistent with those we have received to date and natural gas prices do not improve, our cash flows may be adversely impacted. Additionally, if development drilling costs increase significantly in the future, our hedged revenues may not be sufficient to cover our costs.***

To achieve more predictable cash flows and reduce our exposure to downward price fluctuations, we have entered into a number of hedge contracts for approximately 757 Bcf of our natural gas production from January 1, 2013 through December 31, 2018. We are currently realizing a significant benefit from these hedge positions. For example, for the years ended December 31, 2011 and 2012, we received approximately \$117 million and \$271 million, respectively, in cash flows pursuant to our hedges. If future natural gas prices remain comparable to current prices, we expect that this benefit will decline materially over the life of the hedges, which cover decreasing volumes at declining prices through December 2018. If we are unable to enter into new hedge contracts in the future at favorable pricing and for a sufficient amount of our production, our financial condition and results of operations could be materially adversely affected.

Additionally, since we hedge a significant part of our estimated future production, we have fixed a significant part of our future revenue stream. If development drilling costs increase significantly because of inflation, increased demand for oilfield services, increased costs to comply with regulations governing our industry, or other factors, future hedged revenues may not be sufficient to cover our costs.

For additional information regarding our hedging activities, please see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Quantitative and Qualitative Disclosures About Market Risk."

***Reserve estimates depend on many assumptions that may turn out to be inaccurate. Any material inaccuracies in our reserve estimates or underlying assumptions will materially affect the quantities and present value of our reserves.***

The process of estimating natural gas and oil reserves is complex. It requires interpretations of available technical data and many assumptions, including assumptions relating to current and future economic conditions and commodity prices. Any significant inaccuracies in these interpretations or assumptions could materially affect our estimated quantities and present value of our reserves.

In order to prepare our estimates, we must project production rates and timing of development expenditures. We must also analyze available geological, geophysical, production and engineering data. The extent, quality and reliability of this data can vary.

The process also requires economic assumptions about matters such as natural gas prices, drilling and operating expenses, capital expenditures, taxes and availability of funds.

Actual future production, natural gas prices, revenues, taxes, development expenditures, operating expenses and quantities of recoverable natural gas reserves will vary from our estimates. Any significant variance could materially affect the estimated quantities and present value of our reserves. In addition, we may adjust estimates of proved reserves to reflect production history, results of exploration and development, prevailing commodity prices and other factors, many of which are beyond our control.

You should not assume that the present value of future net revenues from our proved reserves is the current market value of our estimated natural gas reserves. We generally base the estimated

discounted future net cash flows from our proved reserves on prices and costs on the date of the estimate. Actual future prices and costs may differ materially from those used in the present value estimate.

***Our identified potential well locations are scheduled out over many years, making them susceptible to uncertainties that could materially alter the occurrence or timing of their drilling. In addition, we may not be able to raise the substantial amount of capital that would be necessary to drill a substantial portion of our potential well locations.***

Our management team has specifically identified and scheduled certain well locations as an estimation of our future multi-year drilling activities on our existing acreage. These well locations represent a significant part of our growth strategy. Our ability to drill and develop these locations depends on a number of uncertainties, including natural gas and oil prices, the availability and cost of capital, drilling and production costs, availability of drilling services and equipment, drilling results, lease expirations, gathering system and pipeline transportation constraints, regulatory approvals and other factors. Because of these uncertain factors, we do not know if the numerous potential well locations we have identified will ever be drilled or if we will be able to produce natural gas or oil from these or any other potential well locations. In addition, unless production is established within the spacing units covering the undeveloped acres on which some of the potential locations are obtained, the leases for such acreage will expire. As such, our actual drilling activities may materially differ from those presently identified.

We have approximately 4,900 potential well locations. As a result of the limitations described above, we may be unable to drill many of our potential well locations. In addition, we will require significant additional capital over a prolonged period in order to pursue the development of these locations, and we may not be able to raise or generate the capital required to do so. Any drilling activities we are able to conduct on these potential locations may not be successful or result in our ability to add additional proved reserves to our overall proved reserves or may result in a downward revision of our estimated proved reserves, which could have a material adverse effect on our future business and results of operations.

***The development of our estimated proved undeveloped reserves may take longer and may require higher levels of capital expenditures than we currently anticipate. Therefore, our estimated proved undeveloped reserves may not be ultimately developed or produced.***

At December 31, 2012, 79% of our total estimated proved reserves were classified as proved undeveloped. Our approximately 4.9 Tcfe of estimated proved undeveloped reserves will require an estimated \$3.3 billion of development capital over the next five years. Development of these proved undeveloped reserves may take longer and require higher levels of capital expenditures than we currently anticipate. Delays in the development of our reserves, increases in costs to drill and develop such reserves, or decreases in commodity prices will reduce the PV-10 value of our estimated proved undeveloped reserves and future net revenues estimated for such reserves and may result in some projects becoming uneconomic. In addition, delays in the development of reserves could cause us to have to reclassify our proved undeveloped reserves as unproved reserves.

***If commodity prices decrease or remain at current levels for a significant period of time, we may be required to take write-downs of the carrying values of our properties.***

Accounting rules require that we periodically review the carrying value of our properties for possible impairment. Based on specific market factors and circumstances at the time of prospective impairment reviews, and the continuing evaluation of development plans, production data, economics and other factors, we may be required to write down the carrying value of our properties. A writedown constitutes a non-cash charge to earnings. We may incur impairment charges in the future, which could

have a material adverse effect on our results of operations for the periods in which such charges are taken.

***Unless we replace our reserves with new reserves and develop those reserves, our reserves and production will decline, which would adversely affect our future cash flows and results of operations.***

Producing natural gas reservoirs generally are characterized by declining production rates that vary depending upon reservoir characteristics and other factors. Unless we conduct successful ongoing exploration, development and exploitation activities or continually acquire properties containing proved reserves, our proved reserves will decline as those reserves are produced. Our future natural gas reserves and production, and therefore our future cash flow and results of operations, are highly dependent on our success in efficiently developing and exploiting our current reserves and economically finding or acquiring additional recoverable reserves. We may not be able to develop, exploit, find or acquire sufficient additional reserves to replace our current and future production. If we are unable to replace our current and future production, the value of our reserves will decrease, and our business, financial condition and results of operations would be adversely affected.

***Our derivative activities could result in financial losses or could reduce our earnings.***

To achieve more predictable cash flows and reduce our exposure to adverse fluctuations in the prices of natural gas, we enter into derivative instrument contracts for a significant portion of our natural gas production, including collars and price-fix swaps. Accordingly, our earnings may fluctuate significantly as a result of changes in fair value of our derivative instruments.

Derivative instruments also expose us to the risk of financial loss in some circumstances, including when:

- production is less than the volume covered by the derivative instruments;
- the counter-party to the derivative instrument defaults on its contractual obligations;
- there is an increase in the differential between the underlying price in the derivative instrument and actual prices received; or
- there are issues with regard to legal enforceability of such instruments.

The use of derivatives may, in some cases, require the posting of cash collateral with counterparties. If we enter into derivative instruments that require cash collateral and commodity prices or interest rates change in a manner adverse to us, our cash otherwise available for use in our operations would be reduced which could limit our ability to make future capital expenditures and make payments on our indebtedness, including the notes, and which could also limit the size of our borrowing base. Future collateral requirements will depend on arrangements with our counterparties, highly volatile oil and natural gas prices and interest rates.

As of December 31, 2012, the estimated fair value of our commodity derivative contracts was approximately \$532 million. Any default by the counterparties to these derivative contracts when they become due would have a material adverse effect on our financial condition and results of operations. The fair value of our commodity derivative contracts of approximately \$532 million at December 31, 2012 includes the following values by bank counterparty: JP Morgan—\$94 million; BNP Paribas—\$124 million; Credit Suisse—\$150 million; Wells Fargo—\$86 million; Barclays—\$57 million; Deutsche Bank—\$11 million; and Union Bank—\$4 million. Additionally, contracts with Dominion Field Services account for \$6 million of the fair value. The credit ratings of certain of these banks were downgraded in 2011 because of the sovereign debt crisis in Europe.

In addition, derivative arrangements could limit the benefit we would receive from increases in the prices for natural gas, which could also have an adverse effect on our financial condition.

***The inability of our significant customers to meet their obligations to us may adversely affect our financial results.***

In addition to credit risk related to receivables from commodity derivative contracts, our principal exposures to credit risk are through joint interest receivables (\$6 million at December 31, 2012) and the sale of our natural gas production (\$47 million in receivables at December 31, 2012), which we market to energy marketing companies, refineries and affiliates. Joint interest receivables arise from billing entities who own partial interest in the wells we operate. These entities participate in our wells primarily based on their ownership in leases on which we wish to drill. We can do very little to choose who participates in our wells. We are also subject to credit risk due to concentration of our natural gas receivables with several significant customers. The largest purchaser of our natural gas during the twelve months ended December 31, 2012 purchased approximately 23% of our operated production. We do not require our customers to post collateral. The inability or failure of our significant customers to meet their obligations to us or their insolvency or liquidation may adversely affect our financial results.

***Our operations may be exposed to significant delays, costs and liabilities as a result of environmental and occupational health and safety requirements applicable to our business activities.***

We may incur significant delays, costs and liabilities as a result of environmental and occupational health and safety requirements applicable to our exploration, development and production activities. These delays, costs and liabilities could arise under a wide range of federal, regional, state and local laws and regulations relating to protection of the environment and worker health and safety, including regulations and enforcement policies that have tended to become increasingly strict over time resulting in longer waiting periods to receive permits and other regulatory approvals. Failure to comply with these laws and regulations may result in the assessment of administrative, civil and criminal penalties, imposition of cleanup and site restoration costs and liens, and, in some instances, issuance of orders or injunctions limiting or requiring discontinuation of certain operations.

For example, in March 2011, we received orders for compliance from federal regulatory agencies, including the U. S. Environmental Protection Agency (the "EPA"), relating to certain of our activities in West Virginia. The orders allege that certain of our operations at several well sites are in non-compliance with certain environmental regulations, such as unpermitted discharges of fill material into wetlands or waters of the United States that are potentially in violation of the Clean Water Act. We have responded to all pending orders and are actively cooperating with the relevant agencies. No fine or penalty relating to these matters has been proposed at this time, but we believe that these actions will result in monetary sanctions exceeding \$100,000. In addition, we expect to incur additional costs to remediate these well locations in order to bring them into compliance with applicable environmental laws and regulations. We have not, however, been required to suspend our operations at these locations to date and our management team does not expect these matters to have a material adverse effect on our financial statements.

Strict, joint and several liabilities may be imposed under certain environmental laws, which could cause us to become liable for the conduct of others or for consequences of our own actions that were in compliance with all applicable laws at the time those actions were taken. In addition, claims for damages to persons or property, including natural resources, may result from the environmental and worker health and safety impacts of our operations. We have been named from time to time as a defendant in litigation related to such matters. For example, we have been recently named as the defendant in separate lawsuits in Colorado, West Virginia and Pennsylvania in which the plaintiffs have alleged that our oil and natural gas activities exposed them to hazardous substances and damaged their properties. The plaintiffs have requested unspecified damages and other injunctive or equitable relief. We are not yet able to estimate what our aggregate exposure for monetary or other damages resulting from these or other similar claims might be. Also, new laws, regulations or enforcement policies could

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be more stringent and impose unforeseen liabilities or significantly increase compliance costs. If we were not able to recover the resulting costs through insurance or increased revenues, our business, financial condition or results of operations could be adversely affected.

***We may incur substantial losses and be subject to substantial liability claims as a result of our operations. Additionally we may not be insured for, or our insurance may be inadequate to protect us against, these risks.***

We are not insured against all risks. Losses and liabilities arising from uninsured and underinsured events could materially and adversely affect our business, financial condition or results of operations.

Our natural gas exploration and production activities are subject to all of the operating risks associated with drilling for and producing natural gas, including the possibility of:

- environmental hazards, such as uncontrollable releases of oil, natural gas, brine, well fluids, toxic gas or other pollution into the environment, including groundwater, air and shoreline contamination;
- abnormally pressured formations;
- mechanical difficulties, such as stuck oilfield drilling and service tools and casing collapse;
- fires, explosions and ruptures of pipelines;
- personal injuries and death;
- natural disasters; and
- terrorist attacks targeting natural gas and oil related facilities and infrastructure.

Any of these risks could adversely affect our ability to conduct operations or result in substantial loss to us as a result of claims for:

- injury or loss of life;
- damage to and destruction of property, natural resources and equipment;
- pollution and other environmental damage;
- regulatory investigations and penalties;
- suspension of our operations; and
- repair and remediation costs.

We may elect not to obtain insurance if we believe that the cost of available insurance is excessive relative to the risks presented. In addition, pollution and environmental risks generally are not fully insurable. The occurrence of an event that is not fully covered by insurance could have a material adverse effect on our business, financial condition and results of operations.

***Prospects that we decide to drill may not yield natural gas or oil in commercially viable quantities.***

Prospects that we decide to drill that do not yield natural gas or oil in commercially viable quantities will adversely affect our results of operations and financial condition. In this prospectus, we describe some of our current prospects and our plans to explore those prospects. Our prospects are in various stages of evaluation, ranging from a prospect which is ready to drill to a prospect that will require substantial additional seismic data processing and interpretation. There is no way to predict in advance of drilling and testing whether any particular prospect will yield natural gas or oil in sufficient quantities to recover drilling or completion costs or to be economically viable. The use of seismic data and other technologies and the study of producing fields in the same area will not enable us to know conclusively prior to drilling whether natural gas or oil will be present or, if present, whether natural

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gas or oil will be present in commercial quantities. We cannot assure you that the analogies we draw from available data from other wells, more fully explored prospects or producing fields will be applicable to our drilling prospects. Further, our drilling operations may be curtailed, delayed or cancelled as a result of numerous factors, including:

- unexpected drilling conditions;
- title problems;
- pressure or lost circulation in formations;
- equipment failure or accidents;
- adverse weather conditions;
- compliance with environmental and other governmental or contractual requirements; and
- increase in the cost of, shortages or delays in the availability of, electricity, supplies, materials, drilling or workover rigs, equipment and services.

***Our use of 2-D and 3-D seismic data is subject to interpretation and may not accurately identify the presence of natural gas, which could adversely affect the results of our drilling operations.***

Even when properly used and interpreted, 2-D and 3-D seismic data and visualization techniques are only tools used to assist geoscientists in identifying subsurface structures and hydrocarbon indicators and do not enable geoscientists to know whether hydrocarbons are, in fact, present in those structures and the amount of hydrocarbons. We are employing 3-D seismic technology with respect to certain of our projects. The implementation and practical use of 3-D seismic technology is relatively new, unproven and unconventional, which can lessen its effectiveness, at least in the near term, and increase our costs. In addition, the use of 3-D seismic and other advanced technologies requires greater pre-drilling expenditures than traditional drilling strategies, and we could incur greater drilling and exploration expenses as a result of such expenditures, which may result in a reduction in our returns or losses. As a result, our drilling activities may not be successful or economical, and our overall drilling success rate or our drilling success rate for activities in a particular area could decline.

We often gather 3-D seismic data over large areas. Our interpretation of seismic data delineates those portions of an area that we believe are desirable for drilling. Therefore, we may choose not to acquire option or lease rights prior to acquiring seismic data, and, in many cases, we may identify hydrocarbon indicators before seeking option or lease rights in the location. If we are not able to lease those locations on acceptable terms, we will have made substantial expenditures to acquire and analyze 3-D data without having an opportunity to attempt to benefit from those expenditures.

***Market conditions or operational impediments may hinder our access to natural gas and oil markets or delay our production.***

Market conditions or the unavailability of satisfactory natural gas and oil transportation arrangements may hinder our access to natural gas and oil markets or delay our production. The availability of a ready market for our natural gas and oil production depends on a number of factors, including the demand for and supply of natural gas and oil and the proximity of reserves to pipelines and terminal facilities. Our ability to market our production depends in substantial part on the availability and capacity of gathering systems, pipelines and processing facilities owned and operated by third parties. Our failure to obtain such services on acceptable terms could materially harm our business. We may be required to shut in wells due to lack of a market or inadequacy or unavailability of natural gas and oil pipeline or gathering system capacity. In addition, if natural gas or oil quality specifications for the third party natural gas or oil pipelines with which we connect change so as to restrict our ability to transport natural gas or oil, our access to natural gas and oil markets could be



impeded. If our production becomes shut in for any of these or other reasons, we would be unable to realize revenue from those wells until other arrangements were made to deliver the products to market.

***We are subject to complex federal, state, local and other laws and regulations that could adversely affect the cost, manner or feasibility of conducting our operations or expose us to significant liabilities.***

Our natural gas exploration, production and transportation operations are subject to complex and stringent laws and regulations. In order to conduct our operations in compliance with these laws and regulations, we must obtain and maintain numerous permits, approvals and certificates from various federal, state and local governmental authorities. We may incur substantial costs in order to maintain compliance with these existing laws and regulations. In addition, our costs of compliance may increase if existing laws and regulations are revised or reinterpreted, or if new laws and regulations become applicable to our operations. Such costs could have a material adverse effect on our business, financial condition and results of operations.

Our business is subject to federal, state and local laws and regulations as interpreted and enforced by governmental authorities possessing jurisdiction over various aspects of the exploration for, and the production and transportation of, natural gas. Failure to comply with such laws and regulations, including any evolving interpretation and enforcement by governmental authorities, could have a material adverse effect on our business, financial condition and results of operations.

Changes to existing or new regulations may unfavorably impact us, could result in increased operating costs and have a material adverse effect on our financial condition and results of operations. Such potential regulations could increase our operating costs, reduce our liquidity, delay or halt our operations or otherwise alter the way we conduct our business, which could in turn have a material adverse effect on our financial condition, results of operations and cash flows.

***The unavailability or high cost of additional drilling rigs, equipment, supplies, personnel and oilfield services could adversely affect our ability to execute our exploration and development plans within our budget and on a timely basis.***

The demand for qualified and experienced field personnel to drill wells and conduct field operations, geologists, geophysicists, engineers and other professionals in the natural gas and oil industry can fluctuate significantly, often in correlation with natural gas and oil prices, causing periodic shortages. Historically, there have been shortages of drilling and workover rigs, pipe and other equipment as demand for rigs and equipment has increased along with the number of wells being drilled. We cannot predict whether these conditions will exist in the future and, if so, what their timing and duration will be. Such shortages could delay or cause us to incur significant expenditures that are not provided for in our capital budget, which could have a material adverse effect on our business, financial condition or results of operations.

***A change in the jurisdictional characterization of some of our assets by federal, state or local regulatory agencies or a change in policy by those agencies may result in increased regulation of our assets, which may cause our revenues to decline and operating expenses to increase.***

Section 1(b) of the Natural Gas Act of 1938, or NGA, exempts natural gas gathering facilities from regulation by the Federal Energy Regulatory Commission, or FERC, as a natural gas company under the NGA. We believe that the natural gas pipelines in our gathering systems meet the traditional tests FERC has used to establish a pipeline's status as a gatherer not subject to regulation as a natural gas company. However, the distinction between FERC-regulated transmission services and federally unregulated gathering services is the subject of on-going litigation, so the classification and regulation of our gathering facilities are subject to change based on future determinations by FERC, the courts or Congress.

***Should we fail to comply with all applicable FERC administered statutes, rules, regulations and orders, we could be subject to substantial penalties and fines.***

Under the Domenici-Barton Energy Policy Act of 2005, FERC has civil penalty authority under the NGA to impose penalties for current violations of up to \$1 million per day for each violation and disgorgement of profits associated with any violation. While our systems have not been regulated by FERC as a natural gas company under the NGA, FERC has adopted regulations that may subject certain of our otherwise non-FERC jurisdictional facilities to FERC annual reporting and daily scheduled flow and capacity posting requirements. Additional rules and legislation pertaining to those and other matters may be considered or adopted by FERC from time to time. Failure to comply with those regulations in the future could subject us to civil penalty liability.

***Climate change laws and regulations restricting emissions of "greenhouse gases" could result in increased operating costs and reduced demand for the oil and natural gas that we produce while potential physical effects of climate change could disrupt our production and cause us to incur significant costs in preparing for or responding to those effects.***

In response to findings that emissions of carbon dioxide, methane and other greenhouse gases ("GHGs") present an endangerment to public health and the environment, the EPA has adopted regulations under existing provisions of the federal Clean Air Act that, among other things, establish Prevention of Significant Deterioration ("PSD"), construction and Title V operating permit reviews for certain large stationary sources that are potential major sources of GHG emissions. Facilities required to obtain PSD permits for their GHG emissions also will be required to meet "best available control technology" standards that will be established by the states or, in some cases, by the EPA on a case-by-case basis. These EPA rulemakings could adversely affect our operations and restrict or delay our ability to obtain air permits for new or modified sources. In addition, the EPA has adopted rules requiring the monitoring and reporting of GHG emissions from specified sources in the United States on an annual basis, which include certain of our operations. We are monitoring GHG emissions from our operations in accordance with the GHG emissions reporting rule and believe that our monitoring activities are in substantial compliance with applicable reporting obligations. While Congress has from time to time considered legislation to reduce emissions of GHGs, there has not been significant activity in the form of adopted legislation to reduce GHG emissions at the federal level in recent years. In the absence of such federal climate legislation, a number of state and regional efforts have emerged that are aimed at tracking and/or reducing GHG emissions by means of cap and trade programs that typically require major sources of GHG emissions, such as electric power plants, to acquire and surrender emission allowances in return for emitting those GHGs. If Congress undertakes comprehensive tax reform in the coming year, it is possible that such reform may include a carbon tax, which could impose additional direct costs on operations and reduce demand for refined products. Although it is not possible at this time to predict how legislation or new regulations that may be adopted to address GHG emissions would impact our business, any such future laws and regulations imposing reporting obligations on, or limiting emissions of GHGs from, our equipment and operations could require us to incur costs to reduce emissions of GHGs associated with our operations. Substantial limitations on GHG emissions could adversely affect demand for the oil and natural gas we produce. Finally, it should be noted that some scientists have concluded that increasing concentrations of GHGs in the Earth's atmosphere may produce climate changes that have significant physical effects, such as increased frequency and severity of storms, floods and other climatic events; if any such effects were to occur, they could have an adverse effect on our exploration and production operations.

***Federal, state and local legislative and regulatory initiatives relating to hydraulic fracturing as well as governmental reviews of such activities could result in increased costs and additional operating restrictions or delays in the completion of oil and natural gas wells and adversely affect our production.***

Hydraulic fracturing is an important and common practice that is used to stimulate production of natural gas and/or oil from dense subsurface rock formations. The hydraulic fracturing process involves the injection of water, sand, and chemicals under pressure into targeted subsurface formations to fracture the surrounding rock and stimulate production. We commonly use hydraulic fracturing as part of our operations. Hydraulic fracturing typically is regulated by state oil and natural gas commissions, but the EPA has asserted federal regulatory authority pursuant to the federal Safe Drinking Water Act ("SDWA") over certain hydraulic fracturing activities involving the use of diesel fuels and published draft permitting guidance in May 2012 addressing the performance of such activities using diesel fuels. In November 2011, the EPA announced its intent to develop and issue regulations under the Toxic Substances Control Act to require companies to disclose information regarding the chemicals used in hydraulic fracturing and the agency currently plans to issue a Notice of Proposed Rulemaking that would seek public input on the design and scope of such disclosure regulations. In addition, Congress has from time to time considered legislation to provide for federal regulation of hydraulic fracturing under the SDWA and to require disclosure of the chemicals used in the hydraulic fracturing process. At the state level, several states have adopted or are considering legal requirements that could impose more stringent permitting, disclosure, and well construction requirements on hydraulic fracturing activities. Local government also may seek to adopt ordinances within their jurisdictions regulating the time, place and manner of drilling activities in general or hydraulic fracturing activities in particular. We believe that we follow applicable standard industry practices and legal requirements for groundwater protection in our hydraulic fracturing activities. Nonetheless, if new or more stringent federal, state, or local legal restrictions relating to the hydraulic fracturing process are adopted in areas where we operate, we could incur potentially significant added costs to comply with such requirements, experience delays or curtailment in the pursuit of exploration, development, or production activities, and perhaps even be precluded from drilling wells.

In addition, certain governmental reviews have been conducted or are underway that focus on environmental aspects of hydraulic fracturing practices. The White House Council on Environmental Quality is coordinating an administration-wide review of hydraulic fracturing practices. The EPA has commenced a study of the potential environmental effects of hydraulic fracturing on drinking water and groundwater, with a first progress report outlining work currently underway by the agency released on December 21, 2012 and a final report drawing conclusions about the potential impacts of hydraulic fracturing on drinking water resources expected to be available for public comment and peer review by 2014. Moreover, the EPA is developing effluent limitations for the treatment and discharge of wastewater resulting from hydraulic fracturing activities and plans to propose these standards by 2014. Other governmental agencies, including the U.S. Department of Energy and the U.S. Department of the Interior, have evaluated or are evaluating various other aspects of hydraulic fracturing. These ongoing or proposed studies could spur initiatives to further regulate hydraulic fracturing under the SDWA or other regulatory mechanisms, and could ultimately make it more difficult or costly for us to perform fracturing and increase our costs of compliance and doing business.

***The enactment of derivatives legislation could have an adverse effect on our ability to use derivative instruments to reduce the effect of commodity-price, interest-rate, and other risks associated with our business.***

The Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act"), enacted in 2010, establishes federal oversight and regulation of the over-the-counter derivatives market and entities that participate in that market. The Dodd-Frank Act requires the Commodities Futures Trading Commission (the "CFTC") and the SEC to promulgate rules and regulations implementing the Dodd-Frank Act. In its rulemaking under the Dodd-Frank Act, the CFTC issued a final rule on

position limits for certain futures and option contracts in the major energy markets and for swaps that are their economic equivalents. Certain bona fide hedging transactions or positions are exempt from these position limits. The position-limits rule was vacated by the U.S. District Court for the District of Columbia in September 2012 and the CFTC recently stated that it will appeal the District Court's decision. The CFTC also finalized other regulations, including critical rulemakings on the definition of "swap," "swap dealer," and "major swap participant." Some regulations, however, remain to be finalized and it is not possible at this time to predict when this will be accomplished. Depending on our classification and the particular nature of our derivative activities, the Dodd-Frank Act and regulations may require us to comply with margin requirements and with certain clearing and trade-execution requirements in connection with our derivative activities. The Dodd-Frank Act and regulations may also require our counterparties to our derivative instruments to spin off some of our derivatives activities to separate entities, which may not be as creditworthy as the current counterparties. The Dodd-Frank Act and regulations could significantly increase the cost of derivative contracts (including through requirements to post collateral which could adversely affect our available liquidity), materially alter the terms of derivative contracts, reduce the availability of derivatives to protect against risks we encounter, reduce our ability to monetize or restructure our existing derivative contracts, and increase our exposure to less-creditworthy counterparties. If we reduce our use of derivatives as a result of the Dodd-Frank Act and regulations, our results of operations may become more volatile and our cash flows may be less predictable, which could adversely affect our ability to plan for and fund capital expenditures. Finally, the Dodd-Frank Act was intended, in part, to reduce the volatility of oil and natural-gas prices, which some legislators attributed to speculative trading in derivatives and commodity instruments related to oil and natural gas. Our revenues could therefore be adversely affected if a consequence of the Dodd-Frank Act and regulations is to lower commodity prices. Any of these consequences could have a material adverse effect on our financial position, results of operations, or cash flows.

***Competition in the natural gas industry is intense, making it more difficult for us to acquire properties, market natural gas and secure trained personnel.***

Our ability to acquire additional prospects and to find and develop reserves in the future will depend on our ability to evaluate and select suitable properties and to consummate transactions in a highly competitive environment for acquiring properties, marketing natural gas and securing trained personnel. Also, there is substantial competition for capital available for investment in the oil and natural gas industry. Many of our competitors possess and employ financial, technical and personnel resources substantially greater than ours. Those companies may be able to pay more for productive natural gas properties and exploratory prospects and to evaluate, bid for and purchase a greater number of properties and prospects than our financial or personnel resources permit. In addition, other companies may be able to offer better compensation packages to attract and retain qualified personnel than we are able to offer. The cost to attract and retain qualified personnel has increased over the past three years due to competition and may increase substantially in the future. We may not be able to compete successfully in the future in acquiring prospective reserves, developing reserves, marketing hydrocarbons, attracting and retaining quality personnel and raising additional capital, which could have a material adverse effect on our business.

***The loss of senior management or technical personnel could adversely affect operations.***

We depend on the services of our senior management and technical personnel. The loss of the services of our senior management or technical personnel, including Paul M. Rady, our Chairman and Chief Executive Officer, and Glen C. Warren, Jr., our President and Chief Financial Officer, could have a material adverse effect on our operations. We do not maintain, nor do we plan to obtain, any insurance against the loss of any of these individuals.

***Seasonal weather conditions and regulations adversely affect our ability to conduct drilling activities in some of the areas where we operate.***

Natural gas operations in our operating areas can be adversely affected by seasonal weather conditions and regulations designed to protect various wildlife. This limits our ability to operate in those areas and can intensify competition during those months for drilling rigs, oilfield equipment, services, supplies and qualified personnel, which may lead to periodic shortages. These constraints and the resulting shortages or high costs could delay our operations and materially increase our operating and capital costs.

***We have been an early entrant into new or emerging plays. As a result, our drilling results in these areas are uncertain, and the value of our undeveloped acreage will decline if drilling results are unsuccessful.***

While our costs to acquire undeveloped acreage in new or emerging plays have generally been less than those of later entrants into a developing play, our drilling results in these areas are more uncertain than drilling results in areas that are developed and producing. Since new or emerging plays have limited or no production history, we are unable to use past drilling results in those areas to help predict our future drilling results. As a result, our cost of drilling, completing and operating wells in these areas may be higher than initially expected, and the value of our undeveloped acreage will decline if drilling results are unsuccessful.

***Increases in interest rates could adversely affect our business.***

Our business and operating results can be harmed by factors such as the availability, terms of and cost of capital, increases in interest rates or a reduction in credit rating. These changes could cause our cost of doing business to increase, limit our ability to pursue acquisition opportunities, reduce cash flow used for drilling and place us at a competitive disadvantage. For example, as of December 31, 2012, outstanding borrowings under our Credit Facility were approximately \$217 million, and the impact of a 1.0% increase in interest rates on this amount of indebtedness would result in increased annual interest expense during 2012 of approximately \$3 million and a corresponding decrease in our net income before the effects of increased interest rates on the value of our interest rate swap contracts and income taxes. Recent and continuing disruptions and volatility in the global financial markets may lead to a contraction in credit availability impacting our ability to finance our operations. We require continued access to capital. A significant reduction in cash flows from operations or the availability of credit could materially and adversely affect our ability to achieve our planned growth and operating results.

***We may be subject to risks in connection with acquisitions of properties.***

The successful acquisition of producing properties requires an assessment of several factors, including:

- recoverable reserves;
- future natural gas prices and their applicable differentials;
- operating costs; and
- potential environmental and other liabilities.

The accuracy of these assessments is inherently uncertain. In connection with these assessments, we perform a review of the subject properties that we believe to be generally consistent with industry practices. Our review will not reveal all existing or potential problems nor will it permit us to become sufficiently familiar with the properties to fully assess their deficiencies and capabilities. Inspections may not always be performed on every well, and environmental problems, such as groundwater

contamination, are not necessarily observable even when an inspection is undertaken. Even when problems are identified, the seller may be unwilling or unable to provide effective contractual protection against all or part of the problems. We often are not entitled to contractual indemnification for environmental liabilities and acquire properties on an "as is" basis.

***We may be unable to make attractive acquisitions or successfully integrate acquired businesses, and any inability to do so may disrupt our business and hinder our ability to grow.***

In the future we may make acquisitions of businesses that complement or expand our current business. We may not be able to identify attractive acquisition opportunities. Even if we do identify attractive acquisition opportunities, we may not be able to complete the acquisition or do so on commercially acceptable terms.

The success of any completed acquisition will depend on our ability to integrate effectively the acquired business into our existing operations. The process of integrating acquired businesses may involve unforeseen difficulties and may require a disproportionate amount of our managerial and financial resources. In addition, possible future acquisitions may be larger and for purchase prices significantly higher than those paid for earlier acquisitions. No assurance can be given that we will be able to identify additional suitable acquisition opportunities, negotiate acceptable terms, obtain financing for acquisitions on acceptable terms or successfully acquire identified targets. Our failure to achieve consolidation savings, to incorporate the acquired businesses and assets into our existing operations successfully or to minimize any unforeseen operational difficulties could have a material adverse effect on our financial condition and results of operations.

In addition, our Credit Facility imposes and the indentures governing our series of senior notes impose certain limitations on our ability to enter into mergers or combination transactions. Our Credit Facility and the indentures governing our series of senior notes also limit our ability to incur certain indebtedness, which could indirectly limit our ability to engage in acquisitions of businesses.

***Certain federal income tax deductions currently available with respect to natural gas and oil exploration and development may be eliminated, and additional state taxes on natural gas extraction may be imposed, as a result of future legislation.***

The Fiscal Year 2013 Budget proposed by the President recommends the elimination of certain key U.S. federal income tax incentives currently available to oil and gas exploration and production companies, and legislation has been introduced in Congress that would implement many of these proposals. Such changes include, but are not limited to, (i) the repeal of the percentage depletion allowance for oil and gas properties; (ii) the elimination of current deductions for intangible drilling and development costs; (iii) the elimination of the deduction for certain U.S. production activities for oil and gas production; and (iv) an extension of the amortization period for certain geological and geophysical expenditures. It is unclear, however, whether any such changes will be enacted or how soon such changes could be effective.

The passage of this legislation or any other similar change in U.S. federal income tax law could eliminate or postpone certain tax deductions that are currently available with respect to natural gas and oil exploration and development, and any such change could negatively affect our financial condition and results of operations.

In February 2013, the governor of the state of Ohio proposed a plan to enact new severance taxes in fiscal 2014 and 2015. Under the plan, the severance taxes for horizontal wells would increase from \$0.20 per barrel of oil and \$0.03 per MCF of gas to 1% of production revenues for natural gas production revenues and 4% of production revenues for oil, NGLs, and condensate. For the first year of production, a rate of 1.5% would apply to oil, NGLs, and condensate. The passage of these changes would increase our tax burdens in the Utica Shale play in Ohio.

## EXCHANGE OFFER

### Purpose and Effect of the Exchange Offer

At the closing of each offering of the old notes, we entered into a registration rights agreement with the initial purchasers pursuant to which we agreed, for the benefit of the holders of the old notes, at our cost, to do the following:

- file an exchange offer registration statement with the SEC with respect to the exchange offer for the new notes, and
- use commercially reasonable efforts to have the exchange offer completed by the 365th day following the date of the initial issuance of the notes (November 19, 2013).

Upon the SEC's declaring the exchange offer registration statement effective, we agreed to offer the new notes in exchange for surrender of the old notes. We agreed to use commercially reasonable efforts to cause the exchange offer registration statement to be effective continuously, and to keep the exchange offer open for a period of not less than 20 business days.

For each old note surrendered to us pursuant to the exchange offer, the holder of such old note will receive a new note having a principal amount equal to that of the surrendered old note. Interest on each new note will accrue from the last interest payment date on which interest was paid on the surrendered old note or, if no interest has been paid on such old note, from November 19, 2012. The registration rights agreements also contain agreements to include in the prospectus for the exchange offer certain information necessary to allow a broker-dealer who holds old notes that were acquired for its own account as a result of market-making activities or other ordinary course trading activities (other than old notes acquired directly from us or one of our affiliates) to exchange such old notes pursuant to the exchange offer and to satisfy the prospectus delivery requirements in connection with resales of new notes received by such broker-dealer in the exchange offer. We agreed to use commercially reasonable efforts to maintain the effectiveness of the exchange offer registration statement for these purposes for a period of 180 days after the completion of the exchange offer, which period may be extended under certain circumstances.

The preceding agreement is needed because any broker-dealer who acquires old notes for its own account as a result of market-making activities or other trading activities is required to deliver a prospectus meeting the requirements of the Securities Act. This prospectus covers the offer and sale of the new notes pursuant to the exchange offer and the resale of new notes received in the exchange offer by any broker-dealer who held old notes acquired for its own account as a result of market-making activities or other trading activities other than old notes acquired directly from us or one of our affiliates.

Based on interpretations by the staff of the SEC set forth in no-action letters issued to third parties, we believe that the new notes issued pursuant to the exchange offer would in general be freely tradable after the exchange offer without further registration under the Securities Act. However, any purchaser of old notes who is an "affiliate" of ours or who intends to participate in the exchange offer for the purpose of distributing the related new notes:

- will not be able to rely on the interpretation of the staff of the SEC,
- will not be able to tender its new notes in the exchange offer, and
- must comply with the registration and prospectus delivery requirements of the Securities Act in connection with any sale or transfer of the old notes unless such sale or transfer is made pursuant to an exemption from such requirements.

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Each holder of the old notes (other than certain specified holders) who desires to exchange old notes for the new notes in the exchange offer will be required to make the representations described below under "—Your Representations to Us."

We further agreed to file with the SEC a shelf registration statement to register for public resale of old notes held by any holder who provides us with certain information for inclusion in the shelf registration statement if:

- the exchange offer is not permitted by applicable law or SEC policy, or
- the exchange offer is not for any reason completed by the 365th day following the date of the initial issuance of the notes (November 19, 2013), or
- upon completion of the exchange offer, any initial purchaser shall so request in connection with any offering or sale of notes.

We have agreed to use commercially reasonable efforts to keep the shelf registration statement continuously effective until the earlier of one year following its effective date and such time as all notes covered by the shelf registration statement have been sold. We refer to this period as the "shelf effectiveness period."

The registration rights agreements provide that, in the event that either the exchange offer is not completed or the shelf registration statement, if required, is not declared effective (or does not automatically become effective) on or prior to the 365th calendar day following the date of the initial issuance of the notes (November 19, 2013), the interest rate on the old notes will be increased by 1.00% per annum until the exchange offer is completed or the shelf registration statement is declared effective (or automatically becomes effective) under the Securities Act, at which time the increased interest shall cease to accrue.

If the shelf registration statement has been declared effective (or automatically becomes effective) and thereafter either ceases to be effective or the prospectus contained therein ceases to be usable for resales of the notes at any time during the shelf effectiveness period, and such failure to remain effective or usable for resales of the notes exists for more than 30 calendar days (whether or not consecutive) in any 12-month period, then the interest rate on the old notes will be increased by 1.00% per annum commencing on the 31st day in such 12-month period and ending on such date that the shelf registration statement has again been declared (or automatically becomes) effective or the prospectus again becomes usable, at which time the increased interest shall cease to accrue.

Holders of the old notes will be required to make certain representations to us (as described in the registration rights agreements) in order to participate in the exchange offer and will be required to deliver information to be used in connection with the shelf registration statement and to provide comments on the shelf registration statement within the time periods set forth in the registration rights agreements in order to have their old notes included in the shelf registration statement.

If we effect the registered exchange offer, we will be entitled to close the registered exchange offer 20 business days after its commencement as long as we have accepted all old notes validly tendered in accordance with the terms of the exchange offer and no brokers or dealers continue to hold any old notes.

This summary of the material provisions of the registration rights agreements do not purport to be complete and is subject to, and is qualified in its entirety by reference to, all the provisions of the registration rights agreements, copies of which are filed as exhibits to the registration statement which includes this prospectus.



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Except as set forth above, after consummation of the exchange offer, holders of old notes which are the subject of the exchange offer have no registration or exchange rights under the registration rights agreements. See "—Consequences of Failure to Exchange."

**Terms of the Exchange Offer**

Subject to the terms and conditions described in this prospectus and in the letter of transmittal, we will accept for exchange any old notes properly tendered and not withdrawn prior to 11:59 p.m., New York City time on the expiration date. We will issue new notes in principal amount equal to the principal amount of old notes surrendered in the exchange offer. Old notes may be tendered only for new notes and only in minimum denominations of \$2,000 and integral multiples of \$1,000 in excess thereof.

The exchange offer is not conditioned upon any minimum aggregate principal amount of old notes being tendered for exchange.

As of the date of this prospectus, \$525,000,000 in aggregate principal amount of the old notes is outstanding. This prospectus and the letter of transmittal are being sent to all registered holders of old notes. There will be no fixed record date for determining registered holders of old notes entitled to participate in the exchange offer.

We intend to conduct the exchange offer in accordance with the provisions of the registration rights agreements, the applicable requirements of the Securities Act and the Exchange Act and the rules and regulations of the SEC. Old notes that the holders thereof do not tender for exchange in the exchange offer will remain outstanding and continue to accrue interest. These old notes will continue to be entitled to the rights and benefits such holders have under the indenture relating to the notes.

We will be deemed to have accepted for exchange properly tendered old notes when we have given oral or written notice of the acceptance to the exchange agent and complied with the applicable provisions of the registration rights agreements. The exchange agent will act as agent for the tendering holders for the purposes of receiving the new notes from us.

If you tender old notes in the exchange offer, you will not be required to pay brokerage commissions or fees or, subject to the letter of transmittal, transfer taxes with respect to the exchange of old notes. We will pay all charges and expenses, other than certain applicable taxes described below, in connection with the exchange offer. It is important that you read the section labeled "—Fees and Expenses" for more details regarding fees and expenses incurred in the exchange offer.

We will return any old notes that we do not accept for exchange for any reason without expense to their tendering holder promptly after the expiration or termination of the exchange offer.

**Expiration Date**

The exchange offer will expire at 11:59 p.m., New York City time, on April 26, 2013, unless, in our sole discretion, we extend it.

**Extensions, Delays in Acceptance, Termination or Amendment**

We expressly reserve the right, at any time or various times, to extend the period of time during which the exchange offer is open. We may delay acceptance of any old notes by giving oral or written notice of such extension to their holders. During any such extensions, all old notes previously tendered will remain subject to the exchange offer, and we may accept them for exchange.

In order to extend the exchange offer, we will notify the exchange agent orally or in writing of any extension. We will notify the registered holders of old notes of the extension no later than 9:00 a.m., New York City time, on the first business day following the previously scheduled expiration date.

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If any of the conditions described below under "—Conditions to the Exchange Offer" have not been satisfied, we reserve the right, in our sole discretion:

- to delay accepting for exchange any old notes,
- to extend the exchange offer, or
- to terminate the exchange offer,

by giving oral or written notice of such delay, extension or termination to the exchange agent. Subject to the terms of the registration rights agreements, we also reserve the right to amend the terms of the exchange offer in any manner.

Any extension, termination or amendment will be followed promptly by oral or written notice thereof to the registered holders of old notes. If we amend the exchange offer in a manner that we determine to constitute a material change, we will promptly disclose such amendment by means of a prospectus supplement. The supplement will be distributed to the registered holders of the old notes. Depending upon the significance of the amendment and the manner of disclosure to the registered holders, we may extend the exchange offer. In the event of a material change in the exchange offer, including the waiver by us of a material condition, we will extend the exchange offer period if necessary so that at least five business days remain in the exchange offer following notice of the material change.

### **Conditions to the Exchange Offer**

We will not be required to accept for exchange, or exchange any new notes for, any old notes if the exchange offer, or the making of any exchange by a holder of old notes, would violate applicable law or any applicable interpretation of the staff of the SEC. Similarly, we may terminate the exchange offer as provided in this prospectus before accepting old notes for exchange in the event of such a potential violation.

In addition, we will not be obligated to accept for exchange the old notes of any holder that has not made to us the representations described under "—Purpose and Effect of the Exchange Offer," "—Procedures for Tendering" and "Plan of Distribution" and such other representations as may be reasonably necessary under applicable SEC rules, regulations or interpretations to allow us to use an appropriate form to register the new notes under the Securities Act.

We expressly reserve the right to amend or terminate the exchange offer, and to reject for exchange any old notes not previously accepted for exchange, upon the occurrence of any of the conditions to the exchange offer specified above. We will give prompt oral or written notice of any extension, amendment, non-acceptance or termination to the holders of the old notes as promptly as practicable.

These conditions are for our sole benefit, and we may assert them or waive them in whole or in part at any time or at various times in our sole discretion. If we fail at any time to exercise any of these rights, this failure will not mean that we have waived our rights. Each such right will be deemed an ongoing right that we may assert at any time or at various times.

In addition, we will not accept for exchange any old notes tendered, and will not issue new notes in exchange for any such old notes, if at such time any stop order has been threatened or is in effect with respect to the registration statement of which this prospectus constitutes a part or the qualification of the indenture relating to the notes under the Trust Indenture Act of 1939.

### **Procedures for Tendering**

In order to participate in the exchange offer, you must properly tender your old notes to the exchange agent as described below. It is your responsibility to properly tender your notes. We have the

right to waive any defects. However, we are not required to waive defects and are not required to notify you of defects in your tender.

If you have any questions or need help in exchanging your notes, please call the exchange agent, whose contact information is set forth in "Prospectus Summary—The Exchange Offer—Exchange Agent."

All of the old notes were issued in book-entry form, and all of the old notes are currently represented by global certificates held for the account of DTC. We have confirmed with DTC that the old notes may be tendered using the Automated Tender Offer Program ("ATOP") instituted by DTC. The exchange agent will establish an account with DTC for purposes of the exchange offer promptly after the commencement of the exchange offer and DTC participants may electronically transmit their acceptance of the exchange offer by causing DTC to transfer their old notes to the exchange agent using the ATOP procedures. In connection with the transfer, DTC will send an "agent's message" to the exchange agent. The agent's message will state that DTC has received instructions from the participant to tender old notes and that the participant agrees to be bound by the terms of the letter of transmittal.

By using the ATOP procedures to exchange old notes, you will not be required to deliver a letter of transmittal to the exchange agent. However, you will be bound by its terms just as if you had signed it.

There is no procedure for guaranteed late delivery of the notes.

### **Determinations Under the Exchange Offer**

We will determine in our sole discretion all questions as to the validity, form, eligibility, time of receipt, acceptance of tendered old notes and withdrawal of tendered old notes. Our determination will be final and binding. We reserve the absolute right to reject any old notes not properly tendered or any old notes our acceptance of which would, in the opinion of our counsel, be unlawful. We also reserve the right to waive any defect, irregularities or conditions of tender as to particular old notes. Our interpretation of the terms and conditions of the exchange offer, including the instructions in the letter of transmittal, will be final and binding on all parties. Unless waived, all defects or irregularities in connection with tenders of old notes must be cured within such time as we shall determine. Although we intend to notify holders of defects or irregularities with respect to tenders of old notes, neither we, the exchange agent nor any other person will incur any liability for failure to give such notification. Tendere of old notes will not be deemed made until such defects or irregularities have been cured or waived. Any old notes received by the exchange agent that are not properly tendered and as to which the defects or irregularities have not been cured or waived will be returned to the tendering holder, unless otherwise provided in the letter of transmittal, promptly following the expiration date.

### **When We Will Issue New Notes**

In all cases, we will issue new notes for old notes that we have accepted for exchange under the exchange offer only after the exchange agent timely receives:

- a book-entry confirmation of such old notes into the exchange agent's account at DTC; and
- a properly transmitted agent's message.

### **Return of Old Notes Not Accepted or Exchanged**

If we do not accept any tendered old notes for exchange or if old notes are submitted for a greater principal amount than the holder desires to exchange, the unaccepted or non-exchanged old notes will be returned without expense to their tendering holder. Such non-exchanged old notes will be credited

to an account maintained with DTC. These actions will occur promptly after the expiration or termination of the exchange offer.

### **Your Representations to Us**

By agreeing to be bound by the letter of transmittal, you will represent to us that, among other things:

- any new notes that you receive will be acquired in the ordinary course of your business;
- you have no arrangement or understanding with any person or entity to participate in the distribution of the new notes;
- you are not our "affiliate," as defined in Rule 405 of the Securities Act; and
- if you are a broker-dealer that will receive new notes for your own account in exchange for old notes, you acquired those notes as a result of market-making activities or other trading activities and you will deliver a prospectus (or to the extent permitted by law, make available a prospectus) in connection with any resale of such new notes.

### **Withdrawal of Tenders**

Except as otherwise provided in this prospectus, you may withdraw your tender at any time prior to 11:59 p.m., New York City time on the expiration date. For a withdrawal to be effective you must comply with the appropriate procedures of DTC's ATOP system. Any notice of withdrawal must specify the name and number of the account at DTC to be credited with withdrawn old notes and otherwise comply with the procedures of DTC.

We will determine all questions as to the validity, form, eligibility and time of receipt of notice of withdrawal. Our determination shall be final and binding on all parties. We will deem any old notes so withdrawn not to have been validly tendered for exchange for purposes of the exchange offer.

Any old notes that have been tendered for exchange but are not exchanged for any reason will be credited to an account maintained with DTC for the old notes. This crediting will take place as soon as practicable after withdrawal, rejection of tender or termination of the exchange offer. You may retender properly withdrawn old notes by following the procedures described under "—Procedures for Tendering" above at any time prior to 11:59 p.m., New York City time, on the expiration date.

### **Fees and Expenses**

We will bear the expenses of soliciting tenders. The principal solicitation is being made by mail; however, we may make additional solicitation by facsimile, telephone, electronic mail or in person by our officers and regular employees and those of our affiliates.

We have not retained any dealer-manager in connection with the exchange offer and will not make any payments to broker-dealers or others soliciting acceptances of the exchange offer. We will, however, pay the exchange agent reasonable and customary fees for its services and reimburse it for its related reasonable out-of-pocket expenses.

We will pay the cash expenses to be incurred in connection with the exchange offer. They include:

- all registration and filing fees and expenses;
- all fees and expenses of compliance with federal securities and state "blue sky" or securities laws;
- accounting fees, legal fees incurred by us, disbursements and printing, messenger and delivery services, and telephone costs; and

- related fees and expenses.

### **Transfer Taxes**

We will pay all transfer taxes, if any, applicable to the exchange of old notes under the exchange offer. The tendering holder, however, will be required to pay any transfer taxes, whether imposed on the registered holder or any other person, if a transfer tax is imposed for any reason other than the exchange of old notes under the exchange offer.

### **Consequences of Failure to Exchange**

If you do not exchange new notes for your old notes under the exchange offer, you will remain subject to the existing restrictions on transfer of the old notes. In general, you may not offer or sell the old notes unless the offer or sale is either registered under the Securities Act or exempt from the registration under the Securities Act and applicable state securities laws. Except as required by the registration rights agreements, we do not intend to register resales of the old notes under the Securities Act.

### **Accounting Treatment**

We will record the new notes in our accounting records at the same carrying value as the old notes. This carrying value is the aggregate principal amount of the old notes adjusted for any bond discount or premium, as reflected in our accounting records on the date of exchange. Accordingly, we will not recognize any gain or loss for accounting purposes in connection with the exchange offer.

### **Other**

Participation in the exchange offer is voluntary, and you should carefully consider whether to accept. You are urged to consult your financial and tax advisors in making your own decision on what action to take.

We may in the future seek to acquire untendered old notes in open market or privately negotiated transactions, through subsequent exchange offers or otherwise. We have no present plans to acquire any old notes that are not tendered in the exchange offer or to file a registration statement to permit resales of any untendered old notes.

## USE OF PROCEEDS

The exchange offer is intended to satisfy our obligations under the registration rights agreements. We will not receive any proceeds from the issuance of the new notes in the exchange offer. In consideration for issuing the new notes as contemplated by this prospectus, we will receive old notes in a like principal amount. The form and terms of the new notes are identical in all respects to the form and terms of the old notes, except the new notes will be registered under the Securities Act and will not contain restrictions on transfer, registration rights or provisions for additional interest. Old notes surrendered in exchange for the new notes will be retired and cancelled and will not be reissued. Accordingly, the issuance of the new notes will not result in any change in our outstanding indebtedness.

## SELECTED HISTORICAL CONSOLIDATED FINANCIAL DATA

The following table shows our selected historical consolidated financial data, for the periods and as of the dates indicated, for Antero Resources LLC and its subsidiaries. As of December 31, 2012, the subsidiaries of Antero Resources LLC included Antero Resources Appalachian Corporation and its wholly owned subsidiaries: Antero Resources Piceance LLC, Antero Resources Pipeline LLC, Antero Resources Arkoma LLC, Antero Resources Bluestone LLC, and Antero Resources Finance Corporation.

The selected statement of operations data for the years ended December 31, 2010, 2011 and 2012 and the balance sheet data as of December 31, 2011 and 2012 are derived from our audited consolidated financial statements included elsewhere in this prospectus. The selected statement of operations data for the years ended December 31, 2008 and 2009 and the balance sheet data as of December 31, 2008, 2009, and 2010 are derived from our audited consolidated financial statements not included in this prospectus. The statement of operations data for all periods presented has been recast to present the results of operations from our Piceance Basin and Arkoma Basin operations in discontinued operations. The losses on the sales of these properties are also included in discontinued operations in 2012. The results from continuing operations reflect our remaining operations in the Appalachian Basin. No part of our general and administrative expenses or interest expense was allocated to discontinued operations. The selected financial data presented below are qualified in their entirety by reference to, and should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and related notes included elsewhere in this prospectus.

(in thousands, except ratios)	Year Ended December 31,				
	2008	2009	2010	2011	2012
<b>Statement of operations data:</b>					
Operating revenues:					
Natural gas sales	\$ —	\$ 2,252	\$ 47,392	\$ 195,116	\$ 259,743
NGL sales	—	—	—	—	3,719
Oil sales	—	—	39	173	1,520
Realized gains on commodity derivative instruments	—	—	15,063	49,944	178,491
Unrealized gains on commodity derivative instruments	—	3,910	62,536	446,120	1,055
Gain on sale of assets	—	—	—	—	291,190
Total revenues	—	6,162	125,030	691,353	735,718
Operating expenses:					
Lease operating expenses	—	28	1,158	4,608	6,243
Gathering, compression and transportation	—	421	9,237	37,315	91,094
Production taxes	—	128	2,885	11,915	20,210
Exploration expenses	—	2,095	2,350	4,034	14,675
Impairment of unproved properties	—	100	6,076	4,664	12,070
Depletion, depreciation and amortization	391	1,706	18,522	55,716	102,026
Accretion of asset retirement obligations	—	—	11	76	101
Expenses related to acquisition of business	—	—	2,544	—	—
General and administrative	16,171	20,843	21,952	33,342	45,284
Loss on sale of compression station	—	—	—	8,700	—
Total operating expenses	16,562	25,321	64,735	160,370	291,703
Operating income (loss)	(16,562)	(19,159)	60,295	530,983	444,015
Other expense:					
Interest expense	\$ (37,594)	\$ (36,053)	(56,463)	\$ (74,404)	(97,510)
Realized and unrealized losses on interest derivative instruments, net	(15,245)	(4,985)	(2,677)	(94)	—
Total other expense	(52,839)	(41,038)	(59,140)	(74,498)	(97,510)
Income (loss) before income taxes	(69,401)	(60,197)	1,155	456,485	346,505
Income tax (expense) benefit	26,520	—	(939)	(185,297)	(121,229)
Income (loss) from continuing operations	(42,881)	(60,197)	216	271,188	225,276
Discontinued operations:					
Income (loss) from results of operations and sale of discontinued operations	126,837	(45,972)	228,412	121,490	(510,345)
Net income (loss) attributable to Antero equity owners	\$ (83,956)	\$ (106,169)	\$ 228,628	\$ 392,678	\$ (285,069)



(in thousands, except ratios)	Year Ended December 31,				
	2008	2009	2010	2011	2012
<b>Balance sheet data (at period end):</b>					
Cash and cash equivalents	\$ 38,969	\$ 10,669	\$ 8,988	\$ 3,343	18,989
Other current assets	165,199	84,175	147,917	330,299	255,617
Total current assets	204,168	94,844	156,905	333,642	274,606
Natural gas properties, at cost (successful efforts method):					
Unproved properties	649,605	596,694	737,358	834,255	1,243,237
Producing properties	1,148,306	1,340,827	1,762,206	2,497,306	1,689,132
Gathering systems and facilities	179,836	185,688	85,404	142,241	168,930
Other property and equipment	3,113	3,302	5,975	8,314	9,517
	1,980,860	2,126,511	2,590,943	3,482,116	3,110,816
Less accumulated depletion, depreciation, and amortization	(183,145)	(322,992)	(431,181)	(601,702)	(173,343)
Property and equipment, net	1,797,715	1,803,519	2,159,762	2,880,414	2,937,473
Other assets	27,084	38,203	169,620	574,744	406,714
Total assets	\$ 2,028,967	1,936,566	\$ 2,486,287	\$ 3,788,800	\$ 3,618,793
Current liabilities	\$ 208,209	\$ 112,493	\$ 152,483	\$ 255,058	376,296
Long-term indebtedness	622,734	515,499	652,632	1,317,330	1,444,058
Other long-term liabilities	20,469	9,467	86,185	257,606	124,702
Total equity	1,177,555	1,299,107	1,594,987	1,958,806	1,673,737
Total liabilities and equity	\$ 2,028,967	\$ 1,936,566	\$ 2,486,287	\$ 3,788,800	\$ 3,618,793
<b>Other financial data:</b>					
EBITDAX(1)	\$ 208,513	\$ 201,270	\$ 197,678	\$ 340,821	\$ 434,315
Net cash provided by operating activities	157,515	149,307	127,791	266,307	332,255
Net cash used in investing activities	(1,004,010)	(281,899)	(230,672)	(901,249)	(463,491)
Net cash provided by financing activities	874,350	104,292	101,200	629,297	146,882
Capital expenditures(2)	1,041,748	203,454	423,002	929,887	1,755,430

(1) "EBITDAX" is a non-GAAP financial measure that we define as net income (loss) before interest expense, realized and unrealized gains or losses on interest rate derivative instruments, taxes, impairments, depletion, depreciation, amortization, exploration expense, unrealized commodity hedge gains or losses, franchise taxes, stock compensation, business acquisition, gain or loss on sale of assets, and interest income. "EBITDAX," as used and defined by us, may not be comparable to similarly titled measures employed by other companies and is not a measure of performance calculated in accordance with GAAP. EBITDAX should not be considered in isolation or as a substitute for operating income, net income or loss, cash flows provided by operating, investing and financing activities, or other income or cash flow statement data prepared in accordance with GAAP. EBITDAX provides no information regarding a company's capital structure, borrowings, interest costs, capital expenditures, and working capital movement or tax position. EBITDAX does not represent funds available for discretionary use because those funds are required for debt service, capital expenditures, working capital, income taxes, franchise taxes, exploration expenses, and other commitments and obligations. However, our management team believes EBITDAX is useful to an investor in evaluating our operating performance because this measure:

- is widely used by investors in the natural gas and oil industry to measure a company's operating performance without regard to items excluded from the calculation of such term, which can vary substantially from company to company depending upon accounting methods and book value of assets, capital structure and the method by which assets were acquired, among other factors;
- helps investors to more meaningfully evaluate and compare the results of our operations from period to period by removing the effect of our capital structure from our operating structure; and
- is used by our management team for various purposes, including as a measure of operating performance, in presentations to our board of directors, as a basis for strategic planning and forecasting and by our lenders pursuant to a covenant under our Credit Facility. EBITDAX is also used as a measure of our operating performance pursuant to a covenant under the indentures governing our series of senior notes.

There are significant limitations to using EBITDAX as a measure of performance, including the inability to analyze the effect of certain recurring and non-recurring items that materially affect our net income or loss, the lack of comparability of results of operations of different companies and the different methods of calculating EBITDAX reported by different

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companies. The following table represents a reconciliation of our net income (loss) to EBITDAX (including continuing and discontinued operations) for the periods presented:

<b>(in thousands)</b>	<b>Year Ended December 31,</b>				
	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Net income (loss)	\$ 83,956	\$ (106,169)	\$ 228,628	\$ 392,678	\$ (285,069)
Unrealized (gains) losses on commodity derivative contracts	(90,301)	61,186	(170,571)	(559,596)	44,753
(Gain) loss on sale of assets	—	—	(147,559)	8,700	504,755
Interest expense and other	52,839	41,038	59,140	74,498	97,510
Provision (benefit) for income taxes	3,029	(2,605)	30,009	230,452	(151,324)
Depreciation, depletion, amortization and accretion	124,997	140,078	134,272	170,956	191,251
Impairment of unproved properties	10,112	54,204	35,859	11,051	13,032
Exploration expense	22,998	10,228	24,794	9,876	15,339
Other	883	3,310	3,106	2,206	4,068
EBITDAX	\$ 208,513	\$ 201,270	\$ 197,678	\$ 340,821	\$ 434,315

- (2) Capital expenditures as shown in this table differ from the amounts shown in the statement of cash flows in the consolidated financial statements because amounts in this table include changes in accounts payable for capital expenditures from the previous reporting period while the amounts in the statement of cash flows in the financial statements are presented on a cash basis.

### RATIOS OF EARNINGS TO FIXED CHARGES

The following table sets forth our ratios of earnings to fixed charges for the periods presented:

	Year Ended December 31,				
	2008	2009	2010	2011	2012
Ratio of earnings to fixed charges(1)	NA(2)	NA(2)	1.02X	7.11X	4.54X

- (1) For purposes of computing the ratio of earnings to fixed charges, "earnings" consists of pretax income (loss) from continuing operations plus fixed charges. "Fixed charges" represents interest incurred, amortization of deferred debt offering costs and that portion of rental expense on operating leases deemed to be the equivalent of interest.
- (2) We generated operating losses for each of the years ended December 31, 2008 and 2009. Accordingly, our earnings were inadequate to cover total fixed charges during such periods by approximately \$69.4 million and \$60.2 million, respectively.

## MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

*The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and related notes included elsewhere in this prospectus. In addition, such analysis should be read in conjunction with the historical audited financial statements and the related notes included elsewhere in this prospectus. The following discussion contains "forward-looking statements" that reflect our future plans, estimates, beliefs and expected performance. We caution that assumptions, expectations, projections, intentions, or beliefs about future events may, and often do, vary from actual results and the differences can be material. Some of the key factors which could cause actual results to vary from our expectations include changes in natural gas, NGL, and oil prices, the timing of planned capital expenditures, availability of acquisitions, uncertainties in estimating proved reserves and forecasting production results, operational factors affecting the commencement or maintenance of producing wells, the condition of the capital markets generally, as well as our ability to access them, and uncertainties regarding environmental regulations or litigation and other legal or regulatory developments affecting our business, as well as those factors discussed below, all of which are difficult to predict. In light of these risks, uncertainties and assumptions, the forward-looking events discussed may not occur. See "Cautionary Statement Regarding Forward-looking Statements." Also, see the risk factors and other cautionary statements described under the heading "Risk Factors" included elsewhere in this prospectus. We do not undertake any obligation to publicly update any forward-looking statements.*

*In this section, references to "Antero," "we," "us," "our" and "operating entities" refer to the subsidiaries that conduct Antero Resources LLC's operations, unless otherwise indicated or the context otherwise requires. For more information on our organizational structure, see "Business and Properties—Corporate Sponsorship" or note 1 to the consolidated financial statements included elsewhere in this prospectus.*

### **Our Company**

Antero Resources is an independent oil and natural gas company engaged in the exploration, development and acquisition of natural gas, NGLs, and oil properties located in the Appalachian Basin. We focus on unconventional reservoirs, which can generally be characterized as fractured shale formations. As of December 31, 2012, we held approximately 371,000 net acres of rich gas and dry gas properties, which are located in the Appalachian Basin in West Virginia, Ohio and Pennsylvania. Our corporate headquarters are in Denver, Colorado.

Our management team has worked together for many years and has a successful track record of reserve and production growth as well as significant expertise in unconventional resource plays. Our strategy is to leverage our team's experience delineating and developing natural gas resource plays to profitably grow our reserves and production, primarily through internally generated projects on our acquired acreage. As of December 31, 2012, our estimated proved reserves were approximately 4.9 Tcfe, consisting of 3.7 Tcf of natural gas, 203 MMBbl of NGLs, and 3 MMBbl of oil. As of December 31, 2012, 75% of our proved reserves were natural gas, 21% were proved developed and 98% were operated by us. For the year ended December 31, 2012, we generated cash flow from operations of \$332 million, a net loss of \$285 million and EBITDAX of \$434 million. The net loss in 2012 includes, (i) a pre-tax loss of \$796 million on the sale of the Arkoma and Piceance Basin properties, (ii) deferred tax benefit related to the loss on the sale of the Arkoma and Piceance properties and discontinued operations of \$273 million, (iii) a pre-tax gain on the sale of certain Appalachian gathering systems of \$291 million, and (iv) a noncash tax provision related to continuing operations of \$121 million. See "Selected Historical Consolidated Financial Data" for a definition of EBITDAX (a non-GAAP measure) and a reconciliation of EBITDAX to net income (loss).

We have assembled a diversified portfolio of long-lived properties that are characterized by what we believe to be low geologic risk and repeatable drilling opportunities. Our drilling opportunities are focused in the Marcellus, Utica and Upper Devonian Shales of the Appalachian Basin. From inception,

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we have drilled and operated 520 wells through December 31, 2012 with a success rate of approximately 98%. Our drilling inventory consists of approximately 4,900 potential well locations, all of which are unconventional resource opportunities. For information on the possible limitations on our ability to drill these potential locations, see "Risk Factors—Risks Relating to Our Business—Our identified potential well locations are scheduled out over many years, making them susceptible to uncertainties that could materially alter the occurrence or timing of their drilling. In addition, we may not be able to raise the substantial amount of capital that would be necessary to drill a substantial portion of our potential well locations."

As of December 31, 2012, we had entered into hedging contracts covering a total of approximately 757 Bcfe of our projected natural gas and oil production from January 1, 2013 through December 31, 2018 at a weighted average index price of \$4.88 per MMBtu. For the year ending December 31, 2013, we have hedged approximately 115 Bcfe of our projected natural gas and oil production at a weighted average index price of \$4.93 per MMBtu. We believe this hedge position provides significant protection to future operations and capital spending plans.

Our current borrowing base under the Credit Facility is \$1.22 billion and lender commitments are \$700 million. Lender commitments under the facility can be expanded from \$700 million to the full \$1.22 billion borrowing base upon bank approval. The borrowing base under the Credit Facility is redetermined semi-annually and is based on the amount of our proved oil, NGL, and gas reserves and the estimated cash flows from these reserves and our hedge positions. The next redetermination is scheduled to occur in May 2013. The Credit Facility provides for a maximum availability of \$2.5 billion. At December 31, 2012, we had \$260 million of borrowings and letters of credit outstanding under the Credit Facility and \$440 million of available borrowing capacity, based on \$700 million of lender commitments at that date. Pro forma for the issuance of \$225 million of 6.00% senior notes subsequent to year-end, we would have had \$657 million of borrowing capacity at December 31, 2012. The Credit Facility matures in May 2016.

For the year ended December 31, 2012, our capital expenditures were approximately \$1.69 billion for drilling, leasehold, and gathering. Our capital budget for 2013 is \$1.65 billion, including \$1.15 billion for drilling and completion, \$350 million for the construction of gathering pipelines and facilities in the Appalachian Basin (including \$150 million for water-handling infrastructure, primarily in the Marcellus Shale) and \$150 million for leasehold. Our capital budget excludes acquisitions. Substantially all of the \$1.15 billion allocated for drilling and completion is allocated to our operated drilling in rich gas areas. Approximately 87% of the drilling and completion budget is allocated to the Marcellus Shale, and the remaining 13% is allocated to the Utica Shale. During 2013, we plan to operate an average of 12 drilling rigs in the Marcellus Shale and 2 drilling rigs in the Utica Shale. Consistent with our historical practice, we periodically review our capital expenditures and adjust our budget and its allocation based on liquidity, drilling results and commodity prices.

We believe we have secured sufficient long-term firm takeaway capacity on major pipelines that are in existence or currently under construction in each of our core operating areas to accommodate our existing production.

We operate in one industry segment, which is the exploration, development and production of natural gas, NGLs, and oil, and all of our operations are conducted in the United States. Our gathering assets are primarily dedicated to supporting the natural gas volumes we produce.

### **Source of Our Revenues**

Our production revenues are entirely from the continental United States and during 2012 our revenues from both continuing and discontinued operations were comprised of approximately 85% from the production and sale of natural gas and 15% from the production and sale of NGLs and oil. Natural gas, NGL, and oil prices are inherently volatile and are influenced by many factors outside of our control. Our revenues are derived from the sale of natural gas and oil production, as well as the sale of natural gas liquids that are extracted from our natural gas during processing. Substantially all of

our production is derived from natural gas wells which also produce natural gas liquids and limited quantities of oil. To achieve more predictable cash flows and to reduce our exposure to downward price fluctuations, we use derivative instruments to hedge future sales prices on a significant portion of our natural gas production. We currently use fixed price natural gas swaps in which we receive a fixed price for future production in exchange for a payment of the variable market price received at the time future production is sold. At the end of each period we estimate the fair value of these swaps and recognize an unrealized gain or loss. We have not elected hedge accounting and, accordingly, the unrealized gains and losses on open positions are reflected currently in earnings. We expect continued volatility in the fair value of these swaps.

### Principal Components of Our Cost Structure

- *Lease operating expenses.* These are the day to day operating costs incurred to maintain production of our natural gas, NGLs, and oil. Such costs include produced water disposal, pumping, maintenance, repairs, and workover expenses. Cost levels for these expenses can vary based on industry drilling and production activity levels and the resulting demand fluctuations for oilfield services.
- *Gathering, compression, and transportation.* These are costs incurred to bring natural gas, NGLs, and oil to the market. Such costs include the costs to operate and maintain our low pressure and high pressure gathering and compression systems as well as fees paid to third parties who operate low and high pressure gathering systems that transport our gas. It also includes costs to process and extract NGLs from our produced gas and to transport our NGLs and oil to market. Cost we incur for these expenses can vary based on industry drilling and production activity levels and the resulting demand fluctuations for oilfield services. We often enter in to fixed price long-term contracts that secure transportation and processing capacity that may include minimum volume commitments, the cost for which is included in these expenses.
- *Production taxes.* Production taxes consist of severance and ad valorem taxes and are paid on produced natural gas, NGLs, and oil based on a percentage of market prices (not hedged prices) or at fixed per unit rates established by federal, state or local taxing authorities.
- *Exploration expense.* These are geological and geophysical costs, including payroll and benefits for the geological and geophysical staff, seismic costs, delay rentals and the costs of unsuccessful exploratory dry holes and unsuccessful leasing efforts.
- *Impairment of unproved and proved properties.* These costs include unproved property impairment and costs associated with lease expirations. We could record impairment charges for proved properties if the carrying value were to exceed estimated future cash flows. Through December 31, 2012, we have not recorded any impairment for proved properties.
- *Depreciation, depletion and amortization.* This includes the systematic expensing of the capitalized costs incurred to acquire, explore and develop natural gas, NGLs, and oil. As a successful efforts company, we capitalize all costs associated with our acquisition and development efforts and all successful exploration efforts, and allocate these costs to each unit of production using the units of production method.
- *General and administrative expense.* These costs include overhead, including payroll and benefits for our corporate staff, costs of maintaining our headquarters, costs of managing our production and development operations, franchise taxes, audit and other professional fees and legal compliance expenses.
- *Interest expense.* We finance a portion of our working capital requirements and acquisitions with borrowings under our Credit Facility. As a result, we incur substantial interest expense that is affected by both fluctuations in interest rates and our financing decisions. We also had at December 31, 2012 a fixed interest rate of 9.375% on senior notes having a principal balance of \$525 million, a fixed interest rate of 7.25% on senior notes having a principal balance of

\$400 million, and a fixed interest rate of 6.00% on senior notes having a principal balance of \$300 million. We expect to continue to incur significant interest expense as we continue to grow.

- Income tax expense.* Through December 31, 2011, each of our operating entities filed separate federal and state income tax returns; therefore, our provision for income taxes through that date consisted of the sum of our income tax provisions for each of the operating entities. In October 2012, the Company completed a reorganization of its legal structure by contributing all of the outstanding shares owned by Antero Resources LLC in each of the Antero Arkoma, Antero Piceance, and Antero Pipeline corporations to Antero Appalachian. Antero Arkoma, Antero Piceance, and Antero Pipeline were then converted to limited liability companies. As a result, for income tax purposes, the operations from the date of the reorganizations and tax attributes of Arkoma, Piceance and Pipeline are now combined with Antero Appalachian for tax reporting purposes. We are subject to state and federal income taxes but are currently not in a tax paying position for regular Federal income taxes, primarily due to the current deductibility of intangible drilling costs ("IDC") and the deferral of unrealized commodity hedge gains for tax purposes until they are realized. We do pay some state income or franchise taxes where our IDC deductions do not exceed our taxable income or where state income or franchise taxes are determined on a basis other than income. We have generated net operating loss carryforwards which expire at various dates from 2024 through 2032. We have recognized the value of these net operating losses to the extent of our deferred tax liabilities. We recorded valuation allowances for deferred tax assets at December 31, 2012 of approximately \$48 million primarily for capital loss and state loss carryforwards for which we do not believe we will realize a benefit. The amount of deferred tax assets considered realizable, however, could change in the near term as we generate taxable income or estimates of future taxable income are reduced.

The calculation of the Company's tax liabilities involves uncertainties in the application of complex tax laws and regulations. The Company gives financial statement recognition to those tax positions that it believes are more-likely-than-not to be sustained upon examination by the Internal Revenue Service or state revenue authorities. The financial statements include unrecognized benefits at December 31, 2012 of \$15 million that, if recognized, would result in a reduction of current income taxes payable and an increase in noncurrent deferred tax liabilities. No impact to the Company's 2012 effective tax rate would result from the recognition of the tax benefits. As of December 31, 2012, no interest or penalties have been accrued on unrecognized tax benefits. The Company had no unrecognized tax benefits at December 31, 2010 or 2011.

## Results of Operations

### *Year Ended December 31, 2011 Compared to Year Ended December 31, 2012*

The following table sets forth selected operating data (as recast for discontinued operations) for the year ended December 31, 2011 compared to the year ended December 31, 2012:

(in thousands, except per unit data)	Year Ended December 31,		Amount of Increase (Decrease)	Percent Change
	2011	2012		
<b>Operating revenues:</b>				
Natural gas sales	\$ 195,116	\$ 259,743	\$ 64,627	33%
NGL sales	—	3,719	3,719	*
Oil sales	173	1,520	1,347	779%
Realized commodity derivative gains	49,944	178,491	128,547	257%
Unrealized commodity derivative gains	446,120	1,055	(445,065)	(100)%
Gain on sale of Appalachian gathering assets	—	291,190	291,190	*
Total operating revenues	691,353	735,718	44,365	6%

(in thousands, except per unit data)	Year Ended December 31,		Amount of Increase (Decrease)	Percent Change
	2011	2012		
<b>Operating expenses:</b>				
Lease operating expenses	4,608	6,243	1,635	35%
Gathering, compression, and transportation	37,315	91,094	53,779	144%
Production taxes	11,915	20,210	8,295	70%
Exploration	4,034	14,675	10,641	264%
Impairment of unproved properties expense	4,664	12,070	7,406	159%
Depletion, depreciation and amortization	55,716	102,026	46,310	83%
Accretion of asset retirement obligations	76	101	25	33%
General and administrative expense	33,342	45,284	11,942	36%
Loss on sale of compressor station	8,700	—	(8,700)	*
Total operating expenses	160,370	291,703	131,333	82%
Operating income	530,983	444,015	(86,968)	(16)%
<b>Other income expense:</b>				
Interest expense	\$ (74,404)	\$ (97,510)	\$ (23,106)	31%
Realized and unrealized interest rate derivative losses	(94)	—	94	*
Total other expense	(74,498)	(97,510)	(23,012)	31%
Income before income taxes	456,485	346,505	(109,980)	(24)%
Income taxes expense	(185,297)	(121,229)	(64,068)	(35)%
Income from continuing operations	271,188	225,276	(45,912)	(17)%
Income (loss) from discontinued operations	121,490	(510,345)	(631,835)	*
Net income (loss) attributable to Antero equity owners	\$ 392,678	\$ (285,069)	\$ (677,747)	(173)%
EBITDAX(1)	\$ 340,821	\$ 434,312	\$ 93,491	27%
<b>Production data:</b>				
Natural gas (Bcf)	45	87	42	93%
NGLs (MBbl)	—	71	71	*
Oil (MBbl)	2	19	17	963%
Combined (Bcfe)	45	87	42	93%
Daily combined production (MMcfe/d)	124	239	115	93%
<b>Average prices before effects of hedges(2):</b>				
Natural gas (per Mcf)	\$ 4.33	2.99	(1.34)	(31)%
NGLs (per Bbl)	\$ —	52.07	52.07	*
Oil (per Bbl)	\$ 97.19	80.34	(16.85)	(17)%
Combined (per Mcfe)	\$ 4.33	3.03	(1.30)	(30)%
<b>Average realized prices after-effects of hedges(2):</b>				
Natural gas (per Mcf)	\$ 5.44	5.05	(0.39)	(7)%
NGLs (per Bbl)	\$ —	52.07	52.07	*
Oil (per Bbl)	\$ 97.19	80.34	(16.85)	(17)%
Combined (per Mcfe)	\$ 5.44	5.08	(0.36)	(7)%



(in thousands, except per unit data)	Year Ended December 31,		Amount of Increase (Decrease)	Percent Change
	2011	2012		
<b>Average costs (per Mcfe):</b>				
Lease operating costs	\$ 0.10	0.07	(0.03)	(30)%
Gathering compression and transportation	\$ 0.83	1.04	0.21	25%
Production taxes	\$ 0.26	0.23	(0.03)	(12)%
Depletion depreciation amortization and accretion	\$ 1.24	1.17	(0.07)	(6)%
General and administrative	\$ 0.74	0.52	(0.22)	(30)%

- (1) See "Selected Historical Consolidated Financial Data" included elsewhere in this prospectus for a definition of EBITDAX (a non-GAAP measure) and a reconciliation of EBITDAX to net income (loss).
- (2) Average prices shown in the table reflect both of the before-and-after-effects of our realized commodity hedging transactions. Our calculation of such after-effects includes realized gains or losses on cash settlements for commodity derivatives, which do not qualify for hedge accounting because we do not designate or document them as hedges for accounting purposes. Oil and NGL production was converted at 6 Mcf per Bbl to calculate total Bcfe production and per Mcfe amounts. This ratio is an estimate of the equivalent energy content of the products and does not necessarily reflect their relative economic value.

\* Not meaningful or applicable.

*Natural gas, NGLs, and oil sales.* Combined revenues from production of natural gas, NGLs, and oil increased from \$195 million for the year ended December 31, 2011 to \$265 million for the year ended December 31, 2012, an increase of \$70 million, or 36%. Our production increased by 94% from 45 Bcfe in 2011 to 87 Bcfe in 2012. Increased production volumes increased revenues by \$183 million, or 94%, (calculated as the increase in year-to-year volumes times the prior year average price), and combined commodity price decreases accounted for a \$113 million, or 58% decrease in revenues (calculated as the decrease in year-to-year average combined price times current year production volumes).

*Commodity hedging activities.* To achieve more predictable cash flows and to reduce our exposure to downward price fluctuations, we enter into derivative contracts using fixed for variable swap contracts when management believes that favorable future sales prices for our natural gas production can be secured. Because we do not designate these derivatives as accounting hedges, they do not receive accounting hedge treatment, and all mark-to-market gains or losses, as well as realized gains or losses on the derivative instruments, are recognized in our results of operations. The unrealized gains and losses represent the changes in the fair value of these swap agreements as the future strip prices fluctuate from the fixed price we will receive on future production. For the years ended December 31, 2011 and 2012, our hedges resulted in realized gains of \$50 million and \$178 million, respectively. For the years ended December 31, 2011 and 2012, our hedges resulted in unrealized gains of \$446 million and \$1 million, respectively. Unrealized gains in 2011 resulted from, (i) lower commodity prices at December 31, 2011 compared to December 31, 2010 for contracts outstanding at the end of both years and, (ii) from commodity prices at December 31, 2011 being lower than commodity swap prices for new contracts entered into in 2011. Additionally, prices did not vary significantly from year-end 2011 prices.

*Gain on sale of Appalachian gathering assets.* On March 26, 2012, we closed the sale of a portion of its Marcellus Shale gathering system assets along with exclusive rights to gather and compress the Company's gas for a 20-year period within an area of dedication ("AOD") to a joint venture owned by Crestwood Midstream Partners and Crestwood Holdings Partners LLC (together, "Crestwood") for \$375 million (subject to customary purchase price adjustments). The sale included approximately 25

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miles of low pressure pipeline systems and gathering rights on 104,000 net acres held by the Company within a 250,000 acre AOD and had an effective date of January 1, 2012. Other third-party producers will also have access to the Crestwood system. During the first seven years of the contract, the Company is committed to deliver minimum volumes into the gathering systems, with certain carryback and carryforward adjustments for overages or deficiencies. We can earn up to an additional \$40 million of sale proceeds if we meet certain volume thresholds over the first three years of the contract. Crestwood is obligated to incur all future capital costs to build out gathering systems and compression facilities within the AOD to connect the Company's wells as it executes its drilling program and has assumed the various risks and rewards of the system build-out and operations. Because we have not retained the substantial risks and rewards of ownership associated with the gathering rights and systems transferred to Crestwood, it has recognized a gain on the sale of the gathering system and gathering rights of approximately \$291 million.

*Lease operating expenses.* Lease operating expenses increased from \$5 million for the year ended December 31, 2011 to \$6 million in 2012, primarily as a result of increased production. On a per-Mcfe basis, lease operating expenses decreased by 30%, from \$0.10 per Mcfe in 2011 to \$0.07 per Mcfe in 2012 primarily because of costs increasing at a lower rate than production. Because our Appalachian Basin properties are in a relatively early stage of production, lease operating expenses are minimal and are expected to increase as the properties mature.

*Gathering, compression and transportation expense.* Gathering, compression and transportation expense increased from \$37 million for the year ended December 31, 2011 to \$91 million in 2012. The increase in these expenses resulted from the increase in production, increased firm transportation commitments, and increases in third-party compression and gathering expenses as we move to outsource some of our compression and gathering activities. On a per-Mcfe basis, total gathering, compression, and transportation expenses increased from \$0.83 per Mcfe for 2011 to \$1.04 in 2012.

*Production tax expense.* Total production taxes increased from \$12 million for the year ended December 31, 2011 to \$20 million for the year ended December 31, 2012, primarily as a result of increased production. Production taxes as a percentage of natural gas, NGLs, and oil revenues before the effects of hedging were 6.1% for the year ended December 31, 2011 compared to 7.6% for the year ended December 31, 2012. West Virginia ad valorem taxes, which are based on the value of oil and gas reserves, accounted for the increase in the ratio of production tax expense to revenues as we increased our Appalachian reserves.

*Exploration expense.* Exploration expense increased from \$4 million for the year ended December 31, 2011 to \$15 million for the year ended December 31, 2012 primarily because of an increase in the cost of unsuccessful lease acquisition efforts.

*Impairment of unproved properties.* Impairment of unproved properties was approximately \$5 million for the year ended December 31, 2011 compared to \$12 million for the year ended December 31, 2012. The increase in impairment charges was due to an increase in expiring acreage and ongoing evaluation of our undeveloped Marcellus acreage. We charge impairment expense for expired or soon-to-be expired leases when we determine they are impaired through lack of drilling activities or based on other factors, such as remaining lease terms, reservoir performance, commodity price outlooks or future plans to develop the acreage and recognize impairment costs accordingly.

*Depletion, depreciation and amortization ("DD&A").* DD&A increased from \$56 million for the year ended December 31, 2011 to \$102 million for the year ended December 31, 2012, an increase of \$46 million, as a result of increased production in 2012 compared to 2011. DD&A per Mcfe decreased 6%, from \$1.24 per Mcfe during 2011 to \$1.17 per Mcfe during 2012 as a result of the increased proved reserves in 2012.

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We evaluate the impairment of our proved natural gas, NGLs, and oil properties on a field-by-field basis whenever events or changes in circumstances indicate that a property's carrying amount may not be recoverable. If the carrying amount exceeds the estimated undiscounted future cash flows, we reduce the carrying amount of the oil and gas properties to their estimated fair value. There were no impairment expenses recorded for the years ended December 31, 2011 or 2012 for proved properties. As of December 31, 2012, no significant exploratory well costs had been deferred for over one year pending proved reserves determination.

*General and administrative expense.* General and administrative expense increased from \$33 million for the year ended December 31, 2011 to \$45 million during 2012, an increase of \$12 million. The increase is due to increased costs related to salaries, employee benefits, contract personnel and other general business expenses required to support the growth of our capital expenditure program and production levels. The number of our full-time employees grew from 107 at December 31, 2011 to 150 at December 31, 2012. On a per-Mcfe basis, general and administrative expense decreased by 30%, from \$0.74 per Mcfe during the year ended December 31, 2011 to \$0.52 per Mcfe during 2012 primarily due to a 94% growth in production. No portion of general and administrative expenses was allocated to discontinued operations as the Company does not expect any reduction of such expenses as a result of the sale of the Arkoma and Piceance properties. When all discontinued operations are included, general and administrative expenses were \$0.37 per Mcfe for both 2011 and 2012.

*Interest expense and realized and unrealized gains and losses on interest rate derivatives.* Interest expense increased from \$74 million for the year ended December 31, 2011 to \$98 million for the year ended December 31, 2012, an increase of \$24 million as a result of an increase in the amount of senior notes outstanding during 2012 compared to during 2011.

*Income tax expense.* For each tax year-end through December 31, 2011, Antero Resources LLC and each of its subsidiaries filed separate federal and state income tax returns. Antero Resources LLC is a partnership for income tax purposes and therefore is not subject to federal or state income taxes. The tax on the income of Antero Resources LLC is borne by its individual members through the allocation of taxable income. In October 2012, the Company completed a reorganization of its legal structure by contributing all of the outstanding shares owned by Antero Resources LLC in each of the Antero Arkoma, Antero Piceance, and Antero Pipeline corporations to Antero Appalachian. Antero Arkoma, Antero Piceance, and Antero Pipeline were then converted to limited liability companies. As a result, for income tax purposes, the operations from the date of the reorganizations and tax attributes of Arkoma, Piceance and Pipeline are now combined with Antero Appalachian for tax reporting purposes.

Income tax expense related to continuing operations was \$121 million in 2012 compared to \$185 million in 2011. Although we have accrued \$15 million at December 31, 2012 for unrecognized tax benefits, no taxes are due at the end of either December 31, 2011 or 2012. We have not generated current taxable income in either the current or prior years, which is primarily attributable to the differing book and tax treatment of unrealized derivative gains and intangible drilling costs. At December 31, 2012, we had approximately \$1.0 billion of U.S. Federal net operating loss carryforwards (NOLs) and approximately \$1.3 billion of state NOLs, which expire starting in 2024 and through 2032. At December 31, 2012, we recorded valuation allowances of approximately \$48 million for deferred tax assets primarily related to capital loss and state loss carryforwards. From time to time there has been proposed legislation in the U.S. Congress to eliminate or limit future deductions for intangible drilling costs; such legislation could significantly affect our future taxable position if passed. The impact of any change will be recorded in the period that such legislation might be enacted.

The calculation of the Company's tax liabilities involves uncertainties in the application of complex tax laws and regulations. The Company gives financial statement recognition to those tax positions that

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it believes are more-likely-than-not to be sustained upon examination by the Internal Revenue Service or state revenue authorities. The financial statements include unrecognized benefits at December 31, 2012 of \$15 million that, if recognized, would result in a reduction of current income taxes payable and an increase in noncurrent deferred tax liabilities. No impact to the Company's 2012 effective tax rate would result. As of December 31, 2012, no interest or penalties have been accrued on unrecognized tax benefits. The Company had no unrecognized tax benefits at December 31, 2010 or 2011.

*Income (loss) from discontinued operations.* Income (loss) from discontinued operations includes the results of operations from the Arkoma Basin and Piceance Basin operations (including revenues and direct operating expenses and allocated income tax expense, but not general and administrative or interest expenses) and, in 2012, the loss on the sale of these assets. A detailed analysis of these operations is included in note 3 to the consolidated financial statements included elsewhere in this prospectus. Income (loss) from discontinued operations decreased from income of \$121 million in 2011 to a loss of \$510 million in 2012, primarily as a result of the loss on the sale of the properties of \$796 million and a \$273 million tax benefit from the loss.

***Year Ended December 31, 2010 Compared to Year Ended December 31, 2011***

The following table sets forth selected operating data (as recast for discontinued operations) for the year ended December 31, 2010 compared to the year ended December 31, 2011:

<u>(in thousands, except per unit data)</u>	<u>Year Ended December 31,</u>			
	<u>2010</u>	<u>2011</u>	<u>Amount of Increase (Decrease)</u>	<u>Percent Change</u>
<b>Operating revenues:</b>				
Natural gas sales	\$ 47,392	\$ 195,116	\$ 147,724	312%
Oil sales	39	173	134	344%
Realized commodity derivative gains	15,063	49,944	34,881	232%
Unrealized commodity derivative gains	62,536	446,120	383,584	613%
Total operating revenues	125,030	691,353	566,323	453%
<b>Operating expenses:</b>				
Lease operating expenses	1,158	4,608	3,450	298%
Gathering, compression and transportation	9,237	37,315	28,078	304%
Production taxes	2,885	11,915	9,030	313%
Exploration expenses	2,350	4,034	1,684	72%
Impairment of unproved properties	6,076	4,664	(1,412)	(23)%
Depletion, depreciation and amortization	18,522	55,716	37,194	201%
Accretion of asset retirement obligations	11	76	65	591%
Expenses related to acquisition of business	2,544	—	(2,544)	*
General and administrative	21,952	33,342	11,390	52%
Loss on sale of compressor station	—	8,700	8,700	*
Total operating expenses	64,735	160,370	95,635	148%
Operating income	60,295	530,983	470,688	781%

(in thousands, except per unit data)	Year Ended December 31,			
	2010	2011	Amount of Increase (Decrease)	Percent Change
<b>Other expense:</b>				
Interest expense	(56,463)	(74,404)	17,941	32%
Realized and unrealized interest rate derivative losses	(2,677)	(94)	(2,583)	(96)%
Total other expense	(59,140)	(74,498)	15,358	26%
Income before income taxes	1,155	456,485	455,330	*
Income tax expense	(939)	(185,297)	(184,358)	*
Income (loss) from continuing operations	216	271,188	270,972	*
Income from discontinued operations	228,412	121,490	(106,922)	(47)%
Net income attributable to Antero equity owners	\$ 228,628	\$ 392,678	\$ 164,050	72%
EBITDAX(1)	\$ 197,678	\$ 340,821	\$ 143,143	72%
<b>Production data:</b>				
Natural gas (Bcf)	11	45	34	317%
Oil (MBbl)	—	2	2	*
Combined (Bcfe)	11	45	34	317%
Daily combined production (MMcfe/d)	30	124	94	317%
<b>Average prices before effects of hedges(2):</b>				
Natural gas (per Mcf)	\$ 4.39	\$ 4.33	\$ (0.06)	(1)%
Oil (per Bbl)	\$ —	\$ 97.19	\$ *	*
Combined (per Mcfe)	\$ 4.39	\$ 4.33	\$ (0.06)	(1)%
<b>Average realized prices after-effects of hedges(2):</b>				
Natural gas (per Mcf)	\$ 5.78	\$ 5.44	\$ (0.34)	(6)%
Oil (per Bbl)	\$ —	\$ 97.19	\$ *	*
Combined (per Mcfe)	\$ 5.78	\$ 5.44	\$ (0.34)	(6)%
<b>Average costs (per Mcfe)(2):</b>				
Lease operating costs	\$ 0.11	\$ 0.10	\$ (0.01)	(9)%
Gathering, compression and transportation	\$ 0.85	\$ 0.83	\$ (0.02)	(2)%
Production taxes	\$ 0.27	\$ 0.26	\$ (0.01)	(4)%
Depletion, depreciation, amortization	\$ 1.71	\$ 1.24	\$ (0.47)	(27)%
General and administrative	\$ 2.03	\$ 0.74	\$ (1.29)	(64)%

(1) See "Selected Historical Consolidated Financial Data" included elsewhere in this prospectus for a definition of EBITDAX (a non-GAAP measure) and a reconciliation of EBITDAX to net income (loss).

(2) Average prices shown in the table reflect both of the before-and-after effects of our realized commodity hedging transactions. Our calculation of such after-effects includes realized gains or losses on cash settlements for commodity derivatives, which do not qualify for hedge accounting because we do not designate or document them as hedges. Oil and NGL production was converted at 6 Mcf per Bbl to calculate total Bcfe production and per Mcfe amounts. This ratio is an estimate of the equivalent energy content of the products and does not necessarily reflect their relative economic value.

\* Not meaningful or applicable.

*Natural gas, NGLs, and oil sales.* Revenues from production of natural gas, NGLs, and oil increased from \$47 million for the year ended December 31, 2010 to \$195 million for the year ended

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December 31, 2011, an increase of \$148 million or 312%. Our production increased by 317% from 11 Bcfe in 2010 to 45 Bcfe in 2011. The net increase in revenues resulted from production volume increases reduced by commodity price decreases. Production increases accounted for a \$150 million, or 317%, increase in revenues (calculated as the increase in year-to-year volumes times the prior year average price). Price decreases accounted for a \$2 million, or 5%, decrease in revenues (calculated as the decrease in year-to-year average price times current year production volumes).

*Commodity hedging activities.* To achieve more predictable cash flows and to reduce our exposure to downward price fluctuations, we enter into derivative contracts using fixed for variable swap contracts when management believes that favorable future sales prices for our natural gas production can be secured. Because we do not designate these derivatives as accounting hedges, they do not receive accounting hedge treatment and all mark-to-market gains or losses, as well as realized gains or losses on the derivative instruments, are recognized in our results of operations. The unrealized gains and losses represent the changes in the fair value of these swap agreements as the future strip prices fluctuate from the fixed price we will receive on future production. For the years ended December 31, 2010 and 2011, our hedges resulted in realized gains of \$15 million and \$50 million, respectively. For the years ended December 31, 2010 and 2011, our hedges resulted in unrealized gains of \$63 million and \$446 million, respectively. The increase in unrealized gains from 2010 to 2011 resulted primarily from the decrease in natural gas prices.

*Lease operating expenses.* Lease operating expenses increased from \$1 million for the year ended December 31, 2010 to \$5 million in 2011, an increase of \$4 million, as a result of a 317% increase in production.

*Gathering, compression and transportation expense.* Gathering, compression and transportation expense increased from \$9 million for the year ended December 31, 2010 to \$37 million in 2011 because of the increase in production and increased firm transportation commitments. On a per-Mcfe basis, these expenses decreased slightly from \$0.85 per Mcfe for 2010 to \$0.83 per Mcfe for 2011.

*Production tax expense.* Total production taxes increased from \$3 million for the year ended December 31, 2010 to \$12 million for the year ended December 31, 2011, as a result of increased production. Production taxes as a percentage of natural gas and oil revenues before the effects of hedging were 6.1% in both years.

*Exploration expense.* Exploration expense increased from \$3 million for the year ended December 31, 2010 to \$4 million for the year ended December 31, 2011, primarily because of an increase in the cost of unsuccessful lease acquisition efforts.

*Impairment of unproved properties.* We abandon expired or soon to be expired leases when we determine they are impaired through lack of drilling activities or based on other factors, such as short remaining lease terms, reservoir performance, commodity price outlooks or future plans to develop the acreage and recognize impairment costs accordingly. Our impairment of unproved property expense decreased from \$6 million for the year ended December 31, 2010 to \$5 million for the year ended December 31, 2011.

*Depletion, depreciation and amortization (DD&A).* DD&A increased from \$19 million for the year ended December 31, 2010 to \$56 million for the year ended December 31, 2011, an increase of \$37 million as a result of increased production. DD&A per Mcfe decreased from \$1.71 per Mcfe to \$1.24 per Mcfe, primarily as a result of increased reserve volumes in 2011 compared to 2010. As a successful efforts company, we evaluate the impairment of our proved natural gas, NGLs, and oil properties on a field-by-field basis whenever events or changes in circumstances indicate that a property's carrying amount may not be recoverable. If the carrying amount exceeds the estimated undiscounted future cash flows, we reduce the carrying amount of the oil and gas properties to their

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estimated fair value. There were no impairment expenses recorded for the years ended December 31, 2010 or 2011 for proved properties. As of December 31, 2011, no significant well costs had been deferred for over one year pending proved reserves determination.

*General and administrative expense.* General and administrative expense increased from \$22 million for the year ended December 31, 2010 to \$33 million for 2011, an increase of \$11 million. The increase is primarily due to increased costs related to salaries, employee benefits, contract personnel and professional services expenses for additional personnel required for our capital expenditure program and production levels. On a per-Mcfe basis, general and administrative expense decreased from \$2.03 per Mcfe for the year ended December 31, 2010 to \$0.74 per Mcfe for 2011. No portion of general and administrative expenses was allocated to discontinued operations as the Company does not expect any reduction of such expenses as a result of the sale of the Arkoma and Piceance properties. When all discontinued operations are included, general and administrative expenses decreased from \$0.47 per Mcfe in 2010 to \$0.37 per Mcfe in 2011.

*Interest expense and realized and unrealized gains and losses on interest rate derivatives.* Interest expense increased from \$56 million for the year ended December 31, 2010 to \$74 million for 2011, an increase of \$18 million, primarily as a result of increased borrowings on the Credit Facility and the issuance of \$400 million of 7.25% senior notes in August 2011. We had entered into variable-to-fixed interest rate swap agreements that hedged our exposure to interest rate variations on our Credit Facility and second lien term loan facility. At December 31, 2010, one of these swaps remained outstanding with a notional amount of \$225.0 million and a fixed pay rate of 4.11%. This swap expired in July 2011. For the year ended December 31, 2010, we realized a loss on interest rate swap agreements of \$10 million, whereas in 2011 we had a realized loss on interest rate swap agreements of \$4 million. There were no outstanding interest swap agreements at December 31, 2011.

*Income tax expense.* Income tax expense related to continuing operations was \$185 million in 2011 compared to \$1 million in 2010 and is entirely comprised of deferred taxes in both years. In general, we have not generated current taxable income in either the current or prior years, which is primarily attributable to the differing book and tax treatment of unrealized derivative gains and intangible drilling costs. Each of our operating subsidiaries filed separate federal and state tax returns in 2010 and 2011; therefore, our provision for income taxes for those years consists of the sum of our provisions for each of the operating entities. From time to time there has been proposed legislation in the U.S. Congress to eliminate or limit future deductions for intangible drilling costs and could significantly affect our future taxable position. The impact of any change will be recorded in the period that such legislation might be enacted.

*Income from discontinued operations.* Income from discontinued operations includes the results of operations from the Arkoma Basin and Piceance Basin operations (including revenues and direct operating expenses and allocated income tax expense, but not general and administrative or interest expenses). A detailed analysis of these operations is included in note 3 to the consolidated financial statements included elsewhere in this prospectus. Income from discontinued operations decreased from income of \$228 million in 2010 to income of \$121 million in 2011, primarily as a result of a nonrecurring gain of \$148 million recognized in 2010 on the sale of our Arkoma midstream assets.

### **Capital Resources and Liquidity**

Our primary sources of liquidity have been through issuances of debt securities, borrowings under our Credit Facility, asset sales, and net cash provided by operating activities. Our primary use of cash has been for the exploration, development and acquisition of natural gas, NGL, and oil properties. As we pursue reserve and production growth, we continually monitor what capital resources, including equity and debt financings, are available to meet our future financial obligations, planned capital expenditure activities and liquidity requirements. Our future success in growing proved reserves and

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production will be highly dependent on the capital resources available to us. We have approximately 4,900 potential well locations which will take many years to develop. Additionally our proved undeveloped reserves will require an estimated \$3 billion of development capital over the next five years. A significant portion of this capital requirement will be funded out of operating cash flows. However, we may be required to generate or raise significant capital to conduct drilling activities on these potential drilling locations and to finance the development of our proved undeveloped reserves.

During 2012, we raised capital through the issuance of \$300 million of 6.00% senior notes due 2020, and in February 2013 we issued another \$225 million of the 6.00% senior notes. We also sold various properties for which we received cash proceeds of approximately \$1.2 billion. As a result of the issuances of the 6.00% notes, the borrowing base under the Credit Facility is currently \$1.22 billion and lender commitments total \$700 million, leaving us with borrowing capacity of \$657 million. At December 31, 2012, we had borrowed \$217 million. Current lender commitments can be increased to the full \$1.22 billion borrowing base upon approval of the lending bank group. The borrowing base is determined every six months based on reserves, oil and gas commodity prices, and the value of our hedge portfolio. The next redetermination of the borrowing base is scheduled to occur in May 2013. Our hedge position provides us with additional liquidity as it provides us with the relative certainty of receiving a significant portion of our future expected revenues from operations despite potential declines in the price of natural gas. Our ability to make significant additional acquisitions for cash would require us to obtain additional equity or debt financing, which we may not be able to obtain on terms acceptable to us, or at all. Our Credit Facility is funded by a syndicate of 16 banks. We believe that the participants in the syndicate have the capability to fund up to their current commitment. If one or more banks should not be able to do so, we may not have the full availability of our Credit Facility.

In order to fully fund our 2013 capital budget, we believe it will be necessary to obtain additional capital. We are considering several alternatives including increasing lender commitments on our Credit Facility, selling noncore gathering assets, or exploring further capital market transactions. We may pursue a combination of these alternatives. If necessary, we will revise our capital spending plans to our available cash flow from operations and other financing sources.

We believe that funds from operating cash flows and available borrowings under our Credit Facility will be sufficient to meet our cash requirements, including normal operating needs, debt service obligations, capital expenditures, and commitments and contingencies for at least the next 12 months.

For more information on our outstanding indebtedness, see "—Debt Agreements and Contractual Obligations."

## Cash Flows

The following table summarizes our cash flows for the years ended December 31, 2010, 2011, and 2012:

	Year Ended December 31,		
	2010	2011	2012
	(in thousands)		
Net cash provided by operating activities	\$ 127,791	\$ 266,307	\$ 332,255
Net cash used in investing activities	(230,672)	(901,249)	(463,491)
Net cash provided by financing activities	101,200	629,297	146,882
Net increase (decrease) in cash and cash equivalents	\$ (1,681)	\$ (5,645)	\$ 15,646



### ***Cash Flow Provided by Operating Activities***

Net cash provided by operating activities was \$128 million, \$266 million and \$332 million for the years ended December 31, 2010, 2011 and 2012, respectively. The increase in cash flows from operations from 2010 to 2011 and also from 2011 to 2012 was primarily the result of increased oil and gas production volumes and realized gains from commodity hedges, net of increased operating expenses and interest expense and changes in working capital.

Our operating cash flow is sensitive to many variables, the most significant of which is the volatility of prices for natural gas, NGLs, and oil prices. Prices for these commodities are determined primarily by prevailing market conditions. Factors including regional and worldwide economic activity, weather, infrastructure capacity to reach markets, and other variables influence market conditions for these products. These factors are beyond our control and are difficult to predict. For additional information on the impact of changing prices on our financial position, see "Quantitative and Qualitative Disclosures About Market Risk."

### ***Cash Flow Used in Investing Activities***

During the years ended December 31, 2010, 2011 and 2012, we used cash flows in investing activities of \$231 million, \$901 million and \$463 million, respectively, as a result of our capital expenditures for drilling, development and acquisitions. During 2012 we spent approximately \$1.7 billion on investments in undeveloped leaseholds, development costs and gathering systems. Net cash flow used in investing activities was reduced by realized cash proceeds of approximately \$1.2 billion from the sale of the Piceance Basin, Arkoma Basin, and certain Appalachian gathering systems. The increase in cash flows used in investing activities in 2011 from 2010 resulted primarily from increased drilling and acquisition activities in the Marcellus Shale. In September 2011, we also acquired a 7% overriding royalty interest related to 115,000 net acres operated by us in the core of our West Virginia and Pennsylvania Marcellus acreage position for \$193 million.

Our board of directors has approved a capital budget of up to \$1.65 billion for 2013. Our capital budget may be adjusted as business conditions warrant. The amount, timing and allocation of capital expenditures is largely discretionary and within our control. If natural gas, NGLs, and oil prices decline to levels below our acceptable levels or costs increase to levels above our acceptable levels, we could choose to defer a significant portion of our budgeted capital expenditures until later periods to achieve the desired balance between sources and uses of liquidity and prioritize capital projects that we believe have the highest expected returns and potential to generate near-term cash flow. We routinely monitor and adjust our capital expenditures in response to changes in prices, availability of financing, drilling and acquisition costs, industry conditions, the timing of regulatory approvals, the availability of rigs, success or lack of success in drilling activities, contractual obligations, internally generated cash flow and other factors both within and outside our control.

### ***Cash Flow Provided by Financing Activities***

Net cash provided by financing activities in 2012 of \$147 million was primarily the result of (i) \$300 million of cash provided by the issuance of senior notes, net of (ii) net repayments of the Credit Facility of \$148 million and other items of \$5 million including deferred financing costs.

Net cash provided by financing activities in 2011 of \$629 million was primarily the result of (i) \$400 million of cash provided by the issuance of senior notes, (ii) net borrowings of \$265 million on our Credit Facility, net of (iii) cash outflows for \$7 million of deferred financing costs, and a \$29 million distribution to equity members for tax liabilities.

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Net cash provided by financing activities in 2010 of \$101 million was primarily a result of (i) \$156 million of cash provided by the issuance of senior notes, (ii) net payments of \$42 million on our Credit Facility, and (iii) \$13 million of other payment items including deferred financing costs.

### **Debt Agreements and Contractual Obligations**

*Senior Secured Revolving Credit Facility.* Our Credit Facility provides for a maximum borrowing base of \$1.22 billion. The borrowing base is redetermined semi-annually and the borrowing base depends on the amount of our proved oil and gas reserves and estimated cash flows from these reserves and our hedge positions. The next redetermination is scheduled to occur in May 2013. After giving effect to the issuance of the 6.00% senior notes due 2020 in November 2012 and February 2013, the borrowing base was \$1.22 billion and lender commitments totaled \$700 million. Lender commitments can be increased to the full \$1.22 billion upon approval of the lending group. At December 31, 2012, we had \$217 million of borrowings and \$43 million of letters of credit outstanding under the Credit Facility. As a result of the sale of the Piceance properties, \$11 million of letters of credit outstanding at December 31, 2012 were terminated in March 2013. The Credit Facility matures in May 2016.

Principal amounts borrowed are payable on the maturity date with such borrowings bearing interest that is payable quarterly. We have a choice of borrowing in Eurodollars or at the base rate. Eurodollar loans bear interest at a rate per annum equal to the rate appearing on the Reuters BBA Libor Rates Page 3750 for one, two, three, six or twelve months plus an applicable margin ranging from 150 to 250 basis points, depending on the percentage of our borrowing base utilized. Base rate loans bear interest at a rate per annum equal to the greatest of (i) the agent bank's reference rate, (ii) the federal funds effective rate plus 50 basis points and (iii) the rate for one month Eurodollar loans plus 100 basis points, plus an applicable margin ranging from 50 to 150 basis points, depending on the percentage of our borrowing base utilized. The amounts outstanding under the facility are secured by a first priority lien on substantially all of our natural gas, NGLs, and oil properties and associated assets and are cross-guaranteed by each borrower entity along with each of their current and future wholly owned subsidiaries. For information concerning the effect of changes in interest rates on interest payments under this facility, see "Quantitative and Qualitative Disclosures About Market Risk." As of December 31, 2011 and 2012, borrowings and letters of credit outstanding under our senior secured revolving credit facility totaled \$386 million and \$217 million, respectively, and had a weighted average interest rate (excluding the impact of our interest rate swaps) of 2.12% and 1.91%, respectively. The facility contains restrictive covenants that may limit our ability to, among other things:

- incur additional indebtedness;
- sell assets;
- make loans to others;
- make investments;
- enter into mergers;
- make certain payments to Antero Resources LLC;
- hedge future production;
- incur liens; and
- engage in certain other transactions without the prior consent of the lenders.

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The Credit Facility also requires us to maintain the following two financial ratios:

- a current ratio, which is the ratio of our consolidated current assets (as defined) to our consolidated current liabilities, of not less than 1.0 to 1.0 as of the end of each fiscal quarter; and
- a minimum interest coverage ratio, which is the ratio of consolidated EBITDAX to consolidated interest expense, of not less than 2.5 to 1.0.

We were in compliance with such covenants and ratios as of December 31, 2011 and 2012.

*Senior Notes.* We have \$525 million of 9.375% senior notes outstanding, which are due December 1, 2017. The notes are issued by Antero Finance and unsecured and effectively subordinate to the Credit Facility to the extent of the value of the collateral securing the Credit Facility. The notes are guaranteed on a senior unsecured basis by Antero Resources LLC, all of its wholly owned subsidiaries (other than Antero Finance), and certain of its future restricted subsidiaries. Interest on the notes is payable on June 1 and December 1 of each year. Antero Finance may redeem all or part of the notes at any time on or after December 1, 2013 at redemption prices ranging from 104.688% on or after December 1, 2013 to 100.00% on or after December 1, 2015. In addition, on or before December 1, 2012, Antero Finance may redeem up to 35% of the aggregate principal amount of the notes with the net cash proceeds of certain equity offerings, if certain conditions are met, at a redemption price of 109.375%. At any time prior to December 1, 2013, Antero Finance may also redeem the notes, in whole or in part, at a price equal to 100% of the principal amount of the notes plus a "make-whole" premium. If Antero Resources LLC undergoes a change of control, Antero Finance may be required to repurchase all or a portion of the notes at a price equal to 101% of the principal amount of the notes, plus accrued interest.

We also have \$400 million of 7.25% senior notes outstanding, which are due August 1, 2019. The notes are issued by Antero Finance and unsecured and effectively subordinated to the Credit Facility to the extent of the value of the collateral securing the Credit Facility. The notes rank pari passu to the existing 9.375% senior notes. The notes are guaranteed on a senior unsecured basis by Antero Resources LLC, all of its wholly owned subsidiaries (other than Antero Finance), and certain of its future restricted subsidiaries. Interest on the notes is payable on August 1 and February 1 of each year. Antero Finance may redeem all or part of the notes at any time on or after August 1, 2014 at redemption prices ranging from 105.438% on or after August 1, 2014 to 100.00% on or after August 1, 2017. In addition, on or before August 1, 2014, Antero Finance may redeem up to 35% of the aggregate principal amount of the notes with the net cash proceeds of certain equity offerings, if certain conditions are met, at a redemption price of 107.25% of the principal amount of the notes, plus accrued interest. At any time prior to August 1, 2014, Antero Finance may redeem the notes, in whole or in part, at a price equal to 100% of the principal amount of the notes plus a "make-whole" premium and accrued interest. If Antero Resources LLC undergoes a change of control, Antero Finance may be required to repurchase all or a portion of the notes at a price equal to 101% of the principal amount of the notes, plus accrued interest.

At December 31, 2012, we also had \$300 million of 6.00% senior notes outstanding, which are due December 1, 2020. On February 4, 2013, we issued an additional \$225 million of the 6.00% notes for an aggregate amount of \$525 million. The notes are issued by Antero Finance and unsecured and effectively subordinated to the Credit Facility to the extent of the value of the collateral securing the Credit Facility. The notes rank pari passu to the existing 9.375% and 7.25% senior notes. The notes are guaranteed on a senior unsecured basis by Antero Resources LLC, all of its wholly owned subsidiaries (other than Antero Finance), and certain of its future restricted subsidiaries. Interest on the notes is payable on June 1 and December 1 of each year, commencing on June 1, 2013. Antero Finance may redeem all or part of the notes at any time on or after December 1, 2015 at redemption prices ranging from 104.50% on or after December 1, 2015 to 100.00% on or after December 1, 2018. In addition, on

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or before December 1, 2015, Antero Finance may redeem up to 35% of the aggregate principal amount of the notes with the net cash proceeds of certain equity offerings, if certain conditions are met, at a redemption price of 106.00% of the principal amount of the notes, plus accrued interest. At any time prior to December 1, 2015, Antero Finance may redeem the notes, in whole or in part, at a price equal to 100% of the principal amount of the notes plus a "make-whole" premium and accrued interest. If a change of control (as defined in the bond indenture) occurs at any time prior to January 1, 2014, Antero Finance may, at its option, redeem all, but not less than all, of the notes at a redemption price equal to 110% of the principal amount of the notes, plus accrued interest. If Antero Finance has not exercised its optional redemption rights upon a change of control, the note holders will have the right to require Antero Finance to repurchase all or a portion of the notes at a price equal to 101% of the principal amount of the notes, plus accrued interest.

We used the proceeds from the issuances of the senior notes to repay borrowings outstanding under our Credit Facility and for development of our oil and natural gas properties.

The senior notes indentures each contain restrictive covenants and restrict our ability to incur additional debt unless a pro forma minimum interest coverage ratio requirement of 2.25:1 is maintained. We were in compliance with such covenants and the coverage ratio requirement as of December 31, 2011 and 2012.

*Treasury Management Facility.* We have a stand-alone revolving note with a lender under the Credit Facility which provides for up to \$25 million of cash management obligations in order to facilitate our daily treasury management. Borrowings under the revolving note are secured by the collateral for the Credit Facility. Borrowings under the facility bear interest at the lender's prime rate plus 1.0%. The note matures on June 1, 2013. At December 31, 2012, there were no outstanding borrowings under this facility.

*Note Payable.* We assumed a \$25 million unsecured note payable in the Bluestone business acquisition consummated on December 1, 2010. The note has an outstanding balance of \$25 million, bears interest at 9%, and is due December 1, 2013.

*Contractual Obligations.* A summary of our contractual obligations as of December 31, 2012 is provided in the following table.

<u>(in millions)</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>Thereafter</u>	<u>Total</u>
Credit Facility(1)	\$ —	\$ —	\$ —	\$ 217	\$ —	\$ —	\$ 217
Senior notes—principal(2)	25	—	—	—	525	700	1,250
Senior notes—interest(2)	99	96	96	96	96	112	595
Drilling rig and frac service commitments(3)	150	98	44	—	—	—	292
Firm transportation(4)	36	93	116	116	113	854	1,328
Gas processing, gathering, and compression service(5)	111	107	126	131	125	564	1,164
Office and equipment leases	1	3	3	3	3	15	28
Asset retirement obligations(6)	—	—	—	—	—	11	11
<b>Total</b>	<b>\$ 422</b>	<b>\$ 397</b>	<b>\$ 385</b>	<b>\$ 563</b>	<b>862</b>	<b>\$ 2,256</b>	<b>\$ 4,885</b>

- (1) Includes outstanding principal amount at December 31, 2012. This table does not include future commitment fees, interest expense or other fees on the Credit Facility because they are floating rate instruments and we cannot determine with accuracy the timing of future loan advances, repayments or future interest rates to be charged.

- (2) Includes the 9.375% senior notes due 2017, the 7.25% senior notes due 2019, and the 6.00% senior notes issued in November 2012 and due 2020, and the \$25 million note due 2013 assumed in the Bluestone acquisition.
- (3) At December 31, 2012, we had contracts for the services of 14 rigs, which expire at various dates from January 2013 through January 2016. We also had two frac services contracts, which expire in 2013 and 2014. The values in the table represent the gross amounts that we are committed to pay; however, we will record in our financial statements our proportionate share of costs based on our working interest.
- (4) We have entered into firm transportation agreements with various pipelines in order to facilitate the delivery of production to market. These contracts commit us to transport minimum daily natural gas or NGL volumes at a negotiated rate, or pay for any deficiencies at a specified reservation fee rate. The amounts in this table represent our minimum daily volumes at the reservation fee rate. The values in the table represent the gross amounts that we are committed to pay; however, we will record in our financial statements our proportionate share of costs based on our working interest.
- (5) Contractual commitments for gas processing, gathering and compression service agreements represent minimum commitments under long-term gas processing agreements as well as various gas compression agreements. The values in the table represent the gross amounts that we are committed to pay; however, we will record in our financial statements our proportionate share of costs based on our working interest.
- (6) Neither the ultimate settlement amounts nor the timing of our asset retirement obligations can be precisely determined in advance; however, we believe it is likely that a very small amount of these obligations will be settled within the next five years.

### **Critical Accounting Policies and Estimates**

The discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of our financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses and related disclosure of contingent assets and liabilities. Certain accounting policies involve judgments and uncertainties to such an extent that there is reasonable likelihood that materially different amounts could have been reported under different conditions, or if different assumptions had been used. We evaluate our estimates and assumptions on a regular basis. We base our estimates on historical experience and various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates and assumptions used in preparation of our consolidated financial statements. We provide expanded discussion of our more significant accounting policies, estimates and judgments below. We believe these accounting policies reflect our more significant estimates and assumptions used in preparation of our consolidated financial statements. See note 2 to the consolidated financial statements for a discussion of additional accounting policies and estimates made by management.

#### ***Natural Gas, NGL and Oil Properties***

##### ***Successful Efforts Method***

Our natural gas, NGL, and oil exploration and production activities are accounted for using the successful efforts method. Under this method, costs of drilling successful exploration wells and development costs are capitalized and amortized on a geological reservoir basis using the

unit-of-production method as natural gas, NGL, and oil is produced. Geological and geophysical costs, delay rentals and costs to drill exploratory wells that do not discover proved reserves are expensed as exploration costs. The costs of development wells are capitalized whether productive or nonproductive. Natural gas, NGL, and oil lease acquisition costs are also capitalized. The sale of a partial interest in a proved property is accounted for as a cost recovery and no gain or loss is recognized as long as this treatment does not significantly affect the unit-of-production amortization rate. Maintenance and repairs are charged to expense, and renewals and betterments are capitalized to the appropriate property and equipment accounts.

Unproved property costs are costs related to unevaluated properties and are transferred to proved natural gas and oil properties if the properties are determined to be productive. Proceeds from sales of partial interests in unproved leases are accounted for as a recovery of cost without recognizing any gain until all costs are recovered. Unevaluated natural gas, NGL, and oil properties are assessed periodically for impairment on a property-by-property basis based on remaining lease terms, drilling results, reservoir performance, commodity price outlooks or future plans to develop acreage. If it is determined that it is probable that reserves will not be discovered, the cost of unproved leases is charged to impairment of unproved properties. During the years ended December 31, 2010, 2011, and 2012 we charged impairment expense for expired or expiring leases with a cost of \$36 million, \$11 million, and \$13 million, respectively. The assessment of unevaluated natural gas, NGL, and oil properties to determine any possible impairment requires managerial judgment.

The successful efforts method of accounting can have a significant impact on the operational results reported when we are entering a new exploratory area in anticipation of finding a gas and oil field that will be the focus of future development drilling activity. The initial exploratory wells may be unsuccessful and will be expensed. Seismic costs can be substantial, which will result in additional exploration expenses when incurred. Additionally, the application of the successful efforts method of accounting requires managerial judgment to determine the proper classification of wells designated as developmental or exploratory, which will ultimately determine the proper accounting treatment of the costs incurred.

#### *Natural Gas, NGL and Oil Reserve Quantities and Standardized Measure of Future Cash Flows*

Our independent engineers and internal technical staff prepare the estimates of natural gas, NGL, and oil reserves and associated future net cash flows. Current accounting guidance allows only proved natural gas, NGL, and oil reserves to be included in our financial statement disclosures. The SEC has defined proved reserves as the estimated quantities of natural gas, NGL, and oil which geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions. Our independent engineers and internal technical staff must make a number of subjective assumptions based on their professional judgment in developing reserve estimates. Reserve estimates are updated annually and consider recent production levels and other technical information about each field. Natural gas, NGL, and oil reserve engineering is a subjective process of estimating underground accumulations of natural gas, NGL, and oil that cannot be precisely measured. The accuracy of any reserve estimate is a function of the quality of available data and of engineering and geological interpretation and judgment. Periodic revisions to the estimated reserves and future cash flows may be necessary as a result of a number of factors, including reservoir performance, new drilling, natural gas, NGL, and oil prices, cost changes, technological advances, new geological or geophysical data, or other economic factors. Accordingly, reserve estimates are generally different from the quantities of natural gas, NGL, and oil that are ultimately recovered. We cannot predict the amounts or timing of future reserve revisions. If such revisions are significant, they could significantly affect future amortization of capitalized costs and result in impairment of assets that may be material.

### *Impairment of Proved Properties*

We review our proved natural gas, NGL, and oil properties for impairment on a geological reservoir basis whenever events and circumstances indicate that a decline in the recoverability of their carrying value may have occurred. We estimate the expected future cash flows of our gas and oil properties and compare these future cash flows to the carrying amount of the gas and oil properties to determine if the carrying amount is recoverable. If the carrying amount exceeds the estimated undiscounted future cash flows, we will adjust the carrying amount of the natural gas, NGL, and oil properties to fair value. The factors used to determine fair value are subject to our judgment and expertise and include, but are not limited to, recent sales prices of comparable properties, the present value of future cash flows, net of estimated operating and development costs using estimates of proved reserves, future commodity pricing, future production estimates, anticipated capital expenditures, and various discount rates commensurate with the risk associated with realizing the expected cash flows projected. Because of the uncertainty inherent in these factors, we cannot predict when or if future impairment charges for proved properties will be recorded. We did not record any impairment charges for proved properties in 2010, 2011 or 2012.

### **Off-Balance Sheet Arrangements**

We have various contractual obligations that are not reflected on our balance sheet. See "Debt Agreements and Contractual Obligations" included in this section for commitments under operating leases, drilling rig service agreements, firm transportation, and gas processing and compression service agreements.

### **Quantitative and Qualitative Disclosures About Market Risk**

The primary objective of the following information is to provide forward-looking quantitative and qualitative information about our potential exposure to market risk. The term "market risk" refers to the risk of loss arising from adverse changes in natural gas, NGL, and oil prices and interest rates. The disclosures are not meant to be precise indicators of expected future losses, but rather indicators of reasonably possible losses. This forward-looking information provides indicators of how we view and manage our ongoing market risk exposures. All of our market risk sensitive instruments were entered into for hedging purposes, rather than for speculative trading.

#### *Commodity Hedging Activities*

Our primary market risk exposure is in the price we received for our natural gas, NGL, and oil production. Realized pricing is primarily driven by the prevailing worldwide price for crude oil and spot regional market prices applicable to our U.S. natural gas production. Pricing for natural gas, NGL, and oil production has been volatile and unpredictable for several years, and we expect this volatility to continue in the future. The prices we receive for production depend on many factors outside of our control, including volatility in the differences between product prices at sales points and the applicable index price.

To mitigate some of the potential negative impact on our cash flow caused by changes in natural gas prices, we have entered into financial commodity swap contracts to receive fixed prices for a portion of our natural gas, NGL, and oil production when management believes that favorable future prices can be secured. We typically hedge a fixed price for natural gas at our sales points (New York Mercantile Exchange ("NYMEX") less basis) to mitigate the risk of differentials to the Dominion South, Columbia Gas Appalachian Transmission ("CGTAP"), and Columbia Gas Louisiana ("CGLA") Indexes.

At December 31, 2012, we had in place natural gas and oil swaps covering portions of our projected production from 2013 through 2018. Our hedge position as of December 31, 2012 is

summarized in note 12 to our consolidated financial statements included in this prospectus. Our financial hedging activities are intended to support natural gas, NGL, and oil prices at targeted levels and to manage our exposure to natural gas price fluctuations. The counterparty is required to make a payment to us for the difference between the fixed price and the settlement price if the settlement price is below the fixed price. We are required to make a payment to the counterparty for the difference between the fixed price and the settlement price if the fixed price is below the settlement price. Our Credit Facility allows us to hedge up to 85% of our estimated production from proved reserves for up to 12 months in the future, 80% for 13 to 24 months in the future, 75% for 25 to 36 months in the future, 70% for 37 to 48 months in the future, 65% for 49 to 60 months in the future, and 65% of production for 2018. Based on our annual production and our fixed price swap contracts in place during 2012, our annual income before taxes for the year ended December 31, 2012 would have decreased by approximately \$2.0 million for each \$0.10 decrease per MMBtu in natural gas prices and approximately \$0.4 million for each \$1.00 per barrel decrease in crude oil prices.

All derivative instruments, other than those that meet the normal purchase and normal sales exception, are recorded at fair market value in accordance with US GAAP and are included in the consolidated balance sheets as assets or liabilities. Fair values are adjusted for non-performance risk. As required under US GAAP, all fair values are adjusted for non-performance risk. Because we do not designate these hedges as accounting hedges, we do not receive accounting hedge treatment and all mark-to-market gains or losses as well as realized gains or losses on the derivative instruments are recognized in our results of operations. We present realized and unrealized gains or losses on commodity derivatives in our operating revenues as "Realized and unrealized gains (losses) on commodity derivative instruments." In 2012, approximately 81% of our production volumes were hedged, which resulted in realized hedge gains of \$271 million. In 2011, approximately 77% of our production volumes were hedged, which resulted in realized hedge gains of \$117 million. In 2010, approximately 79% of our production volumes were hedged, which resulted in realized gains on hedges of \$74 million.

Mark-to-market adjustments of derivative instruments produce earnings volatility but have no cash flow impact relative to changes in market prices until the derivative contracts are settled. We expect continued volatility in the fair value of our derivative instruments. Our cash flow is only impacted when the underlying physical sales transaction takes place in the future and when the associated derivative instrument contract is settled by making or receiving a payment to or from the counterparty. At December 31, 2012, the estimated fair value of all of our commodity derivative instruments was a net asset of \$532 million comprised of current and noncurrent assets. See note 12 to the consolidated financial statements included elsewhere in this prospectus for a summary of realized or unrealized gains or losses on commodity derivative contracts for 2010, 2011, and 2012.

By removing price volatility from a portion of our expected natural gas production through December 2018, we have mitigated, but not eliminated, the potential effects of changing prices on our operating cash flow for those periods. While mitigating negative effects of falling commodity prices, these derivative contracts also limit the benefits we would receive from increases in commodity prices.

#### ***Interest Rate Risks and Hedges***

During the year ended December 31, 2012, we had indebtedness outstanding under our Credit Facility, which bears interest at floating rates. The average annual interest rate incurred on this indebtedness for the years ended December 31, 2011 and 2012 was approximately 2.1% during both years. A 1.0% increase in each of the average LIBOR rate and federal funds rate in 2012 would have resulted in an estimated \$3 million increase in interest expense for the year ended December 31, 2012.



At December 31, 2012, we had no interest rate swaps outstanding. From time to time in the past, we have entered into variable to fixed interest rate swap agreements which hedge our exposure to interest rate variations on our variable rate debt.

### ***Counterparty and Customer Credit Risk***

Our principal exposures to credit risk are through receivables resulting from commodity derivatives contracts (\$532 million at December 31, 2012), joint interest receivables (\$6 million at December 31, 2012) and the sale of our natural gas production (\$47 million in receivables at December 31, 2012), which we market to energy marketing companies, refineries and affiliates.

By using derivative instruments that are not traded on an exchange to hedge exposures to changes in commodity prices, we expose ourselves to the credit risk of our counterparties. Credit risk is the potential failure of the counterparty to perform under the terms of the derivative contract. When the fair value of a derivative contract is positive, the counterparty is expected to owe us cash, which creates credit risk. To minimize the credit risk in derivative instruments, it is our policy to enter into derivative contracts only with counterparties that are creditworthy financial institutions deemed by management as competent and competitive market makers. The creditworthiness of our counterparties is subject to periodic review. We have economic hedges in place with ten different counterparties; all but one are lenders in our Credit Facility. The fair value of our commodity derivative contracts of approximately \$532 million at December 31, 2012 includes the following values by bank counterparty: JP Morgan—\$94 million; BNP Paribas—\$124 million; Credit Suisse—\$150 million; Wells Fargo—\$86 million; Barclays—\$57 million; Deutsche Bank—\$11 million; and Union Bank—\$4 million. Additionally, contracts with Dominion Field Services account for \$6 million of the fair value. The credit ratings of certain of these banks were downgraded in 2011 because of the sovereign debt crisis in Europe. The estimated fair value of our commodity derivative assets has been risk adjusted using a discount rate based upon the respective published credit default swap rates at December 31, 2012 for each of the European and American banks. We believe that all of these institutions currently are acceptable credit risks. We are not required to provide credit support or collateral to any of our counterparties under current contracts, nor are they required to provide credit support to us. As of December 31, 2012, we have no past due receivables from or payables to any of our counterparties.

Joint interest receivables arise from billing entities who own partial interest in the wells we operate. These entities participate in our wells primarily based on their ownership in leases on which we wish to drill. We can do very little to choose who participates in our wells.

We are also subject to credit risk due to concentration of our natural gas receivables with several significant customers. We do not require our customers to post collateral. The inability or failure of our significant customers to meet their obligations to us or their insolvency or liquidation may adversely affect our financial results.

**BUSINESS AND PROPERTIES****Our Company**

Antero Resources is an independent oil and natural gas company engaged in the exploration, development and acquisition of natural gas, NGLs, and oil properties located in the Appalachian Basin. We focus on unconventional reservoirs, which can generally be characterized as fractured shale formations. As of December 31, 2012, we held approximately 371,000 net acres of rich gas and dry gas properties located in the Appalachian Basin in West Virginia, Ohio and Pennsylvania. Our corporate headquarters are in Denver, Colorado.

The following table provides a summary of selected operating data of our Appalachian Basin natural gas, NGL, and oil assets as of the date and for the period indicated.

	At December 31, 2012					Three months ended December 31, 2012
	Proved reserves (Bcfe)(1)	PV-10 (in millions)(2)	Net proved developed wells(3)	Total net acres(4)	Gross potential drilling locations(5)	Average net daily production (MMcfe/d)
<b>Appalachian Basin:</b>						
Marcellus Shale	4,796	\$ 1,766	122	294,000	3,046	311
Upper Devonian	10	\$ 9	2	—	1,250	4
Utica Shale	123	\$ 148	2	77,000	627	1
<b>Total</b>	<b>4,929</b>	<b>\$ 1,923</b>	<b>126</b>	<b>371,000</b>	<b>4,923</b>	<b>316</b>

- (1) Estimated proved reserve volumes and values were calculated using the unweighted twelve-month average of the first-day-of-the-month reference prices for the period ended December 31, 2012, which were \$2.78 per Mcf for natural gas, \$19.61 per bbl for NGLs and \$95.05 per bbl for oil.
- (2) PV-10 is a non-GAAP financial measure. For a reconciliation of PV-10 to the standardized measure, please see "Our Operations—Estimated Proved Reserves."
- (3) Does not include 256 gross (224 net) shallow vertical wells that were acquired in conjunction with leasehold acreage acquisitions.
- (4) Net acres allocable to the Upper Devonian are included in the net acres allocated to the Marcellus Shale because the Upper Devonian and the Marcellus Shale are multi-horizon shale formations attributable to the same leases.
- (5) See "Risk Factors" for risks and uncertainties related to developing our potential well locations.

Our management team has worked together for many years and has a successful track record of reserve and production growth as well as significant expertise in unconventional resource plays. Our strategy is to leverage our team's experience delineating and developing natural gas resource plays to profitably grow our reserves and production, primarily on our existing multi-year project inventory.

We have assembled a portfolio of long-lived properties that are characterized by what we believe to be low geologic risk and repeatability. Our drilling opportunities are focused in the Marcellus Shale and Utica Shale of the Appalachian Basin. We have drilled and operated 520 wells from inception through December 31, 2012, with a success rate of approximately 98%. We have a multi-year drilling inventory and have approximately 4,900 potential well locations on our existing leasehold acreage, both proven and unproven.

We believe we have secured sufficient long-term firm takeaway capacity on major pipelines that are in existence or currently under construction in each of our core operating areas to accommodate our existing production.

We operate in one industry segment, which is the exploration, development and production of natural gas, NGLs, and oil, and all of our operations are conducted in the United States. Our gathering assets are primarily dedicated to supporting the natural gas volumes we produce.

## **2012 Developments and Highlights**

### ***Redeployment of Capital Resources to Appalachian Basin***

We sold our Arkoma Basin assets in June 2012 and our Piceance Basin assets in December 2012 for total consideration of approximately \$844 million of cash proceeds, which was used to pay down our borrowings under our senior secured revolving credit facility (our "Credit Facility"). Ultimately, the capital from the sales of these properties has been or will be invested in our Appalachian Basin properties in the Marcellus and Utica Shale plays, where we believe we can achieve more favorable risked rates of return than were obtained in the Arkoma and Piceance Basins. We are experiencing stronger well performance in the Appalachian Basin and better pricing because of the closer proximity of the Appalachian Basin to high density population centers and the related high demand for natural gas. Additionally, much of our projected Appalachian Basin production is liquids rich, high-BTU content gas that we expect will yield higher prices, particularly after the rich gas is processed to yield NGLs.

During 2012, we grew our Appalachian Basin proved reserves by 2,085 Bcfe, or 73%, and have replaced approximately the same quantity of reserves divested in 2012. During 2012, we drilled 64 horizontal wells in the Marcellus and Utica Shales, all of which were successful. We have also added significantly to our Appalachian Basin acreage position through the acquisition of approximately 157,000 acres during 2012, including a significant position in the Utica Shale play in Ohio. Our 2012 year-end acreage position in the Appalachian Basin was approximately 371,000 net acres, and we had a multi-year inventory of approximately 4,900 potential drilling locations in the Marcellus and Utica Shale plays at that date.

During 2012, we also sold a portion of our Marcellus Shale gathering system assets, along with exclusive rights to gather and compress our natural gas for a 20-year period within an area of dedication to a third-party midstream provider, for \$376 million. We are committed to deliver minimum annual volumes into the gathering systems, with certain carryback and carryforward adjustments for overages or deficiencies. The third-party midstream provider is obligated to incur all future capital costs to build out gathering systems and compression facilities within the area of dedication. We reinvested the proceeds from the transaction into development drilling and land acquisition.

In connection with the redeployment of capital resources to the Appalachian Basin, we also streamlined our operating and capital structure by transferring the ownership of our Arkoma, Piceance, and Pipeline operating subsidiaries to Antero Resources Appalachian Corporation, which will be our primary employer and operating company going forward. We believe this simpler structure will provide both greater operating efficiencies and increased transparency to capital and credit markets as we finance our expanding capital budgets.

Our financial statements included elsewhere herein have been recast to show the results of the Arkoma Basin and Piceance Basin operations for all periods presented in discontinued operations.

### ***Reserves, Production, and Financial Results***

As of December 31, 2012, our estimated proved reserves were 4.9 Tcfe, consisting of 3.7 Tcf of natural gas, 203 MMBbl of NGLs and 3 MMBbl of oil. As of December 31, 2012, 75% of our

estimated proved reserves by volume were natural gas and 21% were proved developed. From December 31, 2007 through December 31, 2012, we have increased our estimated proved reserves at a compounded annual growth rate of 84%, while our net production has increased over the three-year period ended December 31, 2012 at a compounded annual growth rate of 47% to an estimated 334 MMcfe/d in 2012 (including both continuing and discontinued operations). Our net production averaged an estimated 368 MMcfe/d in the fourth quarter of 2012 (including 47 MMcfe/d attributable to our Piceance Basin properties that were sold in mid-December 2012).

For the year ended December 31, 2012, we generated cash flow from operations of \$332 million, a net loss of \$285 million and EBITDAX of \$434 million. The net loss in 2012 includes, (i) a pre-tax loss of \$796 million on the sale of the Arkoma and Piceance Basin properties, (ii) deferred tax benefit related to the loss on the sale of the Arkoma and Piceance properties and discontinued operations of \$273 million, (iii) a pre-tax gain on the sale of certain Appalachian gathering systems of \$291 million, and (iv) a noncash tax provision related to continuing operations of \$121 million. In contrast, for the year ended December 31, 2011, we generated cash flow from operations of \$266 million, net income of \$393 million, and EBITDAX of \$341 million. See "Selected Historical Consolidated Financial Data" for a definition of EBITDAX (a non-GAAP measure) and a reconciliation of EBITDAX to net income (loss).

### ***Hedge Position***

As of December 31, 2012, we had entered into hedging contracts covering a total of approximately 757 Bcfe of our projected natural gas and oil production from January 1, 2013 through December 31, 2018 at a weighted average index price of \$4.88 per MMBtu. For the year ending December 31, 2013, we have hedged approximately 115 Bcfe of our projected natural gas and oil production at a weighted average index price of \$4.93 per MMBtu. We believe this hedge position provides us with protection to future cash flows to support our operations and capital spending plans for 2013.

### ***Credit Facility Availability***

Our current borrowing base under the Credit Facility is \$1.22 billion and lender commitments are \$700 million. Lender commitments under the Credit Facility can be expanded from \$700 million to the full \$1.22 billion borrowing base upon bank approval. The borrowing base under the Credit Facility is redetermined semi-annually and is based on the estimated future cash flows from our proved natural gas, NGL, and oil reserves and our hedge positions. The next redetermination is scheduled to occur in May 2013. The Credit Facility provides for a maximum availability of \$2.5 billion. At December 31, 2012, we had \$260 million of borrowings and letters of credit outstanding under the Credit Facility and \$440 million of available borrowing capacity, based on \$700 million of lender commitments at that date. Pro forma for the issuance of \$225 million of 6.00% senior notes due 2020 subsequent to year-end, we would have had \$657 million of available borrowing capacity at December 31, 2012. The Credit Facility matures in May 2016. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Debt Agreements and Contractual Obligations—Senior Secured Revolving Credit Facility" for a description of the Credit Facility agreement.

### ***Senior Notes Issuance***

On November 19, 2012, we issued \$300 million of 6.00% senior notes due December 2020 at par. On February 4, 2013, we issued an additional \$225 million of the 6.00% senior notes at 103% of par. We used the proceeds to pay down amounts outstanding under the Credit Facility, for development of our properties, and for general corporate purposes.

### ***2012 Capital Spending and 2013 Capital Budget***

For the year ended December 31, 2012, our capital expenditures were approximately \$1.69 billion for drilling, leasehold, and gathering. Our capital budget for 2013 is \$1.65 billion, including \$1.15 billion for drilling and completion, \$350 million for the construction of gathering pipelines and facilities in the Appalachian Basin (including \$150 million for water-handling infrastructure, primarily in the Marcellus Shale) and \$150 million for leasehold. We do not budget for acquisitions. Substantially all of the \$1.15 billion allocated for drilling and completion is allocated to our operated drilling in rich gas areas. Approximately 87% of the drilling and completion budget is allocated to the Marcellus Shale, and the remaining 13% is allocated to the Utica Shale. During 2013, we plan to operate an average of 12 drilling rigs in the Marcellus Shale and 2 drilling rigs in the Utica Shale. Consistent with our historical practice, we periodically review our capital expenditures and adjust our budget and its allocation based on liquidity, drilling results, leasehold acquisition opportunities, and commodity prices.

### **Corporate Sponsorship**

We began operations in 2004 and the Company, as it exists today, was formed in October 2009. We have funded our development and operating activities primarily through equity capital raised from private equity sponsors and institutional investors, issuance of debt securities, sales of non-core assets, borrowings under our bank credit facilities, and operating cash flows. Our primary private equity sponsors are affiliates of Warburg Pincus, Yorktown Energy Partners and Trilantic Capital Partners.

### **Address, Internet Website and Availability of Public Filings**

Our principal executive offices are located at 1625 17th Street, Denver, Colorado 80202 and our telephone number is (303) 357-7310. Our website is located at <http://www.anteroresources.com>.

We make available our Annual Reports on Form 10-K and our Quarterly Reports on Form 10-Q. These documents are located on our website at <http://www.anteroresources.com>—by selecting the "Investor Info" link and then selecting the "SEC Filings" link.

The above information is available to anyone who requests it and is free of charge either in print from our website or upon request by contacting Chad Green, Finance Director, using the contact information listed above. Information on our website is not incorporated into this prospectus or our other securities filings and is not a part of them.

### **Our Operations**

#### ***Estimated Proved Reserves***

The information with respect to our estimated proved reserves presented below has been prepared in accordance with the rules and regulations of the Securities and Exchange Commission (the "SEC").

#### ***Reserves Presentation***

The following table summarizes our estimated proved reserves and related standardized measure and PV-10 at December 31, 2010, 2011 and 2012. Our estimated proved reserves as of December 31, 2012 are based on evaluations prepared by our internal reserve engineers, which have been audited by our independent engineers, DeGolyer and MacNaughton ("D&M"). Our estimated proved reserves as of December 31, 2011 were based on evaluations prepared by our internal reserve engineers, which were audited by D&M and Ryder Scott & Company ("Ryder Scott"). Over 99% of our estimated proved reserves as of December 31, 2010 were prepared by D&M or Ryder Scott. We refer to these firms collectively as our independent engineers. Copies of the summary reports of D&M with respect to

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our reserves at December 31, 2012 are filed as Exhibits 99.1 and 99.2, respectively, to this prospectus. The information in the following table does not give any effect to or reflect our commodity hedges.

	At December 31,		
	2010	2011	2012
Estimated proved reserves:			
Proved developed reserves:			
Natural gas (Bcf)	400	718	828
NGLs (MMBbl)	9	19	36
Oil (MMBbl)	1	2	1
Total equivalent proved developed reserves (Bcfe)	457	844	1,047
Proved undeveloped reserves:			
Natural gas (Bcf)	2,143	3,213	2,866
NGLs (MMBbl)	95	145	167
Oil (MMBbl)	9	15	2
Total equivalent proved undeveloped reserves (Bcfe)	2,774	4,173	3,882
Total estimated proved reserves (Bcfe)	3,231	5,017	4,929
Proved developed producing (Bcfe)	416	804	935
Proved developed non-producing (Bcfe)	41	40	112
Percent developed	14%	17%	21%
PV-10 (in millions)(1)	\$ 1,466	\$ 3,445	\$ 1,923
Standardized measure (in millions)(1)	\$ 1,097	\$ 2,470	\$ 1,601

- (1) PV-10 was prepared using average yearly prices computed using SEC rules, discounted at 10% per annum, without giving effect to taxes. PV-10 is a non-GAAP financial measure. We believe that the presentation of PV-10 is relevant and useful to our investors as supplemental disclosure to the standardized measure of future net cash flows, or after tax amount, because it presents the discounted future net cash flows attributable to our proved reserves prior to taking into account future corporate income taxes and our current tax structure. While the standardized measure is dependent on the unique tax situation of each company, PV-10 is based on a pricing methodology and discount factors that are consistent for all companies. Because of this, PV-10 can be used within the industry and by creditors and securities analysts to evaluate estimated net cash flows from proved reserves on a more comparable basis. The difference between the standardized measure and the PV-10 amount is the discounted estimated future income tax. For more information about the calculation of standardized measure, see footnote 16 to our consolidated financial statements included in elsewhere in this prospectus.

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The following table sets forth the estimated future net cash flows from our proved reserves (without giving effect to our commodity hedges), the present value of those net cash flows before income tax (PV-10), the present value of those net cash flows after income tax (standardized measure) and the prices used in projecting future net cash flows at December 31, 2010, 2011 and 2012:

<u>(In millions, except per Mcf data)</u>	<u>At December 31,</u>		
	<u>2010(1)</u>	<u>2011(2)</u>	<u>2012(3)</u>
Future net cash flows	\$ 5,990	\$ 11,470	\$ 7,221
Present value of future net cash flows:			
Before income tax (PV-10)	\$ 1,466	\$ 3,445	\$ 1,923
Income taxes	\$ (369)	(975)	(322)
After income tax (Standardized measure)	\$ 1,097	\$ 2,470	\$ 1,601

- (1) 12-month average prices used at December 31, 2010 were \$4.18 per Mcf for the Arkoma Basin, \$3.93 per Mcf for the Piceance Basin and \$4.51 per Mcf for the Appalachian Basin.
- (2) 12-month average prices used at December 31, 2011 were \$3.90 per Mcf for the Arkoma Basin, \$3.84 per Mcf for the Piceance Basin and \$4.16 per Mcf for the Appalachian Basin.
- (3) 12-month average prices used at December 31, 2012 were \$2.78 per Mcf for natural gas, \$19.61 per bbl for NGLs, and \$95.05 per bbl for oil (all reserves in Appalachian Basin).

Future net cash flows represent projected revenues from the sale of proved reserves net of production and development costs (including operating expenses and production taxes). Prices for 2010, 2011, and 2012 were based on 12-month unweighted average of the first-day-of-the-month pricing, without escalation. Costs are based on costs in effect for the applicable year without escalation. There can be no assurance that the proved reserves will be produced as estimated or that the prices and costs will remain constant. There are numerous uncertainties inherent in estimating reserves and related information and different reservoir engineers often arrive at different estimates for the same properties.

*Changes in Proved Reserves During 2012*

The following table summarizes the changes in our estimated proved reserves during 2012 (in Bcfe):

<b>Proved reserves, December 31, 2011</b>	5,017
Extensions, discoveries, and other additions	1,951
Price and performance revisions	222
Sales of reserves in place(1)	(2,174)
Production	(87)
<b>Proved reserves, December 31, 2012</b>	<u>4,929</u>

- (1) Includes 2012 production from Arkoma and Piceance Basins of 35 Bcfe.

Extensions, discoveries, and other additions during 2012 of 1,951 Bcfe were added through the drillbit in the Marcellus and Utica Shales, including the addition of 709 Bcfe attributable to NGLs and oil. Downward price revisions resulted in a reduction of proved reserves of 102 Bcfe and performance revisions increased proved reserves by 324 Bcfe. Sales of proved reserves of 2,174 Bcfe resulted from the sale of our Arkoma and Piceance Basin properties. Our estimated proved reserves as of December 31, 2012 totaled approximately 4.9 Tcfe. Our proved developed reserves increased year over year by 24% to 1,047 Bcfe at December 31, 2012.

[Table of Contents](#)*Proved Undeveloped Reserves*

Proved undeveloped reserves are included in the previous table of total proved reserves. The following table summarizes the changes in our estimated proved undeveloped reserves during 2012 (in Bcfe):

<b>Proved undeveloped reserves, December 31, 2011</b>	4,173
Extensions, discoveries, and other additions	1,692
Price and performance revisions	(233)
Sales of reserves in place	(1,750)
<b>Proved undeveloped reserves, December 31, 2012</b>	<b>3,882</b>

Extensions, discoveries, and other additions during 2012 of 1,692 Bcfe proved undeveloped reserves were added through the drillbit in the Marcellus and Utica Shales, including the addition of 613 Bcfe attributable to NGLs and oil. Downward price revisions resulted in a reduction of proved undeveloped reserves by 95 Bcfe and performance revisions reduced proved undeveloped reserves by 138 Bcfe. Sales of proved undeveloped reserves of 1,750 Bcfe resulted from the sale of our Arkoma and Piceance Basin properties. Our estimated proved undeveloped reserves as of December 31, 2012 totaled approximately 3.9 Tcfe.

During the year ended December 31, 2012, we converted our beginning Appalachian Basin proved undeveloped reserves to proved developed reserves at a rate of 13%. The Company incurred costs of approximately \$396 million in 2012 to develop proved undeveloped reserves. Estimated future development costs relating to the development of our proved undeveloped reserves at December 31, 2012 are approximately \$3.3 billion over the next five years, which we expect to finance through cash flow from operations, borrowings under our Credit Facility, sales of non-core assets, and other sources of capital financing. Our drilling programs to date have focused on proving our undeveloped leasehold acreage through delineation drilling. While we will continue to drill leasehold delineation wells and build on our current leasehold position, we will also focus on drilling our proved undeveloped reserves. All of our proved undeveloped reserves are expected to be developed over the next five years. See "Risk Factors—Risks Relating to Our Business—The development of our estimated proved undeveloped reserves may take longer and may require higher levels of capital expenditures than we currently anticipate. Therefore, our estimated proved undeveloped reserves may not be ultimately developed or produced."

*Preparation of Reserve Estimates*

Our proved reserve estimates as of December 31, 2012 included in this prospectus were prepared by our internal reserve engineers in accordance with generally accepted petroleum engineering and evaluation principles and definitions and guidelines established by the SEC. The internally prepared reserve estimates were audited by our independent reserve engineers. Our independent reserve engineers were selected for their historical experience and geographic expertise in engineering unconventional resources. The technical persons responsible for overseeing the audit of our reserve estimates presented herein meet the requirements regarding qualifications, independence, objectivity and confidentiality set forth in the Standards Pertaining to the Estimating and Auditing of Oil and Gas Reserves Information promulgated by the Society of Petroleum Engineers.

Our internal staff of petroleum engineers and geoscience professionals work closely with our independent engineers to ensure the integrity, accuracy and timeliness of data furnished to our independent engineers in their reserve auditing process. Periodically, our technical team meets with the independent engineers to review properties and discuss methods and assumptions used by us to prepare reserve estimates. Our internally prepared reserve estimates and related reports are reviewed and approved by our Vice President of Reserves, Planning & Midstream, Ward McNeilly, and our Vice



President of Production, Kevin J. Kilstrom. Mr. McNeilly has been with the Company since October 2010. Mr. McNeilly has 34 years of experience in oil and gas operations, reservoir management, and strategic planning. From 2007 to October 2010 Mr. McNeilly was the Operations Manager for BHP Billiton's Gulf of Mexico operations. From 1996 through 2007, Mr. McNeilly served in various North Sea and Gulf of Mexico Deepwater operations and asset management positions with Amoco and then BP. From 1979 through 1996 Mr. McNeilly served in various domestic and international operations and reservoir and asset management positions with Amoco. Mr. McNeilly holds a B.S. in Geological Engineering from the Mackay School of Mines at the University of Nevada.

Mr. Kilstrom has served as Vice President of Production since June 2007. Mr. Kilstrom was a Manager of Petroleum Engineering with AGL Energy of Sydney, Australia from 2006 to 2007. Prior to AGL, Mr. Kilstrom was with Marathon Oil as an Engineering Consultant and Asset Manager from 2003 to 2007 and as a Business Unit Manager for Marathon's Powder River coal bed methane assets from 2001 to 2003. Mr. Kilstrom also served as a member of the board of directors of three Marathon subsidiaries from October 2003 through May 2005. Mr. Kilstrom was an Operations Manager and reserve engineer at Pennaco Energy from 1999 to 2001. Mr. Kilstrom was at Amoco for more than 22 years prior to 1999 where he served in various operating roles with a focus on unconventional resources. Mr. Kilstrom holds a B.S. in Engineering from Iowa State University and an M.B.A. from DePaul University. Our senior management also reviews our reserve estimates and related reports with Mr. McNeilly and Mr. Kilstrom and other members of our technical staff. Additionally, our senior management reviews and approves any internally estimated significant changes to our proved reserves on a quarterly basis.

Proved reserves are those quantities of oil, natural gas, and NGLs which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations. The term "reasonable certainty" implies a high degree of confidence that the quantities of oil and/or natural gas actually recovered will equal or exceed the estimate. To achieve reasonable certainty, we and the independent engineers employed technologies that have been demonstrated to yield results with consistency and repeatability. The technologies and economic data used in the estimation of our proved reserves include, but are not limited to, well logs, geologic maps and available downhole and production data, seismic data, and well test data.

### ***Production, Revenues and Price History***

Natural gas, NGLs, and oil are commodities; therefore, the price that we receive for our production is largely a function of market supply and demand. While demand for natural gas in the United States has increased dramatically since 2000, natural gas and NGL supplies have also increased significantly as a result of horizontal drilling and fracture stimulation technologies which have been used to find and recover large amounts of oil and gas from various shale formations throughout the United States. Demand is impacted by general economic conditions, weather and other seasonal conditions. Over or under supply of natural gas can result in substantial price volatility. Historically, commodity prices have been volatile, and we expect that volatility to continue in the future. A substantial or extended decline in gas prices or poor drilling results could have a material adverse effect on our financial position, results of operations, cash flows, quantities of gas reserves that may be economically produced and our ability to access capital markets. See "Risk Factors—Risks Relating to Our Business—Natural gas prices are volatile. A substantial or extended decline in natural gas prices may adversely affect our business, financial condition or results of operations and our ability to meet our capital expenditure obligations and financial commitments."

The following table sets forth information regarding our production, our revenues and realized prices, and production costs from continuing operations in the Appalachian Basin for the years ended

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December 31, 2010, 2011, and 2012. For additional information on price calculations, see information set forth in "Management's Discussion and Analysis of Financial Condition and Results of Operations."

**Continuing Operations Data—Appalachian Basin**

	Year Ended December 31,		
	2010	2011	2012
<b>Production data:</b>			
Natural gas (Bcf):	11	45	87
NGLs (MBbl):	—	—	71
Oil (MBbl):	—	2	19
Total combined production (Bcfe)	11	45	87
Average daily combined production (MMcfe/d)	30	124	239
Gas and oil production revenues (in millions)	\$ 47	\$ 195	\$ 265
<b>Average prices:</b>			
Natural gas (per Mcf)	\$ 4.39	\$ 4.33	\$ 2.99
NGLs (per Bbl)	\$ —	\$ —	\$ 52.09
Oil (per Bbl)	\$ —	\$ 97.19	\$ 80.34
Combined average prices before effects of hedges (per Mcfe)(1)	\$ 4.39	\$ 4.33	\$ 3.03
Combined realized prices after-effects of hedges (per Mcfe)(1)	\$ 5.78	\$ 5.44	\$ 5.08
<b>Average costs per Mcfe:</b>			
Lease operating costs	\$ 0.11	\$ 0.10	\$ 0.07
Gathering, compression and transportation	\$ 0.85	\$ 0.83	\$ 1.04
Production taxes	\$ 0.27	\$ 0.26	\$ 0.23
Depreciation, depletion, amortization and accretion	\$ 1.71	\$ 1.24	\$ 1.17
General and administrative	\$ 2.03	\$ 0.74	\$ 0.52

- (1) Average prices shown reflect both of the before-and-after effects of our realized commodity hedging transactions. Our calculation of such effects includes realized gains or losses on cash settlements for commodity derivatives, which do not qualify for hedge accounting because we do not designate them as hedges.

**Discontinued Operations Data- Arkoma and Piceance Basins**

The table above does not include the following production or revenue from discontinued operations from the Arkoma and Piceance Basin properties which were sold in 2012:

Production (combined Bcfe)	36	44	35
Gas, NGL and oil production revenues (in millions)	\$ 159	\$ 197	\$ 125

See footnote 3 to the consolidated financial statements included elsewhere in this prospectus.

**Productive Wells**

As of December 31, 2012, we had a total of 381 gross (341 net) producing wells, averaging an 88% working interest. This well count includes 256 gross and 224 net shallow vertical wells that were acquired in conjunction with leasehold acreage acquisitions. Our wells are gas wells, many of which also produce oil, condensate and NGLs. We do not have interests in any wells that only produce oil or NGLs.

**Acreage**

The following table sets forth certain information regarding the total developed and undeveloped acreage in which we owned an interest as of December 31, 2012. A majority of our developed acreage is subject to liens securing our Credit Facility. Approximately 55% of our Marcellus acreage and 23% of our Utica acreage is held by production. Acreage related to royalty, overriding royalty and other similar interests is excluded from this table.

Basin	Developed Acres		Undeveloped Acres		Total Acres	
	Gross	Net	Gross	Net	Gross	Net
Marcellus	20,078	19,740	366,376	274,035	386,454	293,775
Utica	1,645	1,272	91,963	75,540	93,608	76,812
Other	—	—	6,609	6,599	6,609	6,599
Total	21,723	21,012	464,948	356,174	486,671	377,186

**Undeveloped Acreage Expirations**

The following table sets forth the number of total gross and net undeveloped acres as of December 31, 2012 that will expire over the next three years unless production is established within the spacing units covering the acreage prior to the expiration dates or unless such acreage is extended or renewed.

	Gross	Net
2013	16,618	10,023
2014	9,151	5,624
2015	30,374	19,408

**Drilling Activity**

The following table summarizes our drilling activity for the years ended December 31, 2010, 2011 and 2012. Gross wells reflect the sum of all wells in which we own an interest and includes historical drilling activity in the Appalachian, Arkoma, and Piceance Basins. Net wells reflect the sum of our working interests in gross wells.

	Year Ended December 31,					
	2010		2011		2012	
	Gross	Net	Gross	Net	Gross	Net
<b>Development wells:</b>						
Productive	128	24	135	65	106	91
Dry	—	—	—	—	—	—
Total development wells	128	24	135	65	106	91
<b>Exploratory wells:</b>						
Productive	56	22	74	30	22	17
Dry	11	5	—	—	—	—
Total exploratory wells	67	27	74	30	22	17

**Our Core Operating Area—Appalachian Basin—Marcellus and Utica Shales**

Our properties in the Appalachian Basin are located in northern West Virginia, southeastern Ohio, and southeastern Pennsylvania. As of December 31, 2012, we had approximately 371,000 net leasehold

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acres in the Appalachian Basin containing rights to the Marcellus Shale and the Utica Shale, 48% of which was held by production. For the year ended December 31, 2012, we had 239 MMcf/d of average net daily production from the Appalachian Basin.

As of December 31, 2012, we had a total of 381 gross (341 net) producing wells in the area. This well count includes 256 gross and 224 net shallow vertical wells that were acquired in conjunction with leasehold acreage acquisitions. From March 2009, when we drilled our first well in the Appalachian Basin, through December 31, 2012, we have completed a total of 125 gross (118 net) horizontal wells and 1 gross (1 net) vertical well in the area. We completed 64 gross (60 net) horizontal wells in 2012. We have an additional 40 gross (39 net) wells drilling or waiting on completion as of December 31, 2012. As of mid-March 2013, we have 13 drilling rigs operating in the Appalachian Basin. In addition to the 13 rigs, we employ 2 small drilling rigs to drill certain wells to the horizontal kickoff point. As of December 31, 2012, we had approximately 4,900 gross undrilled horizontal well locations in the basin.

In October 2012, the MarkWest operated Sherwood I facility, with an Antero contracted capacity of 200 MMcf/d, commenced operations in the Marcellus Shale. We have contracted for an additional 200 MMcf/d at the Sherwood II, processing plant, which is currently under construction and is expected to be operational in the second quarter of 2013. We have also contracted for 200 MMcf/d at the Sherwood III, processing plant, which is expected to be operational in the fourth quarter of 2013. We have a total of 550 MMcf/d of contracted capacity in the Sherwood I, II and III processing facilities. We have further committed to capacity in a fourth 200 MMcf/d processing plant, Sherwood IV, which could be operational during the second quarter of 2014, contingent on the timing of the final decision to install the fourth plant. In addition, we have contracted capacity at the Seneca I processing plant in the Utica Shale. The Seneca I processing plant will have a capacity of 200 MMcf/d and is expected to be operational in the fourth quarter of 2013. We will have a total of 150 MMcf/d of contracted capacity in the Seneca I processing facility. We expect to have 50 MMcf/d of interim processing capacity in MarkWest's Cadiz processing facility beginning late in the second quarter of 2013. We have secured 905,000 MMBtu/d of long-haul firm transportation or firm sales capacity with various entities, including 460,000 MMBtu/d of back-haul firm transportation to the Gulf Coast. We have also committed to 20,000 Bbl/d of ethane takeaway capacity on the Enterprise ATEX pipeline to Mont Belvieu, which we expect to go into service in early 2014. We continue to actively identify and evaluate additional processing and takeaway capacity to enhance the value of both our Marcellus and Utica Shale positions.

### ***Gathering Systems***

As of December 31, 2012, we owned and operated approximately 54 miles of gathering pipelines and two compressor stations in West Virginia and Pennsylvania to support our drilling activities in the Marcellus Shale play. During 2012, we sold 33 miles of gathering lines and entered into a contract with a third party to provide gas gathering and compression services for a significant part of our Marcellus Shale production. Eight additional compressor stations, which are owned and operated by third parties, are connected to the gathering systems and provide compression and dehydration services on a fixed fee basis. At year end 2012, we had approximately 28 miles of Antero-owned gathering lines and two compressor stations under construction to support our planned 2013 drilling activities.

### **Takeaway Capacity**

We have contracted for firm transportation for approximately 564,000 MMBtu per day on the Columbia Gas Transmission Pipeline and 460,000 MMBtu per day on the Columbia Gulf Pipeline. The contracts begin from various dates from 2009 through November 1, 2014. Columbia Pipeline contracts for 10,000 MMBtu per day expire in 2013; the remainder of the commitments expire at various dates from 2017 through 2025. We also have firm transportation on the Equitrans pipeline for 50,000 MMBtu per day for a ten-year term, which began on August 1, 2012. We have firm transportation on the M3

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Appalachia Gathering system for 100 MMBtu per day beginning with the in-service date of the system (projected to be May 1, 2013). We also have 3,500 MMBtu per day of firm transportation capacity on the Dominion Transmission Gateway expansion project for a term of 10 years from the initial in-service date of September 2012. In addition to the firm transportation that we control, we also have term firm sales commitments to third parties who hold firm capacity on downstream interstate pipelines, or will utilize our firm transportation, for approximately 250,000 MMBtu per day. Of the 250,000 MMBtu per day of firm sales, 100,000 MMBtu per day utilizes our firm transportation capacity. In December 2011, we entered into an agreement for firm transportation of 20,000 Bbl/d of ethane on the Enterprise Products Partners L.P. ATEX pipeline from Appalachia to Mont Belvieu, Texas. The pipeline is expected to be in service in the first quarter of 2014.

We market the majority of the natural gas production from properties we operate for both our account and the account of the other working interest and royalty owners in these properties. We sell substantially all of our production to a variety of purchasers under short-term contracts or spot gas purchase contracts with terms ranging from one day to several months, all at market prices. We normally sell production to a relatively small number of customers, as is customary in the exploration, development and production business.

Based on the current demand for natural gas, NGLs, and oil and availability of other purchasers, we believe that the loss of any one or all of our major purchasers would not have a material adverse effect on our financial condition and results of operations. See "Note 2(o)—Concentrations of Credit Risk" in our consolidated financial statements for the years ended December 31, 2010, 2011 and 2012 included elsewhere in this prospectus.

### **Title to Properties**

We believe that we have satisfactory title to all of our producing properties in accordance with generally accepted industry standards. As is customary in the industry, in the case of undeveloped properties, often cursory investigation of record title is made at the time of lease acquisition. Investigations are made before the consummation of an acquisition of producing properties and before commencement of drilling operations on undeveloped properties. Individual properties may be subject to burdens that we believe do not materially interfere with the use or affect the value of the properties. Burdens on properties may include:

- customary royalty interests;
- liens incident to operating agreements and for current taxes;
- obligations or duties under applicable laws;
- development obligations under natural gas leases; or
- net profits interests.

### **Seasonality**

Demand for natural gas generally decreases during the spring and fall months and increases during the summer and winter months. However, seasonal anomalies such as mild winters or mild summers sometimes lessen this fluctuation. In addition, certain natural gas users utilize natural gas storage facilities and purchase some of their anticipated winter requirements during the summer. This can also lessen seasonal demand fluctuations. These seasonal anomalies can increase competition for equipment, supplies and personnel during the spring and summer months, which could lead to shortages and increase costs or delay our operations.

## **Competition**

The oil and natural gas industry is intensely competitive, and we compete with other companies in our industry that have greater resources than we do. Many of these companies not only explore for and produce natural gas, but also carry on refining operations and market petroleum and other products on a regional, national or worldwide basis. These companies may be able to pay more for productive natural gas properties and exploratory prospects or define, evaluate, bid for and purchase a greater number of properties and prospects than our financial or human resources permit and may be able to expend greater resources to attract and maintain industry personnel. In addition, these companies may have a greater ability to continue exploration activities during periods of low natural gas market prices. Our larger competitors may be able to absorb the burden of existing, and any changes to, federal, state and local laws and regulations more easily than we can, which would adversely affect our competitive position. Our ability to acquire additional properties and to discover reserves in the future will be dependent upon our ability to evaluate and select suitable properties and to consummate transactions in a highly competitive environment. In addition, because we have fewer financial and human resources than many companies in our industry, we may be at a disadvantage in bidding for exploratory prospects and producing natural gas properties.

## **Regulation of the Natural Gas and Oil Industry**

Our operations are substantially affected by federal, state and local laws and regulations. In particular, natural gas production and related operations are, or have been, subject to price controls, taxes and numerous other laws and regulations. All of the jurisdictions in which we own or operate producing natural gas and oil properties have statutory provisions regulating the exploration for and production of natural gas and oil, including provisions related to permits for the drilling of wells, bonding requirements to drill or operate wells, the location of wells, the method of drilling and casing wells, the surface use and restoration of properties upon which wells are drilled, sourcing and disposal of water used in the drilling and completion process, and the abandonment of wells. Our operations are also subject to various conservation laws and regulations. These include the regulation of the size of drilling and spacing units or proration units, the number of wells which may be drilled in an area, and the unitization or pooling of crude oil or natural gas wells, as well as regulations that generally prohibit the venting or flaring of natural gas, and impose certain requirements regarding the ratability or fair apportionment of production from fields and individual wells.

Failure to comply with applicable laws and regulations can result in substantial penalties. The regulatory burden on the industry increases the cost of doing business and affects profitability. Although we believe we are in substantial compliance with all applicable laws and regulations, such laws and regulations are frequently amended or reinterpreted. Therefore, we are unable to predict the future costs or impact of compliance. Additional proposals and proceedings that affect the natural gas industry are regularly considered by Congress, the states, the Federal Energy Regulatory Commission ("FERC"), and the courts. We cannot predict when or whether any such proposals may become effective.

We believe we are in substantial compliance with currently applicable laws and regulations and that continued substantial compliance with existing requirements will not have a material adverse effect on our financial position, cash flows or results of operations. However, current regulatory requirements may change, currently unforeseen environmental incidents may occur or past non-compliance with environmental laws or regulations may be discovered.

### ***Regulation of Production of Natural Gas and Oil***

The production of natural gas and oil is subject to regulation under a wide range of local, state and federal statutes, rules, orders and regulations. Federal, state and local statutes and regulations

require permits for drilling operations, drilling bonds and reports concerning operations. All of the states in which we own and operate properties have regulations governing conservation matters, including provisions for the unitization or pooling of natural gas and oil properties, the establishment of maximum allowable rates of production from natural gas and oil wells, the regulation of well spacing or density, and plugging and abandonment of wells. The effect of these regulations is to limit the amount of natural gas and oil that we can produce from our wells and to limit the number of wells or the locations at which we can drill, although we can apply for exceptions to such regulations or to have reductions in well spacing or density. Moreover, each state generally imposes a production or severance tax with respect to the production and sale of oil, natural gas and natural gas liquids within its jurisdiction.

We own interests in properties located onshore in three U.S. states. These states regulate drilling and operating activities by requiring, among other things, permits for the drilling of wells, maintaining bonding requirements in order to drill or operate wells, and regulating the location of wells, the method of drilling and casing wells, the surface use and restoration of properties upon which wells are drilled and the plugging and abandonment of wells. The laws of these states also govern a number of environmental and conservation matters, including the handling and disposing or discharge of waste materials, the size of drilling and spacing units or proration units and the density of wells that may be drilled, unitization and pooling of oil and gas properties and establishment of maximum rates of production from oil and gas wells. Some states have the power to prorate production to the market demand for oil and gas.

The failure to comply with these rules and regulations can result in substantial penalties. Our competitors in the natural gas and oil industry are subject to the same regulatory requirements and restrictions that affect our operations.

### ***Regulation of Transportation and Sales of Natural Gas***

Historically, the transportation and sale for resale of natural gas in interstate commerce have been regulated by agencies of the U.S. federal government, primarily FERC. FERC regulates interstate natural gas transportation rates and service conditions, which affects the marketing of natural gas that we produce, as well as the revenues we receive for sales of our natural gas. Since 1985, FERC has endeavored to make natural gas transportation more accessible to natural gas buyers and sellers on an open and non-discriminatory basis. FERC has stated that open access policies are necessary to improve the competitive structure of the interstate natural gas pipeline industry and to create a regulatory framework that will put natural gas sellers into more direct contractual relations with natural gas buyers by, among other things, unbundling the sale of natural gas from the sale of transportation and storage services.

In the past, the federal government has regulated the prices at which natural gas could be sold. While sales by producers of natural gas can currently be made at uncontrolled market prices, Congress could reenact price controls in the future. Deregulation of wellhead natural gas sales began with the enactment of the Natural Gas Policy Act ("NGPA") and culminated in adoption of the Natural Gas Wellhead Decontrol Act which removed controls affecting wellhead sales of natural gas effective January 1, 1993. The transportation and sale for resale of natural gas in interstate commerce is regulated primarily under the Natural Gas Act ("NGA") and by regulations and orders promulgated under the NGA by FERC. In certain limited circumstances, intrastate transportation and wholesale sales of natural gas may also be affected directly or indirectly by laws enacted by Congress and by FERC regulations.

Beginning in 1992, FERC issued a series of orders to implement its open access policies. As a result, the interstate pipelines' traditional role as wholesalers of natural gas has been greatly reduced and replaced by a structure under which pipelines provide transportation and storage service on an

open access basis to others who buy and sell natural gas. Although FERC's orders do not directly regulate natural gas producers, they are intended to foster increased competition within all phases of the natural gas industry.

The Domenici Barton Energy Policy Act of 2005 ("EP Act of 2005") is a comprehensive compilation of tax incentives, authorized appropriations for grants and guaranteed loans, and significant changes to the statutory policy that affects all segments of the energy industry. Among other matters, the EP Act of 2005 amends the NGA to add an anti-market manipulation provision which makes it unlawful for any entity to engage in prohibited behavior to be prescribed by FERC, and furthermore provides FERC with additional civil penalty authority. The EP Act of 2005 provides FERC with the power to assess civil penalties of up to \$1,000,000 per day for violations of the NGA and increases FERC's civil penalty authority under the NGPA from \$5,000 per violation per day to \$1,000,000 per violation per day. The civil penalty provisions are applicable to entities that engage in the sale of natural gas for resale in interstate commerce. On January 19, 2006, FERC issued Order No. 670, a rule implementing the anti-market manipulation provision of the EP Act of 2005, and subsequently denied rehearing. The rules make it unlawful to: (1) in connection with the purchase or sale of natural gas subject to the jurisdiction of FERC, or the purchase or sale of transportation services subject to the jurisdiction of FERC, for any entity, directly or indirectly, to use or employ any device, scheme or artifice to defraud; (2) to make any untrue statement of material fact or omit to make any such statement necessary to make the statements made not misleading; or (3) to engage in any act or practice that operates as a fraud or deceit upon any person. The new anti-market manipulation rule does not apply to activities that relate only to intrastate or other non-jurisdictional sales or gathering, but does apply to activities of gas pipelines and storage companies that provide interstate services, as well as otherwise non-jurisdictional entities to the extent the activities are conducted "in connection with" gas sales, purchases or transportation subject to FERC jurisdiction, which now includes the annual reporting requirements under Order 704. The anti-market manipulation rule and enhanced civil penalty authority reflect an expansion of FERC's NGA enforcement authority.

On December 26, 2007, FERC issued Order 704, a final rule on the annual natural gas transaction reporting requirements, as amended by subsequent orders on rehearing. Under Order 704, wholesale buyers and sellers of more than 2.2 million MMBtus of physical natural gas in the previous calendar year, including natural gas gatherers and marketers, are now required to report, on May 1 of each year, aggregate volumes of natural gas purchased or sold at wholesale in the prior calendar year to the extent such transactions utilize, contribute to, or may contribute to the formation of price indices. It is the responsibility of the reporting entity to determine which individual transactions should be reported based on the guidance of Order 704. Order 704 also requires market participants to indicate whether they report prices to any index publishers, and if so, whether their reporting complies with FERC's policy statement on price reporting.

On November 20, 2008, FERC issued Order 720, a final rule on the daily scheduled flow and capacity posting requirements. Under Order 720, major non-interstate pipelines, defined as certain non-interstate pipelines delivering, on an annual basis, more than an average of 50 million MMBtus of gas over the previous three calendar years, are required to post daily certain information regarding the pipeline's capacity and scheduled flows for each receipt and delivery point that has a design capacity equal to or greater than 15,000 MMBtu per day and interstate pipelines are required to post information regarding the provision of no-notice service. In October 2011, Order 720, as clarified, was vacated by the Court of Appeals for the Fifth Circuit with respect to its application to non-interstate pipelines. In December 2011, the Fifth Circuit confirmed that Order 720, as clarified, remained applicable to interstate pipelines with respect to posting information regarding the provision of no-notice service.

We cannot accurately predict whether FERC's actions will achieve the goal of increasing competition in markets in which our natural gas is sold. Additional proposals and proceedings that



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might affect the natural gas industry are pending before FERC and the courts. The natural gas industry historically has been very heavily regulated. Therefore, we cannot provide any assurance that the less stringent regulatory approach recently established by FERC will continue. However, we do not believe that any action taken will affect us in a way that materially differs from the way it affects other natural gas producers.

Gathering service, which occurs upstream of jurisdictional transmission services, is regulated by the states onshore and in state waters. Although its policy is still in flux, FERC has reclassified certain jurisdictional transmission facilities as non-jurisdictional gathering facilities, which has the tendency to increase our costs of getting gas to point of sale locations. State regulation of natural gas gathering facilities generally include various safety, environmental and, in some circumstances, nondiscriminatory-take requirements. Although such regulation has not generally been affirmatively applied by state agencies, natural gas gathering may receive greater regulatory scrutiny in the future.

Section 1(b) of the NGA exempts natural gas gathering facilities from regulation by FERC as a natural gas company under the NGA. We believe that the natural gas pipelines in our gathering systems meet the traditional tests FERC has used to establish a pipeline's status as a gatherer not subject to regulation as a natural gas company. However, the distinction between FERC-regulated transmission services and federally unregulated gathering services is the subject of on-going litigation, so the classification and regulation of our gathering facilities are subject to change based on future determinations by FERC, the courts or Congress.

Our sales of natural gas are also subject to requirements under the Commodity Exchange Act ("CEA") and regulations promulgated thereunder by the Commodity Futures Trading Commission ("CFTC"). The CEA prohibits any person from manipulating or attempting to manipulate the price of any commodity in interstate commerce or futures on such commodity. The CEA also prohibits knowingly delivering or causing to be delivered false or misleading or knowingly inaccurate reports concerning market information or conditions that affect or tend to affect the price of a commodity.

Intrastate natural gas transportation is also subject to regulation by state regulatory agencies. The basis for intrastate regulation of natural gas transportation and the degree of regulatory oversight and scrutiny given to intrastate natural gas pipeline rates and services varies from state to state. Insofar as such regulation within a particular state will generally affect all intrastate natural gas shippers within the state on a comparable basis, we believe that the regulation of similarly situated intrastate natural gas transportation in any states in which we operate and ship natural gas on an intrastate basis will not affect our operations in any way that is of material difference from those of our competitors. Like the regulation of interstate transportation rates, the regulation of intrastate transportation rates affects the marketing of natural gas that we produce, as well as the revenues we receive for sales of our natural gas.

Changes in law and to FERC policies and regulations may adversely affect the availability and reliability of firm and/or interruptible transportation service on interstate pipelines, and we cannot predict what future action FERC will take. We do not believe, however, that any regulatory changes will affect us in a way that materially differs from the way they will affect other natural gas producers, gatherers and marketers with which we compete.

### **Regulation of Environmental and Occupational Safety and Health Matters**

Our natural gas and oil exploration and production operations are subject to numerous stringent federal, regional, state and local statutes and regulations governing occupational safety and health, the discharge of materials into the environment or otherwise relating to environmental protection, some of which carry substantial administrative, civil and criminal penalties for failure to comply. These laws and regulations may require the acquisition of a permit before drilling or other regulated activity commences, restrict the types, quantities and concentrations of various substances that can be released

into the environment in connection with drilling, production and transporting through pipelines, govern the sourcing and disposal of water used in the drilling and completion process, limit or prohibit drilling activities in certain areas and on certain lands lying within wilderness, wetlands, frontier and other protected areas, require some form of remedial action to prevent or mitigate pollution from former operations such as plugging abandoned wells or closing earthen pits, establish specific safety and health criteria addressing worker protection and impose substantial liabilities for pollution resulting from operations or failure to comply with regulatory filings. In addition, these laws and regulations may restrict the rate of production.

The following is a summary of the more significant existing environmental and occupational health and safety laws and regulations, as amended from time to time, to which our business operations are subject and for which compliance may have a material adverse impact on our capital expenditures, results of operations or financial position.

#### ***National Environmental Policy Act***

Natural gas and oil exploration and production activities on federal lands are subject to the National Environmental Policy Act (the "NEPA"). NEPA requires federal agencies, including the Departments of Interior and Agriculture, to evaluate major agency actions having the potential to significantly impact the environment. In the course of such evaluations, an agency prepares an Environmental Assessment to evaluate the potential direct, indirect and cumulative impacts of a proposed project. If impacts are considered significant, the agency will prepare a more detailed environmental impact study ("EIS") that is made available for public review and comment. All of our current exploration and production activities, as well as proposed exploration and development plans, on federal lands require governmental permits that are subject to the requirements of NEPA. This environmental impact assessment process has the potential to delay or limit, or increase the cost of, the development of natural gas and oil projects. Authorizations under NEPA also are subject to protest, appeal or litigation, which can delay or halt projects.

#### ***Hazardous Substances and Waste Handling***

The Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), also known as the "Superfund" law, and comparable state laws impose liability, without regard to fault or the legality of the original conduct, on certain classes of persons that are considered to have contributed to the release of a "hazardous substance" into the environment. These persons include the current and past owner or operator of the disposal site or the site where the release occurred and companies that disposed or arranged for the disposal of the hazardous substances at the site where the release occurred. Under CERCLA, such persons may be subject to joint and several strict liability for the costs of cleaning up the hazardous substances that have been released into the environment and for damages to natural resources, and it is not uncommon for neighboring landowners and other third parties to file claims for personal injury and property damage allegedly caused by the hazardous substances released into the environment. We are able to control directly the operation of only those wells with respect to which we act as operator. Notwithstanding our lack of direct control over wells operated by others, the failure of an operator other than us to comply with applicable environmental regulations may, in certain circumstances, be attributed to us. We generate materials in the course of our operations that may be regulated as hazardous substances but we are unaware of any liabilities for which we may be held responsible that would materially and adversely affect us.

The Resource Conservation and Recovery Act ("RCRA"), and analogous state laws, impose detailed requirements for the generation, handling, storage, treatment and disposal of nonhazardous and hazardous solid wastes. RCRA specifically excludes drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas or geothermal energy from regulation as hazardous wastes. However, these wastes may be regulated by

the U.S. Environmental Protection Agency ("EPA") or state agencies under RCRA's less stringent nonhazardous solid waste provisions, state laws or other federal laws. Moreover, it is possible that these particular oil and natural gas exploration, development and production wastes now classified as nonhazardous solid wastes could be classified as hazardous wastes in the future. A loss of the RCRA exclusion for drilling fluids, produced waters and related wastes could result in an increase in our costs to manage and dispose of generated wastes, which could have a material adverse effect on our results of operations and financial position. In addition, in the course of our operations, we generate some amounts of ordinary industrial wastes, such as paint wastes, waste solvents, laboratory wastes and waste compressor oils that are regulated as hazardous wastes. Although the costs of managing hazardous waste may be significant, we do not believe that our costs in this regard are materially more burdensome than those for similarly situated companies.

We currently own, lease, or operate numerous properties that have been used for oil and natural gas exploration and production activities for many years. Although we believe that we have utilized operating and waste disposal practices that were standard in the industry at the time, hazardous substances, wastes, or petroleum hydrocarbons may have been released on, under or from the properties owned or leased by us, or on, under or from other locations, including off-site locations, where such substances have been taken for recycling or disposal. In addition, some of our properties have been operated by third parties or by previous owners or operators whose treatment and disposal of hazardous substances, wastes, or petroleum hydrocarbons was not under our control. These properties and the substances disposed or released on, under or from them may be subject to CERCLA, RCRA and analogous state laws. Under such laws, we could be required to undertake response or corrective measures, which could include removal of previously disposed substances and wastes, cleanup of contaminated property or performance of remedial plugging or pit closure operations to prevent future contamination.

### ***Water Discharges***

The Federal Water Pollution Control Act (the "Clean Water Act"), and comparable state laws impose restrictions and strict controls regarding the discharge of pollutants, including produced waters and other oil and natural gas wastes, into federal and state waters. The discharge of pollutants into regulated waters is prohibited, except in accordance with the terms of a permit issued by the EPA or the state. The discharge of dredge and fill material in regulated waters, including wetlands, is also prohibited, unless authorized by a permit issued by the U.S. Army Corps of Engineers. Obtaining permits has the potential to delay the development of natural gas and oil projects. These laws and any implementing regulations provide for administrative, civil and criminal penalties for any unauthorized discharges of oil and other substances in reportable quantities and may impose substantial potential liability for the costs of removal, remediation and damages.

Pursuant to these laws and regulations, we may be required to obtain and maintain approvals or permits for the discharge of wastewater or storm water and are required to develop and implement spill prevention, control and countermeasure plans, also referred to as "SPCC plans," in connection with on-site storage of significant quantities of oil. We believe that we maintain all required discharge permits necessary to conduct our operations, and further believe we are in substantial compliance with the terms thereof. We are currently undertaking a review of recently acquired natural gas properties to determine the need for new or updated SPCC plans and, where necessary, we will be developing or upgrading such plans implementing the physical and operation controls imposed by these plans, the costs of which are not expected to be substantial.

### ***Air Emissions***

The federal Clean Air Act and comparable state laws restrict the emission of air pollutants from many sources, such as, for example, compressor stations, through air emissions standards, construction

and operating permitting programs and the imposition of other compliance requirements. These laws and regulations may require us to obtain pre-approval for the construction or modification of certain projects or facilities expected to produce or significantly increase air emissions, obtain and strictly comply with stringent air permit requirements or utilize specific equipment or technologies to control emissions of certain pollutants. The need to obtain permits has the potential to delay the development of oil and natural gas projects. Over the next several years, we may be required to incur certain capital expenditures for air pollution control equipment or other air emissions related issues. For example, on August 16, 2012, the EPA published final rules under the Clean Air Act that subject oil and natural gas production, processing, transmission and storage operations to regulation under the New Source Performance Standards, or NSPS, and National Emission Standards for Hazardous Air Pollutants, or NESHAP, programs. With regards to production activities, these final rules require, among other things, the reduction of volatile organic compound emissions from three subcategories of fractured and refractured gas wells for which well completion operations are conducted: wildcat (exploratory) and delineation gas wells; low reservoir pressure non-wildcat and non-delineation gas wells; and all "other" fractured and refractured gas wells. All three subcategories of wells must route flow back emissions to a gathering line or be captured and combusted using a combustion device such as a flare after October 15, 2012. However, the "other" wells must use reduced emission completions, also known as "green completions," with or without combustion devices, after January 1, 2015. These regulations also establish specific new requirements regarding emissions from production-related wet seal and reciprocating compressors, effective October 15, 2012 and from pneumatic controllers and storage vessels, effective October 15, 2013. We are currently reviewing this new rule and assessing its potential impacts on our operations. Compliance with these and other air pollution control and permitting requirements has the potential to delay the development of natural gas and oil projects and increase our costs of development and production, which costs could be significant. However, we do not believe that compliance with such requirements will have a material adverse effect on our operations.

### ***Regulation of "Greenhouse Gas" Emissions***

In response to findings that emissions of carbon dioxide, methane and other greenhouse gases ("GHGs") present an endangerment to public health and the environment, the EPA has adopted regulations under existing provisions of the federal Clean Air Act that, among other things, establish Prevention of Significant Deterioration, or PSD, construction and Title V operating permit reviews for certain large stationary sources that are potential major sources of GHG emissions. Facilities required to obtain PSD permits for their GHG emissions also will be required to meet "best available control technology" standards that will be established by the states or, in some cases, by the EPA on a case-by-case basis. These EPA rulemakings could adversely affect our operations and restrict or delay our ability to obtain air permits for new or modified sources. In addition, the EPA has adopted rules requiring the monitoring and reporting of GHG emissions from specified sources in the United States on an annual basis, which include certain of our operations. We are monitoring GHG emissions from our operations in accordance with the GHG emissions reporting rule and believe that our monitoring activities are in substantial compliance with applicable reporting obligations.

While Congress has from time to time considered legislation to reduce emissions of GHGs, there has not been significant activity in the form of adopted legislation to reduce GHG emissions at the federal level in recent years. In the absence of such federal climate legislation, a number of state and regional efforts have emerged that are aimed at tracking and/or reducing GHG emissions by means of cap and trade programs that typically require major sources of GHG emissions, such as electric power plants, to acquire and surrender emission allowances in return for emitting those GHGs. If Congress undertakes comprehensive tax reform in the coming year, it is possible that such reform may include a carbon tax, which could impose additional direct costs on operations and reduce demand for refined products. Although it is not possible at this time to predict how legislation or new regulations that may be adopted to address GHG emissions would impact our business, any such future laws and regulations

imposing reporting obligations on, or limiting emissions of GHGs from, our equipment and operations could require us to incur costs to reduce emissions of GHGs associated with our operations. Severe limitations on GHG emissions could adversely affect demand for the oil and natural gas we produce. Finally, it should be noted that some scientists have concluded that increasing concentrations of GHGs in the Earth's atmosphere may produce climate changes that have significant physical effects, such as increased frequency and severity of storms, floods and other climatic event; if any such effects were to occur, they could have an adverse effect on our exploration and production operations.

### *Hydraulic Fracturing Activities*

Hydraulic fracturing is an important and common practice that is used to stimulate production of natural gas and/or oil from dense subsurface rock formations. The hydraulic fracturing process involves the injection of water, sand, and chemicals under pressure through a cased and cemented wellbore into targeted subsurface formations to fracture the surrounding rock and stimulate production. We commonly use hydraulic fracturing as part of our operations as does most of the domestic oil and gas industry. Hydraulic fracturing typically is regulated by state oil and natural gas commissions, but the EPA has asserted federal regulatory authority pursuant to the SDWA over certain hydraulic fracturing activities involving the use of diesel fuels and published draft permitting guidance in May 2012 addressing the performance of such activities using diesel fuels. In November 2011, the EPA announced its intent to develop and issue regulations under the Toxic Substances Control Act to require companies to disclose information regarding the chemicals used in hydraulic fracturing and the agency currently plans to issue a Notice of Proposed Rulemaking that would seek public input on the design and scope of such disclosure regulations. In addition, Congress has from time to time considered legislation to provide for federal regulation of hydraulic fracturing under the SDWA and to require disclosure of the chemicals used in the hydraulic fracturing process. At the state level, several states have adopted or are considering legal requirements that could impose more stringent permitting, disclosure, and well construction requirements on hydraulic fracturing activities. Local government also may seek to adopt ordinances within their jurisdictions regulating the time, place and manner of drilling activities in general or hydraulic fracturing activities in particular. We believe that we follow applicable standard industry practices and legal requirements for groundwater protection in our hydraulic fracturing activities. Nonetheless, if new or more stringent federal, state, or local legal restrictions relating to the hydraulic fracturing process are adopted in areas where we operate, we could incur potentially significant added costs to comply with such requirements, experience delays or curtailment in the pursuit of exploration, development, or production activities, and perhaps even be precluded from drilling wells.

In addition, certain governmental reviews have been conducted or are underway that focus on environmental aspects of hydraulic fracturing practices. The White House Council on Environmental Quality is coordinating an administration-wide review of hydraulic fracturing practices. The EPA has commenced a study of the potential environmental effects of hydraulic fracturing on drinking water and groundwater, with a first progress report outlining work currently underway by the agency released on December 21, 2012 and a final report drawing conclusions about the potential impacts of hydraulic fracturing on drinking water resources expected to be available for public comment and peer review by 2014. Moreover, the EPA is developing effluent limitations for the treatment and discharge of wastewater resulting from hydraulic fracturing activities and plans to propose these standards by 2014. Other governmental agencies, including the U.S. Department of Energy and the U.S. Department of the Interior, have evaluated or are evaluating various other aspects of hydraulic fracturing. These ongoing or proposed studies, depending on their degree of pursuit and any meaningful results obtained, could spur initiatives to further regulate hydraulic fracturing under the SDWA or other regulatory mechanisms.

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To our knowledge, there have been no citations, suits, or contamination of potable drinking water arising from our fracturing operations. Although we do not have insurance policies in effect that are intended to provide coverage for third party pollution losses of a gradual nature having gone undetected for a period of time that allegedly had arisen from our hydraulic fracturing operations, we believe our general liability and excess liability insurance policies would cover third-party pollution losses, including associated legal expenses, that are of a sudden and accidental nature that are alleged to have arisen from or are related to our hydraulic fracturing operations, subject to the terms of such policies.

### ***Occupational Safety and Health Act***

We are also subject to the requirements of the federal Occupational Safety and Health Act, as amended ("OSHA"), and comparable state laws that regulate the protection of the health and safety of employees. In addition, OSHA's hazard communication standard, the Emergency Planning and Community Right to Know Act and implementing regulations and similar state statutes and regulations require that information be maintained about hazardous materials used or produced in our operations and that this information be provided to employees, state and local government authorities and citizens. We believe that our operations are in substantial compliance with the applicable worker health and safety requirements.

### ***Endangered Species Act***

The federal Endangered Species Act ("ESA") was established to protect endangered and threatened species. Pursuant to the ESA, if a species is listed as threatened or endangered, restrictions may be imposed on activities adversely affecting that species' habitat. Similar protections are offered to migratory birds under the Migratory Bird Treaty Act. We may conduct operations on natural gas and oil leases in areas where certain species that are listed as threatened or endangered are known to exist and where other species, such as the sage grouse, that potentially could be listed as threatened or endangered under the ESA may exist. The U.S. Fish and Wildlife Service may designate critical habitat and suitable habitat areas that it believes are necessary for survival of a threatened or endangered species. A critical habitat or suitable habitat designation could result in further material restrictions to federal land use and may materially delay or prohibit land access for natural gas and oil development. Moreover, as a result of a settlement approved by the U.S. District Court for the District of Columbia in September 2011, the U.S. Fish and Wildlife Service is required to make a determination on listing of more than 250 species as endangered or threatened under the ESA by no later than completion of the agency's 2017 fiscal year. The designation of previously unprotected species as threatened or endangered in areas where underlying property operations are conducted could cause us to incur increased costs arising from species protection measures or could result in limitations on our exploration and production activities that could have an adverse impact on our ability to develop and produce reserves. If we were to have a portion of our leases designated as critical or suitable habitat, it could adversely impact the value of our leases.

In summary, we believe we are in substantial compliance with currently applicable environmental laws and regulations. Although we have not experienced any material adverse effect from compliance with environmental requirements, there is no assurance that this will continue. We did not have any material capital or other non-recurring expenditures in connection with complying with environmental laws or environmental remediation matters in 2012, nor do we anticipate that such expenditures will be material in 2013.

### **Employees**

As of December 31, 2012, we had 150 full-time employees, including 12 in executive, treasury and finance, 16 in geology, 41 in production and engineering, 20 in accounting and administration, 50 in

land, and 11 in midstream. We also employed approximately 91 contract personnel who assist our full-time employees with specific tasks. Our future success will depend partially on our ability to attract, retain and motivate qualified personnel. We are not a party to any collective bargaining agreements and have not experienced any strikes or work stoppages. We consider our relations with our employees to be satisfactory. We utilize the services of independent contractors to perform various field and other services.

### **Legal Proceedings**

In March 2011, we received orders for compliance from the EPA relating to certain of our activities in West Virginia. The orders allege that certain of our operations at several well sites are in non-compliance with certain environmental regulations pertaining to unpermitted discharges of fill material into wetlands or waters that are potentially in violation of the Clean Water Act. We have responded to all pending orders and are actively cooperating with the relevant agencies. No fine or penalty relating to these matters has been proposed at this time, but we believe that these actions will result in monetary sanctions exceeding \$100,000. We are unable to estimate the total amount of such monetary sanctions or costs to remediate these locations in order to bring them into compliance with applicable environmental laws and regulations.

We have been named in separate lawsuits in Colorado, West Virginia, and Pennsylvania in which the plaintiffs have alleged that our oil and natural gas activities exposed them to hazardous substances and damaged their properties and their persons. The plaintiffs have requested unspecified damages and other injunctive or equitable relief. We deny any such allegations and intend to vigorously defend ourselves against these actions. We are unable to estimate the amount of monetary or other damages, if any, that might result from these claims.

We are party to various other legal proceedings and claims in the ordinary course of our business. We believe certain of these matters will be covered by insurance and that the outcome of other matters will not have a material adverse effect on our consolidated financial position, results of operations, or liquidity.

## MANAGEMENT

### Officers and Directors

The following table sets forth names, ages and titles of our officers and directors.

<u>Name</u>	<u>Age</u>	<u>Title</u>
Peter R. Kagan(1)	45	Director
W. Howard Keenan, Jr.(1)	62	Director
Christopher R. Manning(1)	45	Director
Paul M. Rady	59	Chairman of the Board of Directors and Chief Executive Officer
Glen C. Warren, Jr.	57	Director, President, Chief Financial Officer and Secretary
Kevin J. Kilstrom	58	Vice President—Production
Brian A. Kuhn	54	Vice President—Land
Mark D. Mauz	55	Vice President—Gathering, Marketing and Transportation
Steve M. Woodward	54	Vice President—Business Development
Alvyn A. Schopp	54	Vice President—Accounting & Administration and Treasurer
Ward McNeilly	62	Vice President—Reserves, Planning and Midstream

(1) Member of the Audit Committee and the Compensation Committee.

Our board of directors currently consists of five members who have been designated in accordance with our limited liability company agreement. Each of Warburg Pincus, Yorktown Energy Partners and Trilantic Capital Partners currently has the right to designate one director to the board of directors of Antero. The remaining two members of Antero's board of directors are our Chief Executive Officer and our Chief Financial Officer. Warburg Pincus currently has the right to designate one additional member of Antero's board of directors after consultation with the management directors and the other investors in Antero. Our directors hold office until the earlier of their death, resignation, removal or disqualification or until their successors have been elected and qualified. Our officers serve at the discretion of the board of directors. There are no family relationships among any of our directors or principal officers.

*Peter R. Kagan* has served as a director since 2004. Mr. Kagan has been with Warburg Pincus since 1997 and leads the firm's investment activities in energy and natural resources. He is also a member of the firm's Executive Management Group. Mr. Kagan received an A.B. degree cum laude from Harvard College and J.D. and M.B.A. degrees with honors from the University of Chicago. Prior to joining Warburg Pincus, he worked in investment banking at Salomon Brothers in both New York and Hong Kong. Mr. Kagan currently also serves on the boards of directors of the following public companies: Laredo Petroleum Holdings, Inc., MEG Energy Corp., Targa Resources Corp., and Targa Resources Partners LP, as well as the boards of several private companies.

Mr. Kagan has significant experience with energy companies and investments and broad knowledge of the oil and gas industry. We believe his background and skill set make Mr. Kagan well-suited to serve as a member of our board of directors. Mr. Kagan is the director designee of Warburg Pincus pursuant to the terms of the Antero Resources LLC limited liability company agreement.

*W. Howard Keenan, Jr.* has served as a director since 2004. Mr. Keenan has over thirty years of experience in the financial and energy businesses. Since 1997, he has been a Member of Yorktown Partners LLC, a private equity investment manager focused on the energy industry. Mr. Keenan currently serves on the Board of Directors of Concho Resources Inc. and GeoMet, Inc. From 1975 to 1997, he was in the Corporate Finance Department of Dillon, Read & Co. Inc. and active in the private equity and energy areas, including the founding of the first Yorktown Partners fund in 1991. He



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is serving or has served as a director of multiple Yorktown Partners portfolio companies. Mr. Keenan holds an A.B. degree cum laude from Harvard College and an M.B.A. degree from Harvard University.

Mr. Keenan has significant experience with energy companies and investments and broad knowledge of the oil and gas industry. We believe his background and skill set make Mr. Keenan well-suited to serve as a member of our board of directors. Mr. Keenan is the director designee of Yorktown Energy Partners pursuant to the terms of the Antero Resources LLC limited liability company agreement.

*Christopher R. Manning* has served as a director since 2005. Mr. Manning is a Partner and member of the Executive Committee of Trilantic Capital Partners. His primary focus is on investments in the energy sector. Mr. Manning joined Lehman Brothers Merchant Banking in 2000 and was concurrently the Head of Lehman Brothers' Investment Management Division, including both the Asset Management and Private Equity businesses, in Asia-Pacific from 2006 to 2008. He was also a member of the Global Investment Management Division Executive Committee and the Private Equity Division Operating Committee. Prior to Lehman Brothers, Mr. Manning was the chief financial officer of The Wing Group, a developer of international power projects. Prior to The Wing Group, he was in the investment banking department of Kidder, Peabody & Co., where he worked on M&A and corporate finance transactions. Mr. Manning currently serves on the boards of Enduring Resources, Mediterranean Resources, the Cross Group, VantaCore Partners, and Velvet Energy. Mr. Manning holds an M.B.A. from The Wharton School of the University of Pennsylvania and a B.B.A. from the University of Texas at Austin.

Mr. Manning has significant experience with energy companies and investments and broad knowledge of the oil and gas industry. We believe his background and skill set make Mr. Manning well-suited to serve as a member of our board of directors. Mr. Manning is the director designee of Trilantic Capital Partners pursuant to the terms of the Antero Resources LLC limited liability company agreement.

*Paul M. Rady* has served as Chief Executive Officer and Chairman of the Board of Directors since May 2004. Mr. Rady also served as Chief Executive Officer and Chairman of the Board of Directors of our predecessor company, Antero Resources Corporation, from its founding in 2002 to its ultimate sale to XTO Energy, Inc. in April 2005. Prior to Antero Resources Corporation, Mr. Rady served as President, CEO and Chairman of Pennaco Energy from 1998 until its sale to Marathon in early 2001. Prior to Pennaco, Mr. Rady was with Barrett Resources from 1990 until 1998 where he initially was recruited as Chief Geologist in 1990, then served as Exploration Manager, EVP Exploration, President, COO and Director and ultimately CEO. Mr. Rady began his career with Amoco where he served 10 years as a geologist focused on the Rockies and Mid-Continent. Mr. Rady is the managing member of Salisbury Investment Holdings, LLC. Mr. Rady holds a B.A. in Geology from Western State College of Colorado and M.Sc. in Geology from Western Washington University.

Mr. Rady's significant experience as a chief executive of oil and gas companies, together with his training as a geologist and broad industry knowledge, enable Mr. Rady to provide the board with executive counsel on a full range of business, strategic and professional matters.

*Glen C. Warren, Jr.* has served as President, Chief Financial Officer and Secretary and as a director since May 2004. Mr. Warren also served as President and Chief Financial Officer and as a director of our predecessor company, Antero Resources Corporation, from its founding in 2002 to its ultimate sale to XTO Energy, Inc. in April 2005. Prior to Antero Resources Corporation, Mr. Warren served as EVP, CFO and Director of Pennaco Energy from 1998 until its sale to Marathon in early 2001. Mr. Warren spent 10 years as a natural resources investment banker focused on equity and debt financing and M&A advisory with Lehman Brothers, Dillon Read and Kidder Peabody. Mr. Warren began his career as a landman in the Gulf Coast region with Amoco, where he spent six years. Mr. Warren is the

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managing member of Canton Investment Holdings, LLC. Mr. Warren holds a B.A. from the University of Mississippi, a J.D. from the University of Mississippi School of Law and an M.B.A from the Anderson School of Management at U.C.L.A.

Mr. Warren's significant experience as a chief financial officer of oil and gas companies, together with his experience as an investment banker and broad industry knowledge, enable Mr. Warren to provide the board with executive counsel on a full range of business, strategic, financial and professional matters.

*Kevin J. Kilstrom* has served as Vice President of Production since June 2007. Mr. Kilstrom was a Manager of Petroleum Engineering with AGL Energy of Sydney, Australia from 2006 to 2007. Prior to AGL, Mr. Kilstrom was with Marathon Oil as an Engineering Consultant and Asset Manager from 2003 to 2007 and as a Business Unit Manager for Marathon's Powder River coal bed methane assets from 2001 to 2003. Mr. Kilstrom also served as a member of the board of directors of three Marathon subsidiaries from October 2003 through May 2005. Mr. Kilstrom was an Operations Manager and reserve engineer at Pennaco Energy from 1999 to 2001. Mr. Kilstrom was at Amoco for more than 22 years prior to 1999. Mr. Kilstrom holds a B.S. in Engineering from Iowa State University and an M.B.A. from DePaul University.

*Brian A. Kuhn* has served as Vice President of Land since April 2005. Mr. Kuhn also served as Vice President of Land of our predecessor company, Antero Resources Corporation, from its founding in 2002 to its ultimate sale to XTO Energy, Inc. in April 2005. From 2001 to 2002, Mr. Kuhn served as Head of Denver Land Department for Marathon Oil. Mr. Kuhn was the Vice President—Land at Pennaco Energy from 1998 to 2001. Mr. Kuhn was a Division Landman with Barrett Resources from 1993 to 1998. Mr. Kuhn was a Landman with Amoco for 13 years prior to 1993. Mr. Kuhn holds a B.B.A. in Petroleum Land Management from the University of Oklahoma.

*Mark D. Mauz* has served as Vice President of Gathering, Marketing and Transportation since April 2006. From 1993 to 2006, Mr. Mauz was with Duke Energy Field Services, most recently as its Managing Director of the Rockies Region. Mr. Mauz spent from 1990 to 1993 with Amoco in natural gas marketing and 9 years prior to 1990 as a Landman. Mr. Mauz holds a B.S. in Business from the University of Colorado.

*Steven M. Woodward* has served as Vice President of Business Development since April 2005. Mr. Woodward also served as Vice President of Business Development of our predecessor company, Antero Resources Corporation, from its founding in 2002 to its ultimate sale to XTO Energy, Inc. in April 2005. From 1993 until 2002, Mr. Woodward was in senior business/project development roles with Dynegy. From 1990 to 1992, Mr. Woodward was with Reliance Pipeline Company as a Manager of Business Development. From 1988 to 1990, Mr. Woodward was at Western Gas Resources in a Business Development role. From 1981 to 1988, Mr. Woodward was with ARCO Oil & Gas Company in various engineering roles. Mr. Woodward holds a B.S. in Mechanical Engineering from the University of Colorado.

*Alvyn A. Schopp* has served as Vice President of Accounting and Administration and Treasurer since January 2005. Mr. Schopp also served as Controller and Treasurer from 2003 to 2005 and as Vice President of Accounting and Administration and Treasurer of our predecessor company, Antero Resources Corporation, from January 2005 until its ultimate sale to XTO Energy, Inc. in April 2005. From 2002 to 2003, Mr. Schopp was an Executive and Financial Consultant with Duke Energy Field Services. From 1993 to 2000, Mr. Schopp was CFO, Director and ultimately CEO of T-Netix. From 1980 to 1993 Mr. Schopp was with KPMG LLP, most recently as a Senior Manager. Mr. Schopp holds a B.B.A. from Drake University.

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*Ward D. McNeilly* serves as Vice President of Reserves, Planning & Midstream, and has been with the Company since October 2010. Mr. McNeilly has 34 years of experience in oil and gas asset management, operations, and reservoir management. From 2007 to October 2010, Mr. McNeilly was BHP Billiton's Gulf of Mexico Operations Manager. From 1996 through 2007, Mr. McNeilly served in various North Sea and Gulf of Mexico Deepwater operations and asset management positions with Amoco and then BP. Mr. McNeilly served in a number of different domestic and international positions with Amoco from 1979 to 1996. Mr. McNeilly holds a B.S. in Geological Engineering from the Mackay School of Mines at the University of Nevada.

### **Compensation Discussion and Analysis**

#### *Overview*

This Compensation Discussion and Analysis (1) provides an overview of our compensation policies and programs; (2) explains our compensation objectives, policies and practices with respect to our executive officers; and (3) identifies the elements of compensation for each of the individuals identified in the following table, who we refer to in this Compensation Discussion and Analysis as our "Named Executive Officers."

<b>Name</b>	<b>Principal Position</b>
Paul M. Rady	Chairman of the Board of Directors and Chief Executive Officer
Glen C. Warren, Jr.	Director, President, Chief Financial Officer and Secretary
Kevin J. Kilstrom	Vice President—Production
Alvyn A. Schopp	Vice President—Accounting and Administration
Ward D. McNeilly	Vice President—Reserves, Planning and Midstream

Each of our Named Executive Officers is an employee of Antero Resources Appalachian Corporation, which is a wholly owned subsidiary of Antero. The Compensation Committee of the Antero Board of Directors, or the Antero Board of Directors, as appropriate, approves all compensation decisions for our Named Executive Officers. The Antero Board of Directors and the Antero Resources Appalachian Corporation Board of Directors are comprised of the same members and are collectively referred to in this Compensation Discussion and Analysis as the "Board."

#### ***Compensation Philosophy and Objectives of Our Compensation Program***

Since our inception, we have sought to profitably grow our privately held, independent oil and gas company and our compensation philosophy has been primarily focused on recruiting individuals who are motivated to help us achieve that goal. Accordingly, we have structured our compensation program to attract highly qualified and experienced individuals capable of contributing to the continued growth of our company, both in terms of size of net production and oil and gas reserves and enterprise value. To achieve these objectives, we provide what we believe is a competitive total compensation package to our Named Executive Officers through a combination of base salary, annual cash incentive payments, transaction bonuses and long-term equity-based incentive awards, as discussed in more detail below.

#### ***Implementing Our Objectives***

##### *Role of the Board of Directors, Compensation Committee and our Executive Officers*

Executive compensation decisions are typically made on an annual basis by the Compensation Committee with input from Paul M. Rady, our Chief Executive Officer, and Glen C. Warren, Jr., our President and Chief Financial Officer. Specifically, after reviewing relevant market data and surveys within our industry, Messrs. Rady and Warren provide recommendations to the Compensation

Committee regarding the compensation levels for our existing Named Executive Officers (including themselves) and our executive compensation program as a whole. Messrs. Rady and Warren attend all Compensation Committee meetings. After considering these recommendations, the Compensation Committee typically meets in executive session and adjusts base salary levels, cash bonus awards and determines the amount of any equity grants for each of our Named Executive Officers. In making executive compensation recommendations, Messrs. Rady and Warren consider each Named Executive Officer's performance during the year, our performance during the year, as well as comparable company compensation levels and independent oil and gas company compensation surveys. While the Compensation Committee gives considerable weight to Messrs. Rady and Warren's recommendations on compensation matters, the Compensation Committee has the final decision-making authority on all executive compensation matters. No other officers have assumed a role in the evaluation, design or administration of our executive officer compensation program.

#### **Role of External Advisors**

In December 2012, we engaged Frederick W. Cook & Co., ("F.W. Cook") to provide periodic compensation consulting services, as determined by management. F.W. Cook did not provide and does not currently provide any other services to our company. Our objective when hiring F.W. Cook was to assess our level of competitiveness for executive-level talent. Pursuant to the terms of its engagement, F.W. Cook:

- Collected and reviewed all relevant company information, including our historical compensation data and our organizational structure;
- With input of management, established a peer group of companies to use for executive compensation comparisons;
- Assessed our compensation program's position relative to market for our top nine executive officers and stated compensation philosophy;
- Prepared a report of its analysis, findings and recommendations for our executive compensation program.

F.W. Cook's report was presented by Messrs. Rady and Warren to the Board as a whole in December 2012. The report was utilized by Messrs. Rady and Warren when making their recommendations to the Board for fiscal 2012 compensation decisions.

#### **Competitive Benchmarking**

When formulating their compensation recommendations for the Compensation Committee, Messrs. Rady and Warren compare the pay practices for our Named Executive Officers against the pay practices of other companies to assist them in determining base salaries and incentive compensation for our Named Executive Officers. This process recognizes our management's philosophy that, while our compensation practices should be competitive in the marketplace, marketplace information is only one of the many factors considered in assessing the reasonableness of our executive compensation program.

Messrs. Rady and Warren hired F.W. Cook to assess the total compensation levels of our top nine executives relative to market. In addition, Messrs. Rady and Warren used statistical information from the 2012 Oil and Gas E&P Industry Compensation Survey (the "ECI Survey") prepared by Effective Compensation, Incorporated ("ECI") to supplement F.W. Cook's Peer Group data. Messrs. Rady and Warren considered the results of the F.W. Cook Survey Data and ECI Survey data when making their recommendations to the Board for fiscal 2012 decisions.

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- *F.W. Cook Survey Data.* In 2012, F.W. Cook used the following parameters when constructing the peer group for its assessment:
  - (1) unconventional resource-focused exploration and production companies that are publically traded (without regard to size),
  - (2) companies with a good performance track record, (3) companies with a strong management team with high quality technical expertise and (4) companies with more than \$4.0 billion in enterprise value. Using these parameters and collaborating with Messrs. Rady and Warren, F.W. Cook developed an industry reference group comprised of 13 companies (the "F.W. Cook Peer Group"). The F.W. Cook Peer Group included the following companies:
    - Cabot Oil & Gas Corporation;
    - Cimarex Energy Co.;
    - Concho Resources Inc.;
    - EQT Corp.;
    - Noble Energy Inc.;
    - Pioneer Natural Resources Co.;
    - Plains Exploration & Production Co.;
    - Range Resources Corp.;
    - SandRidge Energy Inc.;
    - SM Energy Co.;
    - Southwestern Energy Co.;
    - Ultra Petroleum Corp.; and
    - Whiting Petroleum Corp.
  
- *ECI Survey Data.* Data from ECI was used because it is specific to the energy industry and derives its data from direct contributions from a large number of participating companies with which we compete for talent. The ECI Survey was used to compare our executive compensation program against the executive compensation programs at the following companies (collectively, the "Peer Group"):
  - Cabot Oil and Gas Corporation;
  - Cimarex Energy Co.;
  - EQT Corporation;
  - EXCO Resources, Inc.;
  - Newfield Exploration Company;
  - Range Resources Corporation;
  - SandRidge Energy;
  - Southwestern Energy Company;
  - Whiting Petroleum Corporation; and
  - WPX Energy, Inc.

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Due to the broad responsibilities of our Named Executive Officers and our status as a privately held company, comparing survey data to the job descriptions of our Named Executive Officers is sometimes difficult. However, as discussed above, our compensation objective is designed to be competitive with the peer companies listed above. Therefore, when formulating their recommendations to the Compensation Committee, Messrs. Rady and Warren generally target compensation levels that are in the median range by reference to persons with similar duties at companies in our peer group. However, actual compensation decisions for individual officers are the result of a subjective analysis of a number of factors, including the individual officer's role within our organization, performance, experience, skills or tenure with us, changes to the individual's position and trends in compensation practices within the Peer Group or industry. Each of our Named Executive Officer's current and prior compensation is considered in setting future compensation. Specifically, the amount of each Named Executive Officer's current compensation is considered as a base against which the Compensation Committee makes determinations as to whether adjustments are necessary to retain the executive in light of competition and in order to provide continuing performance incentives. Thus, the Compensation Committee's determinations regarding compensation are the result of the exercise of judgment based on all reasonably available information and, to that extent, are discretionary.

### *Assessment of Individual and Company Performance*

We believe that a balance of individual and company performance criteria should be used in establishing total compensation. Therefore, in determining the level of compensation for each Named Executive Officer, the Compensation Committee subjectively considers our overall financial and operational performance and the relative contribution and performance of each of our Named Executive Officers as described in more detail below.

### *Elements of Compensation*

Our Named Executive Officers' compensation includes the following key components:

- Base salaries;
- Annual cash bonus incentive payments;
- Transaction bonuses; and
- Long-term equity-based incentive awards.

### *Base Salaries*

Base salaries are designed to provide a minimum, fixed level of cash compensation for services rendered during the year. Base salaries are generally reviewed annually, but are not systemically increased if the Compensation Committee believes that (1) our executives are currently compensated at proper levels in light of our Company's performance or external market factors, or (2) an increase or addition to other elements of compensation would be more appropriate in light of our stated objectives.

In addition to providing a base salary that is competitive with other independent oil and gas exploration and production companies, the Compensation Committee also considers pay levels within our company to appropriately align each of our Named Executive Officer's base salary level relative to the base salary levels of our other officers so that it accurately reflects such officer's relative skills, responsibilities, experience and contributions to our company. To that end, annual base salary adjustments are based on a subjective analysis of many individual factors, including:

- the responsibilities of the officer;
- the period over which the officer has performed these responsibilities;

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- the scope, level of expertise and experience required for the officer's position;
- the strategic impact of the officer's position; and
- the potential future contribution and demonstrated individual performance of the officer.

In addition to the individual factors listed above, our overall business performance and implementation of company objectives are taken into consideration in connection with determining annual base salaries. While these metrics generally provide context for making salary decisions, base salary decisions do not depend on attainment of specific goals or performance levels and no specific weighting is given to one factor over another.

*Fiscal 2012 Decisions.* In December 2011, after considering the individual and company performance factors described above along with our Peer Group companies, Messrs. Rady and Warren recommended, and the Compensation Committee approved, nominal increases in the base salaries of our Named Executive Officers. These increases became effective as of January 1, 2012 and are reflected in the Summary Compensation Table.

*Fiscal 2013 Decisions.* In December 2012, after comparing base salary levels to the F.W. Cook Peer Group and the ECI Peer Group (as described in more detail above under "—Competitive Benchmarking") and considering the individual and business factors described above, Messrs. Rady and Warren recommended, and the Compensation Committee approved, increases in the base salaries of our Named Executive Officers. The increases became effective as of January 1, 2013. The adjusted base salary amounts were slightly below the median of both the F.W. Cook Peer Group and the ECI Peer Group.

<u>Executive Officer</u>	<u>Base Salary Prior to January 2012</u>	<u>Base Salary as of January 2012</u>	<u>Percentage Increase</u>	<u>Base Salary as of January 2013</u>	<u>Percentage Increase</u>
Paul M. Rady	\$ 475,000	\$ 515,000	8%	\$ 650,000	26%
Glen C. Warren, Jr.	\$ 395,000	\$ 425,000	8%	\$ 525,000	24%
Kevin J. Kilstrom	\$ 290,000	\$ 310,000	7%	\$ 350,000	13%
Alvyn A. Shopp	\$ 290,000	\$ 310,000	7%	\$ 350,000	13%
Ward D. McNeilly	\$ 255,000	\$ 280,000	10%	\$ 315,000	13%

#### *Annual Cash Incentive Payments*

Annual cash incentive payments, which we also refer to as cash bonuses, are a key component of each Named Executive Officer's annual compensation package. The Compensation Committee believes that discretionary cash bonuses are an appropriate way to further our goals of attracting, retaining, and rewarding highly qualified and experienced officers and avoiding an environment that might cause undue pressure to meet specific financial or individual performance goals. In December of each year, the Compensation Committee determines whether to pay cash bonuses from a bonus pool to some or all of our employees, including our Named Executive Officers, and, if so, the amount of such cash bonuses (which may range from 0% to 100% of an executive officer's base salary). The Compensation Committee's decisions are based on recommendations from Messrs. Rady and Warren. Messrs. Rady and Warren formulate their recommendations based in part on input from functional managers within our organization, including certain of our vice presidents. The factors considered when determining the amount of discretionary cash bonus awards, if any, are similar to those considered when setting and adjusting base salaries. No particular weight is assigned to any of these factors.

*Fiscal 2012 Decisions.* A discretionary cash bonus was awarded to each of our Named Executive Officers in December 2012. These awards were made based upon the factors described above under "—Elements of Compensation—Base Salaries." The size of each of these bonuses was determined

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without regard to any objective metrics and was based on the judgment of the Compensation Committee. The bonuses paid to each Named Executive Officer are reflected below in the "Bonus" column of the Summary Compensation Table.

### *Transaction Bonuses*

Pursuant to the terms of Antero's limited liability company agreement, a "Transaction Bonus Pool" is created upon a direct or indirect disposition of all or substantially all the assets or equity interests of any of our operating subsidiaries (a "Qualifying Transaction"). Each Transaction Bonus Pool is an amount equal to 3% of the "profit," as defined under our limited liability company agreement, generated with respect to the disposition of a particular operating subsidiary. The Transaction Bonus Pool is available to pay bonuses to individuals who are employees of any of our operating subsidiaries as of the date of the disposition (including, potentially, our Named Executive Officers), but the amount of any individual's transaction bonus and whether any particular individual receives a transaction bonus in connection with a disposition is determined by the Compensation Committee at the time of any such disposition. Transaction bonus awards are intended to incentivize our employees to increase the value of our operating subsidiaries for the benefit of our unitholders by allowing them to share in the profits of any disposition of any such operating subsidiary. The amount of any transaction bonus awards made to an employee is offset against future amounts that such employee would be entitled to receive in connection with future distributions by Antero as a result of the ownership by such employee of certain units in Antero and in Antero Resources Employee Holdings LLC (which are described below under "—Long-Term Equity-Based Incentive Awards").

No Qualifying Transactions occurred during fiscal 2012 and, therefore, no transaction bonuses have been reflected in the 2012 "Bonus" column of the Summary Compensation Table.

### *Long-Term Equity-Based Incentive Awards*

Our long-term equity-based incentive program is designed to provide each of our employees with an incentive to focus on the long-term success of our company and to act as a long-term retention tool by aligning the interests of our employees with those of our stakeholders.

In connection with our November 2009 corporate reorganization, Antero Resources Employee Holdings LLC ("Holdings") was established to hold a portion of our units that were set aside at the time of the reorganization to be used for employee incentive compensation. We grant units in Holdings to our employees, including our Named Executive Officers, as a means of providing them with long-term equity incentive compensation in an affiliated entity that may directly profit from any success we achieve. This structure enables us to identify a fixed number of Antero units on which any distributions will flow through Holdings to our employees. We believe that providing equity compensation from Holdings allows us to retain the ability to incentivize our executives to focus on our long-term success.

Because a portion of the units granted to certain of our Named Executive Officers remain unvested, the Compensation Committee believes that these awards continue to provide significant retentive value. As a result, the Compensation Committee determined that there was no need to grant additional restricted unit awards to our Named Executive Officers in 2010, 2011 or 2012.

### **Other Benefits**

#### *Health and Welfare Benefits*

Our Named Executive Officers are eligible to participate in all of our employee health and welfare benefit arrangements on the same basis as other employees (subject to applicable law). These arrangements include medical, dental and disability insurance, as well as health savings accounts. These



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benefits are provided in order to ensure that we are able to competitively attract and retain officers and other employees. This is a fixed component of compensation, and these benefits are provided on a non-discriminatory basis to all employees.

*Retirement Benefits*

We maintain an employee retirement savings plan through which employees may save for retirement or future events on a tax-advantaged basis. While the plan permits us to make discretionary matching and non-elective contributions, we have not made any employer contributions in recent years. Participation in the 401(k) plan is at the discretion of each individual employee, and our Named Executive Officers participate in the plan on the same basis as all other employees.

*Perquisites and Other Personal Benefits*

We believe that the total mix of compensation and benefits provided to our Named Executive Officers is currently competitive and, therefore, perquisites do not play a significant role in our Named Executive Officers' total compensation.

***Employment, Severance or Change in Control Agreements***

We do not maintain any employment, severance or change in control agreements with any of our Named Executive Officers.

As discussed below under "Payments Upon Termination or Change in Control," Mr. McNeilly could be entitled to receive certain payments or accelerated vesting of his unit awards that remain unvested upon his termination of employment with us under certain circumstances or the occurrence of certain corporate events.

***Other Matters***

*Equity Ownership Guidelines and Hedging Prohibition*

Because our equity securities are not publicly traded, we do not currently have ownership requirements or an equity retention policy for our Named Executive Officers. We also do not have a policy that restricts our Named Executive Officers from limiting their economic exposure to our equity.

*Tax and Accounting Treatment of Executive Compensation Decisions*

Because none of our operating subsidiaries are publicly held corporations, neither the Board nor the Compensation Committee has adopted a policy with respect to the limitation under Section 162(m) of the Internal Revenue Code of 1986, as amended (the "Code"), which generally imposes a \$1.0 million limit on the amount that a public corporation may deduct for federal income tax purposes in any year with regard to compensation paid to certain executive officers.

*Risk Assessment*

Messrs. Rady and Warren reviewed our compensation policies and practices to determine where they create risks that are reasonably likely to have a material adverse effect on our company. In connection with this risk assessment, Messrs. Rady and Warren reviewed the design of our compensation and benefits program and related policies and the potential risks that could be created by the programs and determined that certain features of our programs and corporate governance generally help mitigate risk. Among the factors Messrs. Rady and Warren considered were the mix of cash and equity compensation, the balance between short- and long term objectives of our incentive compensation, the degree to which programs provided for discretion to determine payout amounts and

our general governance structure. Messrs. Rady and Warren reviewed and discussed the results of this assessment with the Compensation Committee as part of their annual program recommendations.

The Compensation Committee believes that our approach of evaluating overall business performance and implementation of company objectives assist in mitigating excessive risk-taking that could harm our value or reward poor judgment by our executives. Several features of our programs reflect sound risk management practices. The Compensation Committee believes our overall compensation program provides a reasonable balance between short and long-term objectives, which helps mitigate the risk of excessive risk-taking in the short term. Further, with respect to our incentive compensation programs, the metrics that determine ultimate value are associated with total company value and avoid an environment that might cause pressure to meet specific financial or individual performance goals. In addition, the performance criteria reviewed by the Compensation Committee in determining cash bonuses are based on overall individual performance relative to continually evolving company objectives, and the Compensation Committee uses its subjective judgment in setting bonus levels for our officers. This is based on the Compensation Committee's belief that applying company-wide objectives encourages decision making that is in the best long-term interests of our company and our stakeholders as a whole. The multi-year vesting of our equity awards for executive compensation discourage excessive risk-taking and properly accounts for the time horizon of risk. Accordingly, the Compensation Committee concluded that our compensation policies and practices for all employees, including our Named Executive Officers, do not create policies that are reasonably likely to have a material adverse effect on our company.

### **Summary Compensation Table**

The following table summarizes, with respect to our Named Executive Officers, information relating to the compensation earned for services rendered in all capacities during the fiscal years ended December 31, 2012, 2011 and 2010.

#### **Summary Compensation Table for the Years Ended December 31, 2012, 2011 and 2010**

<u>Name and Principal Position</u>	<u>Year</u>	<u>Salary (\$)</u>	<u>Bonus(1) (\$)</u>	<u>Total (\$)</u>
Paul M. Rady <i>(Chairman of the Board of Directors and Chief Executive Officer)</i>	2012	\$ 516,156	\$ 1,000,000	\$ 1,516,156
	2011	\$ 475,000	\$ 800,000	\$ 1,275,000
	2010	\$ 450,000	\$ 1,319,267	\$ 1,769,267
Glen C. Warren, Jr. <i>(Director, President and Chief Financial Officer and Secretary)</i>	2012	\$ 426,156	\$ 825,000	\$ 1,251,156
	2011	\$ 395,000	\$ 625,000	\$ 1,020,000
	2010	\$ 375,000	\$ 912,845	\$ 1,287,845
Kevin J. Kilstrom <i>(Vice President—Production)</i>	2012	\$ 311,156	\$ 400,000	\$ 711,156
	2011	\$ 290,000	\$ 300,000	\$ 590,000
	2010	\$ 280,000	\$ 460,000	\$ 740,000
Alvyn A. Schopp <i>(Vice President—Accounting and Administration)</i>	2012	\$ 311,156	\$ 400,000	\$ 711,156
	2011	\$ 290,000	\$ 300,000	\$ 590,000
	2010	\$ 275,000	\$ 525,000	\$ 800,000
Ward D. McNeilly(2) <i>(Vice President—Reserves, Planning and Midstream)</i>	2012	\$ 281,156	\$ 350,000	\$ 631,156

- (1) Bonus compensation for fiscal 2011 and fiscal 2012 represents the aggregate amount of the annual discretionary cash bonuses paid to each Named Executive Officer. Bonus compensation for 2010 includes the following transaction bonus awards paid to our Named Executive Officers in

connection with our disposition of Antero Resources Midstream Corporation: Mr. Rady, \$919,267; Mr. Warren, \$612,845; Mr. Kilstrom, \$300,000; and Mr. Schopp, \$350,000.

- (2) Mr. McNeilly was appointed as Vice President—Reserves, Planning and Midstream in October 2010. However, he was not a named executive officer in fiscal 2010 or fiscal 2011.

**Grants of Plan-Based Awards for Fiscal Year 2012**

There were no plan-based awards granted to our Named Executive Officers during the fiscal year ended December 31, 2012.

**Narrative Disclosure to Summary Compensation Table**

The following is a discussion of material factors necessary to an understanding of the information disclosed in the Summary Compensation Table.

**Salary and Cash Incentive Awards in Proportion to Total Compensation**

We paid 100% of each Named Executive Officer's total compensation for fiscal 2012 in the form of base salary and annual cash incentive awards.

**Outstanding Equity Awards at 2012 Fiscal Year-End**

The following table provides information concerning equity awards that have not vested for our Named Executive Officers as of December 31, 2012.

**Outstanding Equity Awards as of December 31, 2012**

<u>Name</u>	<u>Number of Shares or of Units of Stock That Have Not Vested</u> (#)	<u>Market Value of Shares or Units of Stock That Have Not Vested</u> (\$)	<u>Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested</u> (#)	<u>Equity Incentive Plan Awards Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested(4)</u> (\$)
<b>Ward D. McNeilly</b>				
Restricted Award Units(1) (2)	—	\$ —	25,000	\$ —
Restricted Award Units(1) (2)	—	\$ —	25,000	\$ —
Restricted Award Units(1) (3)	—	\$ —	25,000	\$ —
Restricted Award Units(1) (3)	—	\$ —	50,000	\$ —

- (1) Represents the number of Class A-2, B-2, B-4 and B-7 unit in Holdings granted pursuant to the Holdings LLC Agreement. For more information concerning these awards, see the discussion above under "—Compensation Discussion and Analysis—Elements of Compensation—Long-Term Equity-Based Incentive Awards." As described below under "—Payments Upon Termination or Change in Control," the restricted unit awards may terminate or be subject to accelerated vesting upon the officer's termination of employment or the occurrence of certain corporate events. Please see footnotes 2 and 3 below for a description of the vesting schedules for the awards that remain outstanding as of December 31, 2012.
- (2) Represents non-vested restricted unit awards that were granted on December 7, 2010 with a vesting commencement date of October 15, 2010. The awards vest 25% per year beginning on the first anniversary of the vesting commencement date.

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- (3) Represents non-vested restricted unit awards that were granted on September 13, 2011 with a vesting commencement date of December 7, 2010. The awards vest 25% per year beginning on the first anniversary of the vesting commencement date.
- (4) The fair market value per unit of each of the units in Holdings subject to restricted unit awards was \$0.00 at the time of issuance of the awards. Therefore, there is no market value associated with the unvested portion of the awards.

***Option Exercises and Stock Vested in Fiscal Year 2012***

There were no Option Exercises or Stock Vesting by any of our Named Executive Officers as of December 31, 2012.

*Pension Benefits*

We do not provide pension benefits to our employees.

*Nonqualified Deferred Compensation*

We do not provide nonqualified deferred compensation benefits to our employees.

***Payments Upon Termination or Change in Control***

*Holdings Units*

As described above, we do not maintain individual employment agreements, severance agreements or change in control agreements with our Named Executive Officers; however, the unvested units in Holdings awarded to Mr. McNeilly could be affected by the termination of his employment or the occurrence of certain corporate events. The impact of such a termination or corporate event upon the units is governed by the terms of both the individual award agreements issued to him in connection with the grant of his unit awards, as well as the Holdings LLC Agreement.

The Holdings LLC Agreement provides that upon termination of a Named Executive Officer's employment with us by reason of death or "disability" (as defined below) or the occurrence of an "exit event" (as defined below) while the Named Executive Officer is employed by us, any unvested portion of the Holdings units granted to the Named Executive Officer will become vested; our termination of the Named Executive Officer's employment with or without "cause," as well as the officer's voluntary termination of employment, generally results in the forfeiture of all unvested Holdings units. In addition, a termination for "cause" results in a forfeiture of all vested units. Any unvested portion of the Holdings units granted to a Named Executive Officer may also become immediately vested upon a "qualified IPO" (as defined below) or under such other circumstances and at such times as the Board of Directors of Holdings determines to be appropriate in its discretion. The Holdings LLC Agreement also provides that upon the voluntary resignation of a Named Executive Officer or the occurrence of an exit event, any portion of the Holdings units granted to the officer that have vested as of the time of the applicable event are subject to repurchase, at Holdings' option, at a purchase price equal to the "fair market value" of such units, as determined by the unanimous resolution of the Board of Directors of Holdings. Such amount may be paid by Holdings in cash or by promissory note. Any such promissory note issued may be structured such that (i) the principal and interest is due and payable only at the end of the term of the notes, (ii) the term of the note will mature only upon the disposition of a subsidiary or a liquidation event, and (iii) the principal amount of the note may be reduced at the end of its term to the amount of distributions the Company would have made with respect to the Holdings units purchased upon a disposition or liquidation event. In addition to the acceleration of vesting described above, in the event of a qualified IPO, the Board of Directors of Holdings may, but is not required to, effect one of the following actions in its discretion: (1) require some or all of our

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Named Executive Officers to surrender some or all of their vested units in Holdings in exchange for an amount of cash or stock per unit equal to the fair market value of such units; (2) make appropriate adjustments to such units; or (3) require the forfeiture of any unvested Holdings units.

At the time of the repurchase of any unit awards in Holdings that occurs at the termination of the employee's employment relationship with us or any of our subsidiaries, any amounts received as a transaction bonus award that have not already been offset against previous unit distributions will be offset against the purchase price to be paid by Holdings for the repurchase of such units.

Under the Holdings LLC Agreement, a Named Executive Officer will be considered to have incurred a "disability" if the officer becomes incapacitated by accident, sickness or other circumstance that renders the officer mentally or physically incapable of performing the officer's duties with us on a full time basis for a period of at least 120 days during any 12 month period. A termination for "cause" will occur following an employee's (1) gross negligence or willful misconduct, (2) conviction of a felony or a crime involving theft, fraud or moral turpitude, (3) refusal to perform material duties or responsibilities, (4) willful and material breach of a corporate policy or code of conduct or (5) willful engagement in conduct that damages the integrity, reputation or financial success of Antero or any of its affiliates. Further, an "exit event" generally includes the sale of our company, in one transaction or a series of related transactions, whether structured as (a) a sale or other transfer of all or substantially all of our units (including by way of merger, consolidation, share exchange, or similar transaction), (b) a sale or other transfer of all or substantially all of our assets promptly followed by a dissolution and liquidation of our company or (c) a combination of the transactions described in clauses (a) and (b). The Holdings LLC Agreement defines a "qualified IPO" as the offering and sale of equity interests or securities in Antero or one of its subsidiaries in a firm commitment underwritten public offering registered under the Securities Act of 1933, as amended, that results in (i) aggregate cash proceeds of not less than \$50,000,000 (without deducting underwriting discounts, expenses, and commissions) and (ii) the listing of such interests or securities on the New York Stock Exchange, the NYSE Euronext or the Nasdaq Stock Market.

### ***Potential Payments Upon Termination or Change in Control Table for Fiscal 2012***

Because the right to repurchase vested Holdings units is optional rather than mandatory, we would not have had any financial obligation to provide any benefits to any of our Named Executive Officers upon the occurrence of an exit event or a qualified IPO as of December 31, 2012.

### ***Compensation of Directors***

The employee and non-employee members of the Board do not receive compensation for their services as directors. However, our directors may be reimbursed for their expenses in attending meetings of the Board.

### **Corporate Governance Matters**

#### ***Director Independence***

Because the registration statement of which this prospectus forms a part registers only debt securities, because we only currently have debt securities registered with the SEC and because we do not have and are not seeking to list any securities on a national securities exchange or on an inter-dealer quotation system, we are not required to have a board of directors comprised of a majority of independent directors under SEC rules or any listing standards. Accordingly, our board of directors has not made any determination as to whether the three outside directors satisfy any independence requirements applicable to board members under the rules of the SEC or any national securities exchange, inter-dealer quotation system or any other independence definition.

## ***Board Committees***

Our board of directors has appointed an audit committee and a compensation committee. Messrs. Kagan, Keenan and Manning serve as the members of those committees.

### **Audit Committee**

Our audit committee is comprised of Messrs. Kagan, Keenan and Manning. Our board of directors has determined that each of Messrs. Kagan, Keenan and Manning are "audit committee financial experts" within the meaning of applicable SEC rules as a result of their extensive experience as investment bankers and principals of private equity firms. Because we do not have a class of securities listed on any national securities exchange or national securities association, we are not required to have an audit committee comprised of independent directors for purposes of the Securities Exchange Act of 1934, as amended. Accordingly, our board of directors has not made any determination as to whether the members of the audit committee of our board of directors satisfy the independence requirements applicable to audit committee members under the Exchange Act.

### ***Compensation Committee Interlocks and Insider Participation***

None of our executive officers has served as a director or member of the compensation committee of any other entity whose executive officers served as a director or member of our compensation committee.

### **Code of Ethics**

We have adopted a Financial Code of Ethics that applies to our principal executive, financial and accounting officers. A copy of the Financial Code of Ethics applicable to our principal executive, financial and accounting officers is available upon written request to our Secretary at 1625 17th Street, Denver, Colorado 80202.

### **Certain Relationships and Related Party Transactions**

To date, our equity investors, including our Chief Executive Officer and our President, Chief Financial Officer and Secretary, have invested approximately \$1.4 billion in us. For a description of our ownership structure and the ownership of the equity interests in Antero Resources by its principal equity holders and by our directors and executive officers, please read "Business and Properties—Corporate Sponsorship" and "Our Principal Owners." We do not currently have any formal policy with respect to the review and approval of related party transactions.

### ***Antero Resources LLC Limited Liability Company Agreement***

Antero Resources LLC was formed in connection with our November 2009 corporate reorganization. The limited liability company agreement of Antero provides for a number of different classes of units, which are owned by Antero's equity investors and employees. Under Antero's limited liability company agreement, if Antero proposes to issue certain additional equity securities prior to any initial public offering of its equity securities, certain of the existing holders of Antero's units who are "accredited investors" under the Securities Act will have the right to purchase a pro rata amount of such securities. Certain of the units are subject to rights of first refusal held by Antero and the other members. In addition, if, after complying with the applicable rights of first refusal, any member seeks to sell any units, the terms of such sale must include, from the third party buyer, an offer to purchase, on the same terms, a proportional number of units of the same class of units to be sold by such selling member from each member that holds units of the class that the selling member is proposing to sell. Furthermore, if holders of at least 69% of certain classes of units and the director designated by

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Warburg Pincus approve a sale of Antero, then all members will be required both to approve the sale and to agree to sell all of their units on the terms and conditions of such approved sale.

None of Antero's outstanding units are entitled to current cash distributions or are convertible into indebtedness, and Antero has no obligation to repurchase these units at the election of the unitholders. Although Antero is required to make quarterly distributions to cover any income taxes allocated to each unitholder, the unitholders have no other rights to cash distributions (except in the case of certain liquidation events). As a result of the gain we realized on the sale of our midstream assets in 2010, we made a distribution to unitholders on February 14, 2011 of \$28.9 million to cover income taxes allocated to the unitholders resulting from the gain. We do not anticipate making any additional tax distributions in the foreseeable future. Pursuant to the terms of Antero's limited liability company agreement, upon certain liquidation events, units held by our private equity sponsors and institutional investors are entitled to receive, prior to any amounts received by other unitholders, an amount equal to the initial purchase price of such units plus a special distribution with respect to such units and will continue to participate on a pro rata basis with other unitholders in any excess funds available in liquidation.

The board of directors of Antero currently consists of five members who have been designated in accordance with Antero's limited liability company agreement. Each of Warburg Pincus, Yorktown Energy Partners and Trilantic Capital Partners currently has the right to designate one director to the board of directors of Antero. The remaining two members of Antero's board of directors are our Chief Executive Officer and our Chief Financial Officer. Warburg Pincus currently has the right to designate one additional member of Antero's board of directors after consultation with the management directors and the other investors in Antero.

***Antero Resources Employee Holdings***

Concurrent with the closing of the November 2009 corporate reorganization, Antero Resources LLC issued profits interests to Antero Resources Employee Holdings LLC, a newly formed Delaware limited liability company, owned solely by certain of our officers and employees. These profits interests only participate in distributions upon liquidation events meeting certain requisite financial return thresholds. In turn, Antero Resources Employee Holdings LLC issued similar profits interests to certain of our officers and employees.

## OUR PRINCIPAL OWNERS

### Beneficial Ownership

The operating subsidiaries together own all of Antero Resources Finance Corporation's outstanding shares of common stock. Antero Resources LLC owns all of the outstanding shares of common stock of each of the operating subsidiaries.

The following table sets forth the number of voting units in Antero Resources LLC beneficially owned by (1) all persons who, to the knowledge of our management team, beneficially own more than 5% of the outstanding voting units of Antero Resources LLC, (2) each of our current directors, (3) each of our Named Executive Officers and (4) all of our current directors and officers as a group. Except as otherwise noted, information is presented as of March 14, 2013 and the mailing address of each person or entity named in the table is 1625 17th Street, Denver, Colorado, 80202.

<u>Name and Address of Beneficial Owner</u>	<u>Total Number of Voting Units</u>	<u>Percent of Total Voting Units Outstanding(1)</u>
Warburg Pincus(2) 450 Lexington Avenue New York, NY 10017	56,557,133	38.4%
Yorktown Energy Partners(3) 410 Park Avenue, 19th Floor New York, NY 10022	15,942,448	10.8%
Trilantic Capital Partners(4) 399 Park Avenue New York, NY 10022	12,471,533	8.5%
Peter R. Kagan(5)	56,557,133	38.4%
W. Howard Keenan, Jr.(6)	15,942,448	10.8%
Christopher R. Manning(7)	12,471,533	8.5%
Paul M. Rady(8)	21,125,461	14.3%
Glen C. Warren, Jr.(9)	14,083,641	9.6%
Alvyn A. Schopp	855,574	*%
Kevin J. Kilstrom	530,653	*%
<b>Directors and officers as a group (11 persons)</b>	<b>38,687,713</b>	<b>26.3%</b>

\* Less than one percent.

(1) Based on 147,288,521 total outstanding voting units at March 14, 2013.

(2) The Warburg Pincus members are Warburg Pincus Private Equity VIII, L.P., a Delaware limited partnership, ("WP VIII", and together with its two affiliated partnerships Warburg Pincus Netherlands Private Equity VIII C.V. I, a company formed under the laws of the Netherlands ("WP VIII CV I"), and WP-WPVIII Investors, L.P., a Delaware limited partnership, ("WP-WPVIII Investors"), collectively, the "WP VIII Funds"), Warburg Pincus Private Equity X, L.P., a Delaware limited partnership ("WP X"), and Warburg Pincus X Partners, L.P., a Delaware limited partnership ("WP X Partners," and together with WP X, "WP X Funds"), and Warburg Pincus Private Equity X O&G, L.P., a Delaware limited partnership ("WP X O&G"), through their beneficial interests in WP Antero LLC, a Delaware limited liability company, an indirect subsidiary of WP X, WP X O&G, WP-WPVIII Investors and a direct subsidiary of WP X Partners, WP VIII and WP VIII CV I. Warburg Pincus X, L.P., a Delaware limited partnership ("WP X GP"), is the general partner of WP X Funds and WP X O&G. Warburg Pincus X LLC, a Delaware limited liability company ("WP X LLC"), is the general partner of WP X GP. WP-WPVIII Investors LLC, a Delaware limited liability company ("WP-WPVIII LLC"), is the general partner of WP-WPVIII



Investors. Warburg Pincus Partners LLC, a New York limited liability company ("WP Partners"), is the sole member of WP X LLC and WP-WPVIII Investors LLC and the general partner of WP VIII and WP VIII CV I. Warburg Pincus & Co., a New York general partnership ("WP"), is the managing member of WP Partners. Warburg Pincus LLC, a New York limited liability company ("WP LLC"), is the manager of the WP VIII Funds, WP X Funds, and WP X O&G. Charles R. Kaye and Joseph P. Landy are Managing General Partners of WP and Managing Members and Co-Presidents of WP LLC and may be deemed to control the Warburg Pincus entities. Messrs. Kaye and Landy disclaim beneficial ownership of all shares held by the Warburg Pincus entities.

- (3) The holdings of Yorktown Energy Partners are collectively held by Yorktown Energy Partners V, L.P., Yorktown Energy Partners, VI, L.P., Yorktown Energy Partners VII, L.P. and Yorktown Energy Partners VIII, L.P.
- (4) The Trilantic Capital Partners ("TCP") members are TCP Antero I-1 Holdco, LLC; TCP Antero I-2 Holdco, LLC; and TCP Antero I-4 Holdco, LLC.
- (5) Peter R. Kagan, one of our directors, is a Partner of WP and a Member and Managing Director of WP LLC. All units indicated as owned by Mr. Kagan are included because of his affiliation with the Warburg Pincus entities. Mr. Kagan disclaims beneficial ownership of all units held by the Warburg Pincus entities. For additional information, see footnote 2 above.
- (6) W. Howard Keenan, Jr., one of our directors, is a member and a manager of the general partner of and a limited partner of each of Yorktown Energy Partners V, L.P., Yorktown Energy Partners VI, L.P., Yorktown Energy Partners VII, L.P. and Yorktown Energy Partners VIII, L.P. and holds all securities received as director compensation for the benefit of those entities. Mr. Keenan disclaims beneficial ownership of all such securities as well as those held by Yorktown Energy Partners V, L.P., Yorktown Energy Partners VI, L.P., Yorktown Energy Partners VII, L.P. and Yorktown Energy Partners VIII, L.P. except to the extent of his pecuniary interest therein. Mr. Keenan was elected to our Board of Directors as a Yorktown Energy Partners designee. For additional information, see footnote 3 above.
- (7) Christopher R. Manning, one of our directors, is partner of TCP. Mr. Manning was elected to our Board of Directors as a TCP designee. All units indicated as owned by Mr. Manning are included because of his affiliation with TCP. Mr. Manning disclaims beneficial ownership of all units held by the TCP entities. For additional information, see footnote 4 above.
- (8) Mr. Rady, our Chief Executive Officer and Chairman of the Board, is the managing member of Salisbury Investment Holdings, LLC and Mockingbird Investments, LLC and the holdings of Mr. Rady reflected above include both the direct personal holdings of Mr. Rady, the holdings of Salisbury Investment Holdings, LLC, and the holdings of Mockingbird Investments, LLC. Mr. Rady has sole voting and investment power over the units held by Salisbury Investment Holdings, LLC and Mockingbird Investments LLC.
- (9) Mr. Warren, our President, Chief Financial Officer and Secretary and one of our directors, is the managing member of Canton Investment Holdings, LLC and the holdings of Mr. Warren reflected above include both the direct personal holdings of Mr. Warren and the holdings of Canton Investment Holdings, LLC. Mr. Warren has sole voting and investment power over the units held by Canton Investment Holdings, LLC.

## DESCRIPTION OF NOTES

We will issue the new Notes under an indenture dated as of November 19, 2012 (the "Indenture"), among us, the Parent Guarantor, the Subsidiary Guarantors and Wells Fargo Bank, National Association, as trustee (the "Trustee"). The terms of the Notes include those expressly set forth in the Indenture and those made part of the Indenture by reference to the Trust Indenture Act of 1939, as amended (the "Trust Indenture Act").

The Indenture is unlimited in aggregate principal amount. On November 19, 2012, we issued \$300 million principal amount of Notes under the Indenture and on February 4, 2013, we issued an additional \$225 million principal amount of Notes under the Indenture. References in this "Description of Notes" to "Issue Date" mean November 19, 2012, the date on which the Notes were initially issued. From time to time in the future, we may issue an unlimited principal amount of additional notes having identical terms and conditions as the outstanding Notes and the new Notes (the "Additional Notes"). We will only be permitted to issue such Additional Notes in compliance with the covenant described under the subheading "—Certain Covenants—Limitation on Indebtedness and Preferred Stock." Any Additional Notes will be part of the same series as the new Notes and the outstanding Notes and will vote on all matters with the holders of such other Notes. Unless the context otherwise requires, for all purposes of the Indenture and this "Description of Notes," references to the Notes include the new Notes and the old Notes and any Additional Notes actually issued.

This description of notes is intended to be a useful overview of the material provisions of the Notes and the Indenture. Since this description of notes is only a summary, you should refer to the Indenture for a complete description of the obligations of the Issuer and the Guarantors and your rights. A copy of the Indenture has been filed as an exhibit to the registration statement of which the prospectus is a part.

You will find the definitions of capitalized terms used in this "Description of Notes" under the heading "—Certain Definitions." For purposes of this description, references to "the Issuer," "we," "our" and "us" refer only to Antero Resources Finance Corporation, the issuer of the Notes, and references to "the Parent Guarantor" refer only to Antero Resources LLC and not to any of its subsidiaries.

The registered holder of a Note will be treated as the owner of it for all purposes. Only registered holders of the Notes have rights under the Indenture, and all references to "holders" in this description are to registered holders of the Notes.

If the exchange offer contemplated by this prospectus is consummated, holders of old Notes who do not exchange those Notes for new Notes in the exchange offer will vote together with holders of new Notes for all relevant purposes under the Indenture. In that regard, the Indenture requires that certain actions by the holders thereunder must be taken, and certain rights must be exercised, by specified minimum percentages of the aggregate principal amount of the outstanding securities issued under the Indenture. In determining whether holders of the requisite percentage in principal amount have given any notice, consent or waiver or taken any other action permitted under the Indenture, any old Notes that remain outstanding after the exchange offer will be aggregated with the new Notes, and the holders of such old Notes and the new Notes will vote together as a single class for all such purposes. Accordingly, all references herein to specified percentages in aggregate principal amount of the Notes outstanding shall be deemed to mean, at any time after the exchange offer is consummated, such percentages in aggregate principal amount of the old Notes and the new Notes then outstanding.

### General

*The New Notes.* Like the old Notes, the new Notes:

- will be general unsecured, senior obligations of the Issuer;

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- will mature on December 1, 2020;
- will be issued in denominations of \$2,000 and integral multiples of \$1,000 in excess of \$2,000;
- will be represented by one or more registered Notes in global form, but in certain circumstances may be represented by Notes in definitive form, see "Book-Entry; Delivery and Form";
- will rank senior in right of payment to any future Subordinated Obligations of the Issuer;
- will rank equally in right of payment to any other senior Indebtedness of the Issuer (including the Issuer's guarantee under the Senior Secured Credit Agreement), without giving effect to collateral arrangements;
- will be initially unconditionally guaranteed on a senior unsecured basis by the Parent Guarantor and each current Subsidiary of the Parent Guarantor, see "—Guarantees"; and
- will effectively rank junior to any future secured Indebtedness of the Issuer, to the extent of the value of the collateral securing such Indebtedness.

*The Guarantees.* The Parent Guarantor and all of its Subsidiaries (other than the Issuer) have guaranteed the old Notes and will guarantee the new Notes when they are issued. Each Guarantee of the new Notes, like each Guarantee of the old Notes:

- will be general unsecured, senior obligations of the Guarantor;
- will rank senior in right of payment to any future Guarantor Subordinated Obligations of the Guarantor;
- will rank equally in right of payment to any other existing and future senior Indebtedness of the Guarantor, without giving effect to collateral arrangements;
- will effectively rank junior to all existing and future secured Indebtedness of the Guarantor, including any borrowings and guarantees under the Senior Secured Credit Agreement, to the extent of the value of the collateral securing such Indebtedness; and
- will rank structurally junior to all future Indebtedness and other obligations of any non-guarantor Subsidiary of the Guarantor.

Currently, all of the Subsidiaries of the Parent Guarantor are Subsidiary Guarantors (except for the Issuer), and all of the Subsidiaries of the Parent Guarantor are Restricted Subsidiaries. Certain future Subsidiaries of the Parent Guarantor may not be required to guarantee the Notes. See "—Certain Covenants—Future Subsidiary Guarantors." Also, under the circumstances described below in the definition of "Unrestricted Subsidiary" under the heading "—Certain Definitions," the Parent Guarantor may designate certain of its Subsidiaries as "Unrestricted Subsidiaries." Unrestricted Subsidiaries will not guarantee the Notes and will not be subject to the restrictive covenants in the Indenture.

*Interest.* Interest on the new Notes will:

- accrue at the rate of 6.0% per annum;
- accrue from the Issue Date or, if interest has already been paid, from the most recent interest payment date;
- be payable in cash semi-annually in arrears on June 1 and December 1, commencing on June 1, 2013;
- be payable to the holders of record on the May 15 and November 15 immediately preceding the related interest payment dates; and

- be computed on the basis of a 360-day year comprised of twelve 30-day months.

If an interest payment date falls on a day that is not a Business Day, the interest payment to be made on such interest payment date will be made on the next succeeding Business Day with the same force and effect as if made on such interest payment date, and no additional interest will accrue as a result of such delayed payment. The Issuer will pay interest on overdue principal of the Notes at the above rate, and overdue installments of interest at such rate, to the extent lawful.

#### **Payments on the Notes; Paying Agent and Registrar**

We will pay principal of, premium, if any, and interest on the Notes at the office or agency designated by us in the City and State of New York, except that we may, at our option, pay interest on the Notes by check mailed to holders of the Notes at their registered address as it appears in the registrar's books. We have initially designated the corporate trust office of the Trustee in Minneapolis, Minnesota to act as our paying agent and its corporate trust office in Dallas, Texas to act as registrar. We may, however, change the paying agent or registrar without prior notice to the holders of the Notes, and the Parent Guarantor or any of its Restricted Subsidiaries may act as paying agent or registrar.

We will pay principal of, premium, if any, and interest on, Notes in global form registered in the name of or held by The Depository Trust Company or its nominee in immediately available funds to The Depository Trust Company or its nominee, as the case may be, as the registered holder of such global Note.

#### **Transfer and Exchange**

A holder may transfer or exchange Notes in accordance with the Indenture. The registrar and the Trustee may require a holder, among other things, to furnish appropriate endorsements and transfer documents in connection with a transfer of Notes. No service charge will be imposed by the Issuer, the Trustee or the registrar for any registration of transfer or exchange of Notes, but the Issuer may require a holder to pay a sum sufficient to cover any transfer tax or other governmental taxes and fees required by law or permitted by the Indenture. The Issuer is not required to transfer or exchange any Note selected for redemption. Also, the Issuer is not required to transfer or exchange any Note for a period of 15 days before a selection of Notes to be redeemed.

The registered holder of a Note will be treated its owner for all purposes.

#### **Optional Redemption**

On and after December 1, 2015, we may redeem all or, from time to time, a part of the Notes upon notice as set forth under "—Selection and Notice," at the following redemption prices (expressed as a percentage of principal amount of the Notes), plus accrued and unpaid interest, if any, to the applicable redemption date (subject to the right of holders of record on the relevant record date to receive interest due on the relevant interest payment date), if redeemed during the 12 month period beginning on December 1 of the years indicated below:

<u>Year</u>	<u>Percentage</u>
2015	104.500%
2016	103.000%
2017	101.500%
2018 and thereafter	100.000%

On or prior to December 1, 2015, we may, at our option, on any one or more occasions, upon notice as set forth under "—Selection and Notice," redeem up to 35% of the aggregate principal

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amount of the Notes (including Additional Notes) issued under the Indenture with the Net Cash Proceeds of one or more Equity Offerings at a redemption price of 106.0% of the principal amount thereof, plus accrued and unpaid interest, if any, to the redemption date (subject to the right of holders of record on the relevant record date to receive interest due on the relevant interest payment date); provided that:

(1) at least 65% of the aggregate principal amount of the Notes (including Additional Notes) issued under the Indenture remains outstanding after each such redemption; and

(2) the redemption occurs within 180 days after the closing of the related Equity Offering.

If a Change of Control occurs at any time prior to January 1, 2014, the Issuer may, at its option, redeem all, but not less than all, of the Notes upon not less than 30 nor more than 60 days' prior notice, at a redemption price equal to 110.0% of the principal amount of the Notes redeemed, plus accrued and unpaid interest, if any, to the redemption date (subject to the rights of holders of record on the relevant record date to receive interest due on the relevant interest payment date). If the Issuer elects to exercise this redemption right, it must do so by mailing a redemption notice to each Holder with a copy to the Trustee within 60 days following the Change of Control (or, at the Issuer's option, prior to such Change of Control but after the transaction giving rise to such Change of Control is publicly announced). Any such redemption may be conditioned upon the Change of Control occurring if the notice is mailed prior to the Change of Control. If the Issuer exercises the Change of Control redemption right, it may elect not to make the Change of Control Offer described below under "—Change of Control" unless it defaults in payments due upon redemption.

In addition, the Notes may be redeemed, in whole or in part, at any time prior to December 1, 2015 at the option of the Issuer upon notice set forth under "—Selection and Notice," at a redemption price equal to 100% of the principal amount of the Notes redeemed plus the Applicable Premium as of, and accrued and unpaid interest to, the applicable redemption date (subject to the right of holders of record on the relevant record date to receive interest due on the relevant interest payment date).

"*Applicable Premium*" means, with respect to any Note on any applicable redemption date, the greater of:

(1) 1.0% of the principal amount of such Note; or

(2) the excess, if any, of:

(a) the present value at such redemption date of (i) the redemption price of such Note at December 1, 2015 (such redemption price being set forth in the table appearing in the first paragraph of this "Optional Redemption" section) plus (ii) all required interest payments (excluding accrued and unpaid interest to such redemption date) due on such Note through December 1, 2015 computed using a discount rate equal to the Treasury Rate as of such redemption date plus 50 basis points; over

(b) the principal amount of such Note.

"*Treasury Rate*" means, as of any redemption date, the yield to maturity at the time of computation of United States Treasury securities with a constant maturity (as compiled and published in the most recent Federal Reserve Statistical Release H.15 (519) which has become publicly available at least two Business Days prior to the redemption date (or, if such Statistical Release is no longer published, any publicly available source of similar market data)) most nearly equal to the period from the redemption date to December 1, 2015; provided, however, that if the period from the redemption date to December 1, 2015 is not equal to the constant maturity of a United States Treasury security for which a weekly average yield is given, the Treasury Rate shall be obtained by linear interpolation (calculated to the nearest one-twelfth of a year) from the weekly average yields of United States Treasury securities for which such yields are given, except that if the period from the redemption date to December 1,

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2015 is less than one year, the weekly average yield on actually traded United States Treasury securities adjusted to a constant maturity of one year shall be used. The Issuer will (a) calculate the Treasury Rate as of the second Business Day preceding the applicable redemption date and (b) prior to such redemption date file with the Trustee an Officers' Certificate setting forth the Applicable Premium and the Treasury Rate and showing the calculation of each in reasonable detail.

### **Selection and Notice**

If the Issuer is redeeming less than all of the outstanding Notes, the Trustee will select the Notes for redemption in compliance with the requirements of the principal national securities exchange, if any, on which the Notes are listed or, if the Notes are not listed, then on a pro rata basis, by lot or by such other method as the Trustee in its sole discretion will deem to be fair and appropriate (or, in the case of Notes in global form, the Trustee will select Notes for redemption based on DTC's method that most nearly approximates a pro rata selection), although no Note of \$2,000 in original principal amount or less will be redeemed in part. Notices of redemption will be mailed by first-class mail at least 30 but not more than 60 days before the redemption date to each holder of Notes to be redeemed at its registered address, except that redemption notices may be mailed more than 60 days prior to a redemption date if the notice is issued in connection with a legal defeasance or covenant defeasance of the Notes or a satisfaction and discharge of the Indenture. If any Note is to be redeemed in part only, the notice of redemption relating to such Note will state the portion of the principal amount thereof to be redeemed. A new Note in principal amount equal to the unredeemed portion thereof will be issued in the name of the holder thereof upon cancellation of the partially redeemed Note. On and after the redemption date, interest will cease to accrue on Notes or the portion of them called for redemption unless we default in the payment thereof. Any redemption or notice of redemption may, at our discretion, be subject to one or more conditions precedent and, in the case of a redemption with the Net Cash Proceeds of an Equity Offering, be given prior to the completion of the related Equity Offering.

### **Mandatory Redemption; Offers to Purchase; Open Market Purchases**

We are not required to make mandatory redemption payments or sinking fund payments with respect to the Notes. However, under certain circumstances, we may be required to offer to purchase Notes as described under the captions "—Change of Control" and "—Certain Covenants—Limitation on Sales of Assets and Subsidiary Stock."

The Parent Guarantor and its Subsidiaries may acquire Notes by means other than a redemption or required repurchase, whether by tender offer, open market purchases, negotiated transactions or otherwise, in accordance with applicable securities laws, so long as such acquisition does not otherwise violate the terms of the Indenture. However, other existing or future agreements of the Parent Guarantor or its Subsidiaries may limit the ability of the Parent Guarantor or its Subsidiaries to purchase Notes prior to maturity.

### **Ranking of the Notes**

The new Notes, like the old Notes, will be general unsecured obligations of the Issuer that rank senior in right of payment to any of its future Indebtedness that is expressly subordinated in right of payment to the Notes. The new Notes will rank equally in right of payment with all other Indebtedness of the Issuer that is not so subordinated and will be effectively subordinated to any of its future secured Indebtedness, to the extent of the value of the collateral securing such Indebtedness.

## **Guarantees**

The Parent Guarantor and the Subsidiary Guarantors have, jointly and severally, fully and unconditionally guaranteed on a senior unsecured basis our obligations under the Notes and all obligations under the Indenture. The obligations of each of the Guarantors under the Guarantees rank equally in right of payment with all other Indebtedness of such Guarantor, except to the extent such other Indebtedness is expressly subordinated in right of payment to the obligations arising under its Guarantee.

Although the Indenture limits the amount of Indebtedness that the Parent Guarantor and its Restricted Subsidiaries may Incur, such Indebtedness may be substantial and such limitation is subject to a number of significant qualifications. Moreover, the Indenture does not impose any limitation on the Incurrence by such Persons of liabilities that are not considered Indebtedness under the Indenture. See "—Certain Covenants—Limitation on Indebtedness and Preferred Stock."

The obligations of each Guarantor under its Guarantee will be limited as necessary to prevent that Guarantee from constituting a fraudulent conveyance or fraudulent transfer under applicable law, although no assurance can be given that a court would give the holder the benefit of such provision. See "Risk Factors—Risks Relating to Investment in the Notes—Any guarantees of the notes by Antero or the operating subsidiaries could be deemed fraudulent conveyances under certain circumstances, and a court may subordinate or void the guarantees." If a Guarantee were rendered voidable, it could be subordinated by a court to all other indebtedness (including guarantees and other contingent liabilities) of the applicable Guarantor, and, depending on the amount of such indebtedness, a Guarantor's liability on its Guarantee could be reduced to zero. If the obligations of a Guarantor under its Guarantee were avoided, holders of Notes would have to look to the assets of any remaining Guarantors for payment. There can be no assurance in that event that such assets would suffice to pay the outstanding principal and interest on the Notes.

In the event a Subsidiary Guarantor is sold or disposed of (whether by merger, consolidation, the sale of a sufficient amount of its Capital Stock so that it no longer qualifies as a "Subsidiary" of the Parent Guarantor or the sale of all or substantially all of its assets (other than by lease)) and whether or not the Subsidiary Guarantor is the surviving entity in such transaction to a Person which is not the Parent Guarantor or a Restricted Subsidiary of the Parent Guarantor, such Subsidiary Guarantor will be released from its obligations under its Subsidiary Guarantee if the sale or other disposition does not violate the covenants described under "—Certain Covenants—Limitation on Sales of Assets and Subsidiary Stock."

In addition, a Subsidiary Guarantor will be released from its obligations under the Indenture and its Subsidiary Guarantee, upon the release or discharge of the guarantee of other Indebtedness that resulted in the creation of such Subsidiary Guarantee pursuant to clause (b) of the covenant described under "—Certain Covenants—Future Subsidiary Guarantors," except a release or discharge by or as a result of payment under such guarantee; if the Parent Guarantor designates such Subsidiary as an Unrestricted Subsidiary and such designation complies with the other applicable provisions of the Indenture or in connection with any covenant defeasance, legal defeasance or satisfaction and discharge of the Notes as provided below under the captions "—Defeasance" and "—Satisfaction and Discharge." The Parent Guarantor will be released from its obligations under the Indenture and the Parent Guarantee only in connection with any such legal defeasance or satisfaction and discharge of the Notes.

## **Change of Control**

If a Change of Control occurs, unless the Issuer has previously or concurrently exercised its right to redeem all of the Notes as described under "—Optional Redemption," each holder will have the right to require the Issuer to repurchase all or any part (equal to \$2,000 or an integral multiple of

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\$1,000 in excess of \$2,000) of such holder's Notes at a purchase price in cash equal to 101% of the principal amount of the Notes plus accrued and unpaid interest, if any, to the date of purchase (subject to the right of holders of record on the relevant record date to receive interest due on the relevant interest payment date).

Within 30 days following any Change of Control, unless we have previously or concurrently exercised our right to redeem all of the Notes as described under "—Optional Redemption," we will mail a notice (the "Change of Control Offer") to each holder, with a copy to the Trustee, stating:

- (1) that a Change of Control has occurred and that such holder has the right to require us to purchase such holder's Notes at a purchase price in cash equal to 101% of the principal amount of such Notes plus accrued and unpaid interest, if any, to the date of purchase (subject to the right of holders of record on a record date to receive interest on the relevant interest payment date) (the "Change of Control Payment");
- (2) the repurchase date (which shall be no earlier than 30 days nor later than 60 days from the date such notice is mailed) (the "Change of Control Payment Date");
- (3) that any Note not properly tendered will remain outstanding and continue to accrue interest;
- (4) that unless we default in the payment of the Change of Control Payment, all Notes accepted for payment pursuant to the Change of Control Offer will cease to accrue interest on the Change of Control Payment Date;
- (5) that holders electing to have any Notes in certificated form purchased pursuant to a Change of Control Offer will be required to surrender such Notes, with the form entitled "Option of Holder to Elect Purchase" on the reverse of such Notes completed, to the paying agent specified in the notice at the address specified in the notice prior to the close of business on the third Business Day preceding the Change of Control Payment Date;
- (6) that holders will be entitled to withdraw their tendered Notes and their election to require us to purchase such Notes, provided that the paying agent receives, not later than the close of business on the third Business Day preceding the Change of Control Payment Date, a telegram, telex, facsimile transmission or letter setting forth the name of the holder of the Notes, the principal amount of Notes tendered for purchase, and a statement that such holder is withdrawing its tendered Notes and its election to have such Notes purchased;
- (7) that if we are repurchasing a portion of the Note of any holder, the holder will be issued a new Note equal in principal amount to the unpurchased portion of the Note surrendered, provided that the unpurchased portion of the Note must be equal to a minimum principal amount of \$2,000 and an integral multiple of \$1,000 in excess of \$2,000; and
- (8) the procedures determined by us, consistent with the Indenture, that a holder must follow in order to have its Notes repurchased.

On the Change of Control Payment Date, the Issuer will, to the extent lawful:

- (1) accept for payment all Notes or portions of Notes (in a minimum principal amount of \$2,000 and integral multiples of \$1,000 in excess of \$2,000) properly tendered pursuant to the Change of Control Offer and not properly withdrawn;
- (2) deposit with the paying agent an amount equal to the Change of Control Payment in respect of all Notes or portions of Notes accepted for payment; and



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(3) deliver or cause to be delivered to the Trustee the Notes so accepted together with an Officers' Certificate stating the aggregate principal amount of Notes or portions of Notes being purchased by the Issuer.

The paying agent will promptly mail or deliver to each holder of Notes accepted for payment the Change of Control Payment for such Notes, and the Trustee will promptly authenticate and mail (or cause to be transferred by book entry) to each holder a new Note equal in principal amount to any unpurchased portion of the Notes surrendered, if any; provided that each such new Note will be in a minimum principal amount of \$2,000 or an integral multiple of \$1,000 in excess of \$2,000.

If the Change of Control Payment Date is on or after an interest record date and on or before the related interest payment date, any accrued and unpaid interest, will be paid to the Person in whose name a Note is registered at the close of business on such record date, and no further interest will be payable to holders who tender pursuant to the Change of Control Offer.

The Change of Control provisions described above will be applicable whether or not any other provisions of the Indenture are applicable. Except as described above with respect to a Change of Control, the Indenture does not contain provisions that permit the holders to require that the Parent Guarantor or any Subsidiary repurchase or redeem the Notes in the event of a takeover, recapitalization or similar transaction.

We will not be required to make a Change of Control Offer upon a Change of Control if (1) the Parent Guarantor or any other Person makes the Change of Control Offer in the manner, at the times and otherwise in compliance with the requirements set forth in the Indenture applicable to a Change of Control Offer made by us and purchases all Notes validly tendered and not withdrawn under such Change of Control Offer or (2) notice of redemption has been given pursuant to the Indenture as described above under "Optional Redemption," unless and until there is a default in payment of the applicable redemption price.

A Change of Control Offer may be made in advance of a Change of Control, and conditioned upon the occurrence of a Change of Control, if a definitive agreement is in place for the Change of Control at the time of making the Change of Control Offer.

We will comply, to the extent applicable, with the requirements of Rule 14e-1 of the Exchange Act and any other securities laws or regulations in connection with the repurchase of Notes as a result of a Change of Control. To the extent that the provisions of any securities laws or regulations conflict with provisions of this covenant, we will comply with the applicable securities laws and regulations and will not be deemed to have breached our obligations under in the Indenture by virtue of our compliance with such securities laws or regulations.

Our ability to repurchase Notes pursuant to a Change of Control Offer may be limited by a number of factors. The occurrence of certain of the events that constitute a Change of Control would constitute a default under the Senior Secured Credit Agreement. In addition, certain events that may constitute a change of control under the Senior Secured Credit Agreement and cause a default under that agreement will not constitute a Change of Control under the Indenture. Future Indebtedness of the Parent Guarantor and its Subsidiaries may also contain prohibitions of certain events that would constitute a Change of Control or require such Indebtedness to be repaid upon a Change of Control. Moreover, the exercise by the holders of their right to require the Issuer to repurchase the Notes could cause a default under such Indebtedness, even if the Change of Control itself does not, due to the financial effect of such repurchase on the Parent Guarantor and its Restricted Subsidiaries. Finally, the Issuer's ability to pay cash to the holders upon a repurchase may be limited by the then existing financial resources of the Parent Guarantor and its Restricted Subsidiaries. There can be no assurance that sufficient funds will be available when necessary to make any required repurchases.

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Even if sufficient funds were otherwise available, the future Indebtedness of the Parent Guarantor or its Restricted Subsidiaries may prohibit the Issuer's repurchase of Notes before their scheduled maturity. Consequently, if the Parent Guarantor and its Restricted Subsidiaries are not able to prepay the Indebtedness under the Senior Secured Credit Agreement and any such other Indebtedness containing similar restrictions or obtain requisite consents, the Issuer will be unable to fulfill its repurchase obligations if holders of Notes exercise their repurchase rights following a Change of Control, resulting in a default under the Indenture. A default under the Indenture may result in a cross default under the Senior Secured Credit Agreement.

If holders of not less than 90% in aggregate principal amount of the outstanding Notes validly tender and do not withdraw such Notes in a Change of Control Offer and the Issuer, or any other Person making a Change of Control Offer in lieu of the Issuer as described above, purchases all of the Notes validly tendered and not withdrawn by such holders, the Issuer will have the right, upon not less than 30 nor more than 60 days' prior notice, given not more than 30 days following such purchase pursuant to the Change of Control Offer described above, to redeem all Notes that remain outstanding following such purchase at a redemption price in cash equal to the applicable Change of Control Payment plus, to the extent not included in the Change of Control Payment, accrued and unpaid interest, if any, to the date of redemption (subject to the right of holders of record on the relevant record date to receive interest due on the relevant interest payment date).

The Change of Control provisions described above may deter certain mergers, tender offers and other takeover attempts involving the Parent Guarantor. The Change of Control purchase feature is a result of negotiations between the initial purchasers and the Parent Guarantor. As of the Issue Date, the Parent Guarantor has no present intention to engage in a transaction involving a Change of Control, although it is possible that it could decide to do so in the future. Subject to the limitations discussed below, the Parent Guarantor or its Subsidiaries could, in the future, enter into certain transactions, including acquisitions, refinancings or other recapitalizations, that would not constitute a Change of Control under the Indenture, but that could increase the amount of indebtedness outstanding at such time or otherwise affect our capital structure or credit ratings. Restrictions on the ability of the Parent Guarantor and its Restricted Subsidiaries to incur additional Indebtedness are contained in the covenants described under "—Certain Covenants—Limitation on Indebtedness and Preferred Stock" and "—Certain Covenants—Limitation on Liens." Such restrictions in the Indenture can be waived only with the consent of the holders of a majority in principal amount of the Notes then outstanding. Except for the limitations contained in such covenants, however, the Indenture does not contain any covenants or provisions that may afford holders of the Notes protection in the event of a highly leveraged transaction.

The definition of "Change of Control" includes a disposition of all or substantially all of the assets of the Parent Guarantor and its Restricted Subsidiaries taken as a whole to any Person. Although there is a limited body of case law interpreting the phrase "substantially all," there is no precise established definition of the phrase under applicable law. Accordingly, in certain circumstances there may be a degree of uncertainty as to whether a particular transaction would involve a disposition of "all or substantially all" of the assets of a Person. As a result, it may be unclear as to whether a Change of Control has occurred and whether a holder of Notes may require the Issuer to make an offer to repurchase the Notes as described above. In a recent decision, the Chancery Court of Delaware raised the possibility that a Change of Control occurring as a result of a failure to have Continuing Directors comprising a majority of the Board of Directors may be unenforceable on public policy grounds.

The provisions under the Indenture relative to our obligation to make an offer to repurchase the Notes as a result of a Change of Control may be waived or modified or terminated with the consent of the holders of a majority in principal amount of the Notes then outstanding (including consents obtained in connection with a tender offer or exchange offer for the Notes) prior to the occurrence of such Change of Control.

## Certain Covenants

### *Limitation on Indebtedness and Preferred Stock*

The Parent Guarantor will not, and will not permit any of its Restricted Subsidiaries to, directly or indirectly, Incur any Indebtedness (including Acquired Indebtedness) and the Parent Guarantor will not permit any of its Restricted Subsidiaries to issue Preferred Stock; provided, however, that the Parent Guarantor may Incur Indebtedness and the Issuer and any of the Subsidiary Guarantors may Incur Indebtedness and issue Preferred Stock if on the date thereof:

- (1) the Consolidated Coverage Ratio for the Parent Guarantor and its Restricted Subsidiaries is at least 2.25 to 1.00, determined on a pro forma basis (including a pro forma application of proceeds); and
- (2) no Default would occur as a consequence of, and no Event of Default would be continuing following, Incurring the Indebtedness or its application.

The first paragraph of this covenant will not prohibit the Incurrence of the following Indebtedness:

- (1) Indebtedness under one or more Credit Facilities of (a) the Parent Guarantor, the Issuer or any Subsidiary Guarantor Incurred pursuant to this clause (1) in an aggregate amount not to exceed the greater of (i) \$1,250.0 million or (ii) the sum of \$400.0 million and 30.0% of the Parent Guarantor's Adjusted Consolidated Net Tangible Assets determined as of the date of the Incurrence of such Indebtedness after giving effect to the application of the proceeds therefrom and (b) any Foreign Subsidiary Incurred pursuant to this clause (1) in an aggregate amount not to exceed \$30.0 million, in each case outstanding at any one time;
- (2) guarantees of Indebtedness Incurred in accordance with the provisions of the Indenture; provided that in the event such Indebtedness that is being guaranteed is a Subordinated Obligation or a Guarantor Subordinated Obligation, then the related guarantee shall be subordinated in right of payment to the Notes or the Guarantee to at least the same extent as the Indebtedness being guaranteed, as the case may be;
- (3) Indebtedness of the Parent Guarantor owing to and held by any Restricted Subsidiary or Indebtedness of a Restricted Subsidiary owing to and held by the Parent Guarantor or any Restricted Subsidiary; provided, however, that (a)(i) if the Issuer is the obligor on such Indebtedness and the obligee is not a Guarantor, such Indebtedness must be expressly subordinated to the prior payment in full in cash of all obligations with respect to the Notes and (ii) if a Guarantor is the obligor of such Indebtedness and the obligee is neither the Issuer nor a Guarantor, such Indebtedness must be expressly subordinated to the prior payment in full in cash of all obligations of such Guarantor with respect to its Guarantee and (b)(i) any subsequent issuance or transfer of Capital Stock or any other event which results in any such Indebtedness being held by a Person other than the Parent Guarantor or a Restricted Subsidiary of the Parent Guarantor and (ii) any sale or other transfer of any such Indebtedness to a Person other than the Parent Guarantor or a Restricted Subsidiary of the Parent Guarantor shall be deemed, in each case, to constitute an Incurrence of such Indebtedness by the Parent Guarantor or such Subsidiary, as the case may be, that was not permitted by this clause;
- (4) Indebtedness represented by (a) the Notes issued on the Issue Date and all Guarantees, (b) any Indebtedness (other than the Indebtedness described in clauses (1), (2) and 4(a)) outstanding on the Issue Date, (c) any Exchange Notes and related guarantees issued pursuant to a Registration Rights Agreement and (d) any Refinancing Indebtedness Incurred in respect of any Indebtedness described in this clause (4) or clause (5) or (7) or Incurred pursuant to the first paragraph of this covenant;
- (5) Permitted Acquisition Indebtedness;

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(6) Indebtedness Incurred in respect of (a) self-insurance obligations, bid, appeal, reimbursement, performance, surety and similar bonds and completion guarantees provided by the Parent Guarantor or a Restricted Subsidiary in the ordinary course of business and any guarantees or letters of credit functioning as or supporting any of the foregoing bonds or obligations and (b) obligations represented by letters of credit for the account of the Parent Guarantor or a Restricted Subsidiary in order to provide security for workers' compensation claims (in the case of clauses (a) and (b) other than for an obligation for money borrowed);

(7) Indebtedness of the Parent Guarantor or any Restricted Subsidiary represented by Capitalized Lease Obligations (whether or not incurred pursuant to Sale/Leaseback Transactions) or other Indebtedness Incurred in connection with the acquisition, construction, improvement or development of real or personal, movable or immovable, property, in each case Incurred for the purpose of financing, refinancing, renewing, defeasing or refunding all or any part of the purchase price or cost of acquisition, construction, improvement or development of property used in the business of the Parent Guarantor or its Restricted Subsidiaries; provided that the aggregate principal amount Incurred by the Parent Guarantor or any Restricted Subsidiary pursuant to this clause (7) outstanding at any time shall not exceed the greater of (x) \$30.0 million and (y) 1.5% of the Parent Guarantor's Adjusted Consolidated Net Tangible Assets; and provided further that the principal amount of any Indebtedness permitted under this clause (7) did not in each case at the time of incurrence exceed the Fair Market Value, as determined in accordance with the definition of such term, of the acquired or constructed asset or improvement or development so financed;

(8) Preferred Stock (other than Disqualified Stock) of any Restricted Subsidiary;

(9) Cash Management Obligations of the Issuer or any Guarantor in an aggregate amount not to exceed \$25.0 million outstanding at any one time; and

(10) in addition to the items referred to in clauses (1) through (9) above, Indebtedness of the Parent Guarantor and its Restricted Subsidiaries in an aggregate outstanding principal amount which, when taken together with the principal amount of all other Indebtedness Incurred pursuant to this clause (10) and then outstanding, will not exceed the greater of \$50.0 million or 2.5% of the Parent Guarantor's Adjusted Consolidated Net Tangible Assets, determined as of the date of Incurrence of such Indebtedness after giving effect to such Incurrence and the application of the proceeds therefrom.

For purposes of determining compliance with, and the outstanding principal amount of any particular Indebtedness Incurred pursuant to and in compliance with, this covenant:

(1) in the event an item of that Indebtedness meets the criteria of more than one of the types of Indebtedness described in the first and second paragraphs of this covenant, the Parent Guarantor, in its sole discretion, will classify such item of Indebtedness on the date of Incurrence and, subject to clause (2) below may later classify, reclassify or redivide all or a portion of such item of Indebtedness, in any manner that complies with this covenant;

(2) all Indebtedness outstanding on the date of the Indenture under the Senior Secured Credit Agreement shall be deemed Incurred on the Issue Date under clause (1) of the second paragraph of this covenant;

(3) guarantees of, or obligations in respect of letters of credit supporting, Indebtedness which is otherwise included in the determination of a particular amount of Indebtedness shall not be included;

(4) if obligations in respect of letters of credit are Incurred pursuant to a Credit Facility and are being treated as Incurred pursuant to clause (1) of the second paragraph above and the letters of credit relate to other Indebtedness, then such other Indebtedness shall not be included;

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(5) the principal amount of any Disqualified Stock of the Parent Guarantor or a Restricted Subsidiary, or Preferred Stock of a Restricted Subsidiary that is not a Subsidiary Guarantor, will be equal to the greater of the maximum mandatory redemption or repurchase price (not including, in either case, any redemption or repurchase premium) or the liquidation preference thereof;

(6) Indebtedness permitted by this covenant need not be permitted solely by reference to one provision permitting such Indebtedness but may be permitted in part by one such provision and in part by one or more other provisions of this covenant permitting such Indebtedness; and

(7) the amount of Indebtedness issued at a price that is less than the principal amount thereof will be equal to the amount of the liability in respect thereof determined in accordance with GAAP.

Accrual of interest, accrual of dividends, the amortization of debt discount or the accretion of accreted value, the payment of interest in the form of additional Indebtedness, the payment of dividends in the form of additional shares of Preferred Stock or Disqualified Stock and unrealized losses or charges in respect of Hedging Obligations (including those resulting from the application of FASB Accounting Standards Codification ("ASC") Topic No. 815, Derivatives and Hedging) will not be deemed to be an Incurrence of Indebtedness for purposes of this covenant.

The Parent Guarantor will not permit any of its Unrestricted Subsidiaries to Incur any Indebtedness (including to issue any shares of Disqualified Stock) other than Non-Recourse Debt. If at any time an Unrestricted Subsidiary becomes a Restricted Subsidiary, any Indebtedness of such Subsidiary shall be deemed to be Incurred by a Restricted Subsidiary as of such date (and, if such Indebtedness is not permitted to be Incurred as of such date under this "Limitation on Indebtedness and Preferred Stock" covenant, the Parent Guarantor shall be in Default of this covenant).

For purposes of determining compliance with any U.S. dollar denominated restriction on the Incurrence of Indebtedness, the U.S. dollar equivalent principal amount of Indebtedness denominated in a foreign currency shall be calculated based on the relevant currency exchange rate in effect on the date such Indebtedness was Incurred, in the case of term Indebtedness, or first committed, in the case of revolving credit Indebtedness; provided that if such Indebtedness is Incurred to refinance other Indebtedness denominated in a foreign currency, and such refinancing would cause the applicable U.S. dollar denominated restriction to be exceeded if calculated at the relevant currency exchange rate in effect on the date of such refinancing, such U.S. dollar denominated restriction shall be deemed not to have been exceeded so long as the principal amount of such refinancing Indebtedness does not exceed the principal amount of such Indebtedness being refinanced. Notwithstanding any other provision of this covenant, the maximum amount of Indebtedness that any Person may Incur pursuant to this covenant shall not be deemed to be exceeded solely as a result of fluctuations in the exchange rates of currencies. The principal amount of any Indebtedness Incurred to refinance other Indebtedness, if Incurred in a different currency from the Indebtedness being refinanced, shall be calculated based on the currency exchange rate applicable to the currencies in which such Refinancing Indebtedness is denominated that is in effect on the date of such refinancing.

The Indenture does not treat (1) unsecured Indebtedness as subordinated or junior to secured Indebtedness merely because it is unsecured or (2) senior Indebtedness as subordinated or junior to any other senior Indebtedness merely because it has a junior priority with respect to the same collateral.

***Limitation on Restricted Payments***

The Parent Guarantor will not, and will not permit any of its Restricted Subsidiaries, directly or indirectly, to:

(1) declare or pay any dividend or make any payment or distribution on or in respect of the Parent Guarantor's Capital Stock (including any payment or distribution in connection with any merger or consolidation involving the Parent Guarantor or any of its Restricted Subsidiaries) except:

(a) dividends or distributions by the Parent Guarantor payable solely in Capital Stock of the Parent Guarantor (other than Disqualified Stock but including options, warrants or other rights to purchase such Capital Stock of the Parent Guarantor); and

(b) dividends or distributions payable to the Parent Guarantor or a Restricted Subsidiary and if such Restricted Subsidiary is not a Wholly-Owned Subsidiary, to minority stockholders (or owners of an equivalent interest in the case of a Subsidiary that is an entity other than a corporation) so long as the Parent Guarantor or a Restricted Subsidiary receives at least its pro rata share of such dividend or distribution;

(2) purchase, repurchase, redeem, defease or otherwise acquire or retire for value any Capital Stock of the Parent Guarantor or any direct or indirect parent of the Parent Guarantor held by Persons other than the Parent Guarantor or a Restricted Subsidiary (other than in exchange for Capital Stock of the Parent Guarantor (other than Disqualified Stock));

(3) purchase, repurchase, redeem, defease or otherwise acquire or retire for value, prior to scheduled maturity, scheduled repayment or scheduled sinking fund payment, any Subordinated Obligations or Guarantor Subordinated Obligations (other than (x) Indebtedness permitted under clause (3) of the second paragraph of the covenant described under "—Limitation on Indebtedness and Preferred Stock" or (y) the purchase, repurchase, redemption, defeasance or other acquisition or retirement for value of Subordinated Obligations or Guarantor Subordinated Obligations purchased in anticipation of satisfying a sinking fund obligation, principal installment or final maturity, in each case due within one year of the date of purchase, repurchase, redemption, defeasance or other acquisition or retirement for value); or

(4) make any Restricted Investment in any Person;

(any such dividend, distribution, purchase, redemption, repurchase, defeasance, other acquisition, retirement or Restricted Investment referred to in clauses (1) through (4) shall be referred to herein as a "Restricted Payment"), if at the time the Parent Guarantor or such Restricted Subsidiary makes such Restricted Payment:

(a) a Default shall have occurred and be continuing (or would result therefrom);

(b) the Parent Guarantor is not able to Incur an additional \$1.00 of Indebtedness pursuant to the covenant described under the first paragraph under "—Limitation on Indebtedness and Preferred Stock" after giving effect, on a pro forma basis, to such Restricted Payment; or

(c) the aggregate amount of such Restricted Payment and all other Restricted Payments declared or made subsequent to the Issue Date would exceed the sum of:

(i) 50% of Consolidated Net Income for the period (treated as one accounting period) from January 1, 2013 to the end of the most recent fiscal quarter ending prior to the date of such Restricted Payment for which internal financial statements are in existence (or, in case such Consolidated Net Income is a deficit, minus 100% of such deficit);

(ii) 100% of the aggregate Net Cash Proceeds and the Fair Market Value of property or securities other than cash (including Capital Stock of Persons engaged primarily in the Oil and Gas Business or assets used in the Oil and Gas Business), in each case received by the Parent Guarantor from the issue or sale of its Capital Stock (other than Disqualified Stock) or other capital contributions subsequent to the Issue Date (other than Net Cash Proceeds received from an issuance or sale of such Capital Stock to (x) management, employees, directors or any direct or indirect parent of the Parent Guarantor, to the extent such Net Cash Proceeds have been used to make a Restricted Payment pursuant to clause (5)(a) of the next succeeding paragraph, (y) a Subsidiary of the Parent Guarantor or (z) an employee stock ownership plan, option plan or similar trust (to the extent such sale to an employee stock ownership plan, option plan or similar trust is financed by loans from or guaranteed by the Parent Guarantor or any Restricted Subsidiary unless such loans have been repaid with cash on or prior to the date of determination));

(iii) the amount by which Indebtedness of the Parent Guarantor or its Restricted Subsidiaries is reduced on the Parent Guarantor's balance sheet upon the conversion or exchange (other than by a Subsidiary of the Parent Guarantor) subsequent to the Issue Date of any Indebtedness of the Parent Guarantor or its Restricted Subsidiaries convertible or exchangeable for Capital Stock (other than Disqualified Stock) of the Parent Guarantor (less the amount of any cash, or the Fair Market Value of any other property (other than such Capital Stock), distributed by the Parent Guarantor upon such conversion or exchange), together with the net proceeds, if any, received by the Parent Guarantor or any of its Restricted Subsidiaries upon such conversion or exchange; and

(iv) the amount equal to the aggregate net reduction in Restricted Investments made by the Parent Guarantor or any of its Restricted Subsidiaries in any Person after the Issue date resulting from:

(A) repurchases, repayments or redemptions of such Restricted Investments by such Person, proceeds realized upon the sale of such Restricted Investment (other than to a Subsidiary of the Parent Guarantor), repayments of loans or advances or other transfers of assets (including by way of dividend or distribution) by such Person to the Parent Guarantor or any Restricted Subsidiary;

(B) the redesignation of Unrestricted Subsidiaries as Restricted Subsidiaries (valued in each case as provided in the definition of "Investment") not to exceed, in the case of any Unrestricted Subsidiary, the amount of Investments previously made by the Parent Guarantor or any Restricted Subsidiary in such Unrestricted Subsidiary, which amount in each case under this clause (iv) was included in the calculation of the amount of Restricted Payments; provided, however, that no amount will be included under this clause (iv) to the extent it is already included in Consolidated Net Income; and

(C) the sale by the Parent Guarantor or any Restricted Subsidiary (other than to the Parent Guarantor or a Restricted Subsidiary) of all or a portion of the Capital Stock of an Unrestricted Subsidiary or a distribution from an Unrestricted Subsidiary or a dividend from an Unrestricted Subsidiary (whether any such distribution or dividend is made with proceeds from the issuance by such Unrestricted Subsidiary of its Capital Stock or otherwise).

The provisions of the preceding paragraph will not prohibit:

(1) any Restricted Payment made by exchange for, or out of the proceeds of the substantially concurrent sale of, Capital Stock of the Parent Guarantor (other than Disqualified Stock and other than Capital Stock issued or sold to a Subsidiary of the Parent Guarantor or an employee stock ownership plan or similar trust to the extent such sale to an employee stock ownership plan or similar trust is financed by loans from or Guaranteed by the Parent Guarantor or any Restricted Subsidiary unless such loans have been repaid with cash on or prior to the date of determination) or a substantially concurrent cash capital contribution received by the Parent Guarantor from its shareholders; provided, however, that (a) such Restricted Payment will be excluded from subsequent calculations of the amount of Restricted Payments and (b) the Net Cash Proceeds from such sale of Capital Stock or capital contribution will be excluded from clause (c)(ii) of the preceding paragraph;

(2) any purchase, repurchase, redemption, defeasance or other acquisition or retirement for value of Subordinated Obligations of the Issuer or Guarantor Subordinated Obligations of any Guarantor made by exchange for, or out of the proceeds of the substantially concurrent sale of, Subordinated Obligations of the Issuer or any purchase, repurchase, redemption, defeasance or other acquisition or retirement for value of Guarantor Subordinated Obligations made by exchange for or out of the proceeds of the substantially concurrent sale of Guarantor Subordinated Obligations that, in each case, is permitted to be Incurred pursuant to the covenant described under "—Limitation on Indebtedness and Preferred Stock"; provided, however, that such purchase, repurchase, redemption, defeasance, acquisition or retirement for value will be excluded from subsequent calculations of the amount of Restricted Payments;

(3) any purchase, repurchase, redemption, defeasance or other acquisition or retirement for value of Disqualified Stock of the Parent Guarantor or a Restricted Subsidiary made by exchange for, or out of the proceeds of the substantially concurrent sale of, Disqualified Stock of the Parent Guarantor or such Restricted Subsidiary, as the case may be, that, in each case, is permitted to be Incurred pursuant to the covenant described under "—Limitation on Indebtedness and Preferred Stock"; provided, however, that such purchase, repurchase, redemption, defeasance, acquisition or retirement for value will be excluded from subsequent calculations of the amount of Restricted Payments;

(4) dividends paid or distributions made within 60 days after the date of declaration if at such date of declaration such dividend or distribution would have complied with this covenant; provided, however, that such dividends and distributions will be included in subsequent calculations of the amount of Restricted Payments; and provided further, however, that for purposes of clarification, this clause (4) shall not include cash payments in lieu of the issuance of fractional shares included in clause (9) below;

(5) so long as no Default has occurred and is continuing, (a) the repurchase or other acquisition of Capital Stock (including options, warrants, equity appreciation rights or other rights to purchase or acquire Capital Stock) of the Parent Guarantor held by any existing or former employees, management or directors of the Parent Guarantor or any Restricted Subsidiary of the Parent Guarantor or their assigns, estates or heirs, in each case pursuant to the repurchase or other acquisition provisions under employee stock option or stock purchase plans or agreements or other agreements to compensate management, employees or directors, in each case approved by the Parent Guarantor's Board of Directors; provided that such repurchases or other acquisitions pursuant to this subclause (a) during any calendar year will not exceed \$2.0 million in the aggregate (with unused amounts in any calendar year being carried over to succeeding calendar years); provided further, that such amount in any calendar year may be increased by an amount not to exceed (A) the cash proceeds received by the Parent Guarantor from the sale of Capital



Stock of the Parent Guarantor to members of management or directors of the Parent Guarantor and its Restricted Subsidiaries that occurs after the Issue Date (to the extent the cash proceeds from the sale of such Capital Stock have not otherwise been applied to the payment of Restricted Payments by virtue of the clause (c) of the preceding paragraph), plus (B) the cash proceeds of key man life insurance policies received by the Parent Guarantor and its Restricted Subsidiaries after the Issue Date, less (C) the amount of any Restricted Payments made pursuant to clauses (A) and (B) of this clause (5)(a); provided further, however, that the amount of any such repurchase or other acquisition under this subclause (a) will be excluded in subsequent calculations of the amount of Restricted Payments and the proceeds received from any such transaction will be excluded from clause (c)(ii) of the preceding paragraph; and (b) loans or advances to employees or directors of the Parent Guarantor or any Subsidiary of the Parent Guarantor, in each case as permitted by Section 402 of the Sarbanes Oxley Act of 2002, the proceeds of which are used to purchase Capital Stock of the Parent Guarantor, or to refinance loans or advances made pursuant to this clause (5)(b), in an aggregate principal amount not in excess of \$2.0 million at any one time outstanding; provided, however, that the amount of such loans and advances will be included in subsequent calculations of the amount of Restricted Payments;

(6) purchases, repurchases, redemptions or other acquisitions or retirements for value of Capital Stock deemed to occur upon the exercise of stock options, warrants, rights to acquire Capital Stock or other convertible securities if such Capital Stock represents a portion of the exercise or exchange price thereof, and any purchases, repurchases, redemptions or other acquisitions or retirements for value of Capital Stock made in lieu of withholding taxes in connection with any exercise or exchange of warrants, options or rights to acquire Capital Stock; provided, however, that such acquisitions or retirements will be excluded from subsequent calculations of the amount of Restricted Payments;

(7) the purchase, repurchase, redemption, defeasance or other acquisition or retirement for value of any Subordinated Obligation (i) at a purchase price not greater than 101% of the principal amount of such Subordinated Obligation in the event of a Change of Control in accordance with provisions similar to the covenant described under "—Change of Control" or (ii) at a purchase price not greater than 100% of the principal amount thereof in accordance with provisions similar to the covenant described under "—Limitation on Sales of Assets and Subsidiary Stock"; provided that, prior to or simultaneously with such purchase, repurchase, redemption, defeasance or other acquisition or retirement, the Issuer has made the Change of Control Offer or Asset Disposition Offer, as applicable, as provided in such covenant with respect to the Notes and has completed the repurchase or redemption of all Notes validly tendered for payment in connection with such Change of Control Offer or Asset Disposition Offer; provided, however, that such acquisitions or retirements will be included in subsequent calculations of the amount of Restricted Payments;

(8) payments or distributions to dissenting stockholders pursuant to applicable law or in connection with the settlement or other satisfaction of legal claims made pursuant to or in connection with a consolidation, merger or transfer of assets; provided, however, that any payment pursuant to this clause (8) will be included in the calculation of the amount of Restricted Payments;

(9) cash payments in lieu of the issuance of fractional shares; provided, however, that any payment pursuant to this clause (9) will be excluded in the calculation of the amount of Restricted Payments;

(10) the declaration and payment of scheduled or accrued dividends to holders of any class of or series of Disqualified Stock of the Parent Guarantor issued after the Issue Date in accordance with the covenant captioned "—Limitation on Indebtedness and Preferred Stock", to the extent

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such dividends are included in Consolidated Interest Expense; provided, however, that any payment pursuant to this clause (10) will be excluded in the calculation of the amount of Restricted Payments;

(11) Permitted Tax Distributions; and

(12) Restricted Payments in an amount not to exceed \$25 million in the aggregate since the Issue Date; provided, however, that the amount of such Restricted Payments will be included in subsequent calculations of the amount of Restricted Payments.

The amount of all Restricted Payments (other than cash) shall be the Fair Market Value on the date of such Restricted Payment of the asset(s) or securities proposed to be paid, transferred or issued by the Parent Guarantor or such Restricted Subsidiary, as the case may be, pursuant to such Restricted Payment, except that the Fair Market Value of any non-cash dividend or distribution made within 60 days after the date of declaration shall be determined as of such date. The Fair Market Value of any cash Restricted Payment shall be its face amount and the Fair Market Value of any non-cash Restricted Payment shall be determined in accordance with the definition of that term. Not later than the date of making any Restricted Payment in excess of \$15.0 million that will be included in subsequent calculations of the amount of Restricted Payments, the Parent Guarantor shall deliver to the Trustee an Officers' Certificate stating that such Restricted Payment is permitted and setting forth the basis upon which the calculations required by the this covenant were computed.

In the event that a Restricted Payment meets the criteria of more than one of the exceptions described in (1) through (11) above or is entitled to be made pursuant to the first paragraph above, the Parent Guarantor shall, in its sole discretion, classify such Restricted Payment.

Currently, all of the Parent Guarantor's Subsidiaries are Restricted Subsidiaries. The Parent Guarantor will not permit any Unrestricted Subsidiary to become a Restricted Subsidiary except pursuant to the last sentence of the definition of "Unrestricted Subsidiary." For purpose of designating any Restricted Subsidiary as an Unrestricted Subsidiary, all outstanding Investments by the Parent Guarantor and its Restricted Subsidiaries (except to the extent repaid) in the Subsidiary so designated will be deemed to be Restricted Payments in an amount determined as set forth in the last sentence of the definition of "Investment." Such designation will be permitted only if a Restricted Payment in such amount would be permitted at such time, whether pursuant to the first paragraph of this covenant or under clause (11) of the second paragraph of this covenant, or pursuant to the definition of "Permitted Investments," and if such Subsidiary otherwise meets the definition of an Unrestricted Subsidiary. Unrestricted Subsidiaries will not be subject to any of the restrictive covenants set forth in the Indenture.

### ***Limitation on Liens***

The Parent Guarantor will not, and will not permit either the Issuer or any of its other Restricted Subsidiaries to, directly or indirectly, create, incur or suffer to exist any Lien (the "Initial Lien") other than Permitted Liens upon any of its property or assets (including Capital Stock of Restricted Subsidiaries), including any income or profits therefrom, whether owned on the date of the Indenture or acquired after that date, which Lien is securing any Indebtedness, unless contemporaneously with the Incurrence of such Lien effective provision is made to secure the Indebtedness due under the Parent Guarantee or, in respect of Liens on any Restricted Subsidiary's property or assets, the Notes (in the case of the Issuer) or any Subsidiary Guarantee of such other Restricted Subsidiary, equally and ratably with (or senior in priority to in the case of Liens with respect to Subordinated Obligations or Guarantor Subordinated Obligations, as the case may be) the Indebtedness secured by such Lien for so long as such Indebtedness is so secured.

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Any Lien created for the benefit of the holders of the Notes pursuant to the preceding paragraph shall provide by its terms that such Lien shall be automatically and unconditionally released and discharged upon the release and discharge of the Initial Lien.

***Limitation on Restrictions on Distributions from Restricted Subsidiaries***

The Parent Guarantor will not, and will not permit any Restricted Subsidiary (other than the Issuer or a Subsidiary Guarantor) to, create or otherwise cause or permit to exist or become effective any consensual encumbrance or consensual restriction on the ability of any such Restricted Subsidiary to:

(1) pay dividends or make any other distributions on its Capital Stock or pay any Indebtedness or other obligations owed to the Parent Guarantor or any Restricted Subsidiary (it being understood that the priority of any Preferred Stock in receiving dividends or liquidating distributions prior to dividends or liquidating distributions being paid on Common Stock shall not be deemed a restriction on the ability to make distributions on Capital Stock);

(2) make any loans or advances to the Parent Guarantor or any Restricted Subsidiary (it being understood that the subordination of loans or advances made to the Parent Guarantor or any Restricted Subsidiary to other Indebtedness Incurred by the Parent Guarantor or any Restricted Subsidiary shall not be deemed a restriction on the ability to make loans or advances); or

(3) sell, lease or transfer any of its property or assets to the Parent Guarantor or any Restricted Subsidiary.

The preceding provisions will not prohibit:

(i) any encumbrance or restriction pursuant to or by reason of an agreement in effect at or entered into on the Issue Date, including, without limitation, the Indenture as in effect on such date;

(ii) any encumbrance or restriction with respect to a Person pursuant to or by reason of an agreement relating to any Capital Stock or Indebtedness Incurred by a Person on or before the date on which such Person was acquired by the Parent Guarantor or another Restricted Subsidiary (other than Capital Stock or Indebtedness Incurred as consideration in, or to provide all or any portion of the funds utilized to consummate, the transaction or series of related transactions pursuant to which such Person was acquired by the Parent Guarantor or a Restricted Subsidiary or in contemplation of the transaction) and outstanding on such date; provided that any such encumbrance or restriction shall not extend to any assets or property of the Parent Guarantor or any other Restricted Subsidiary other than the assets and property so acquired;

(iii) encumbrances and restrictions contained in contracts entered into in the ordinary course of business, not relating to any Indebtedness, and that do not, individually or in the aggregate, detract from the value of, or from the ability of the Parent Guarantor and the Restricted Subsidiaries to realize the value of, property or assets of the Parent Guarantor or any Restricted Subsidiary in any manner material to the Parent Guarantor or any Restricted Subsidiary;

(iv) any encumbrance or restriction with respect to a Unrestricted Subsidiary pursuant to or by reason of an agreement that the Unrestricted Subsidiary is a party to entered into before the date on which such Unrestricted Subsidiary became a Restricted Subsidiary; provided that such agreement was not entered into in anticipation of the Unrestricted Subsidiary becoming a Restricted Subsidiary and any such encumbrance or restriction shall not

extend to any assets or property of the Parent Guarantor or any other Restricted Subsidiary other than the assets and property so acquired;

(v) with respect to any Foreign Subsidiary, any encumbrance or restriction contained in the terms of any Indebtedness or any agreement pursuant to which such Indebtedness was Incurred if either (1) the encumbrance or restriction applies only in the event of a payment default or a default with respect to a financial covenant in such Indebtedness or agreement or (2) the Parent Guarantor determines that any such encumbrance or restriction will not materially affect the Parent Guarantor's ability to make principal or interest payments on the Notes, as determined in good faith by the Board of Directors of the Parent Guarantor, whose determination shall be conclusive;

(vi) any encumbrance or restriction with respect to a Restricted Subsidiary pursuant to an agreement effecting a refunding, replacement or refinancing of Indebtedness Incurred pursuant to an agreement referred to in clauses (i) through (v) or clause (xii) of this paragraph or this clause (vi) or contained in any amendment, restatement, modification, renewal, supplemental, refunding, replacement or refinancing of an agreement referred to in clauses (i) through (v) or clause (xii) of this paragraph or this clause (vi); provided that the encumbrances and restrictions with respect to such Restricted Subsidiary contained in any such agreement taken as a whole are no less favorable in any material respect to the holders of the Notes than the encumbrances and restrictions contained in the agreements governing the Indebtedness being refunded, replaced or refinanced;

(vii) in the case of clause (3) of the first paragraph of this covenant, any encumbrance or restriction:

(a) that restricts in a customary manner the subletting, assignment or transfer of any property or asset that is subject to a lease (including leases governing leasehold interests or farm-in agreements or farm-out agreements relating to leasehold interests in Oil and Gas Properties), license or similar contract, or the assignment or transfer of any such lease (including leases governing leasehold interests or farm-in agreements or farm-out agreements relating to leasehold interests in Oil and Gas Properties), license (including, without limitation, licenses of intellectual property) or other contract;

(b) contained in mortgages, pledges or other security agreements permitted under the Indenture securing Indebtedness of the Parent Guarantor or a Restricted Subsidiary to the extent such encumbrances or restrictions restrict the transfer of the property subject to such mortgages, pledges or other security agreements;

(c) contained in any agreement creating Hedging Obligations permitted from time to time under the Indenture;

(d) pursuant to customary provisions restricting dispositions of real property interests set forth in any reciprocal easement agreements of the Parent Guarantor or any Restricted Subsidiary;

(e) restrictions on cash or other deposits imposed by customers under contracts entered into in the ordinary course of business; or

(f) provisions with respect to the disposition or distribution of assets or property in operating agreements, joint venture agreements, development agreements, area of mutual interest agreements and other agreements that are customary in the Oil and Gas Business and entered into in the ordinary course of business;

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(viii) any encumbrance or restriction contained in (a) purchase money obligations for property acquired in the ordinary course of business and (b) Capitalized Lease Obligations permitted under the Indenture, in each case, that impose encumbrances or restrictions of the nature described in clause (3) of the first paragraph of this covenant on the property so acquired;

(ix) any encumbrance or restriction with respect to a Restricted Subsidiary (or any of its property or assets) imposed pursuant to an agreement entered into for the direct or indirect sale or disposition of all or a portion of the Capital Stock or assets of such Restricted Subsidiary (or the property or assets that are subject to such restriction) pending the closing of such sale or disposition;

(x) any customary encumbrances or restrictions imposed pursuant to any agreement of the type described in the definition of "Permitted Business Investment";

(xi) encumbrances or restrictions arising or existing by reason of applicable law or any applicable rule, regulation or order;

(xii) encumbrances or restrictions contained in agreements governing Indebtedness of the Parent Guarantor or any of its Restricted Subsidiaries permitted to be Incurred pursuant to an agreement entered into subsequent to the Issue Date in accordance with the covenant described under the caption "—Limitation on Indebtedness and Preferred Stock"; provided that the provisions relating to such encumbrance or restriction contained in such Indebtedness are not materially less favorable to the Parent Guarantor taken as a whole, as determined by the Board of Directors of the Parent Guarantor in good faith, than the provisions contained in the Senior Secured Credit Agreement and in the Indenture as in effect on the Issue Date;

(xiii) the issuance of Preferred Stock by a Restricted Subsidiary or the payment of dividends thereon in accordance with the terms thereof; provided that issuance of such Preferred Stock is permitted pursuant to the covenant described under the caption "—Limitation on Indebtedness and Preferred Stock" and the terms of such Preferred Stock do not expressly restrict the ability of a Restricted Subsidiary to pay dividends or make any other distributions on its Capital Stock (other than requirements to pay dividends or liquidation preferences on such Preferred Stock prior to paying any dividends or making any other distributions on such other Capital Stock);

(xiv) supermajority voting requirements existing under corporate charters, bylaws, stockholders agreements and similar documents and agreements;

(xv) restrictions on cash or other deposits or net worth imposed by customers under contracts entered into in the ordinary course of business; and

(xvi) any encumbrance or restriction contained in the Senior Secured Credit Agreement as in effect as of the Issue Date, and in any amendments, modifications, restatements, renewals, increases, supplements, refundings, replacements or refinancings thereof; provided that such amendments, modifications, restatements, renewals, increases, supplements, refundings, replacements or refinancings are no more restrictive with respect to such dividend and other payment restrictions than those contained in the Senior Secured Credit Agreement as in effect on the Issue Date.

***Limitation on Sales of Assets and Subsidiary Stock***

The Parent Guarantor will not, and will not permit any of its Restricted Subsidiaries to, make any Asset Disposition unless:

(1) the Parent Guarantor or such Restricted Subsidiary, as the case may be, receives consideration at the time of such Asset Disposition at least equal to the Fair Market Value (such Fair Market Value to be determined on the date of contractually agreeing to such Asset Disposition) of the shares or other assets subject to such Asset Disposition;

(2) at least 75% of the aggregate consideration received by the Parent Guarantor or such Restricted Subsidiary, as the case may be, from such Asset Disposition and all other Asset Dispositions since the Issue Date, on a cumulative basis, is in the form of cash or Cash Equivalents or Additional Assets, or any combination thereof; and

(3) except as provided in the next paragraph, an amount equal to 100% of the Net Available Cash from such Asset Disposition is applied, within 365 days from the later of the date of such Asset Disposition or the receipt of such Net Available Cash, by the Parent Guarantor or such Restricted Subsidiary, as the case may be:

(a) to prepay, repay, redeem or purchase Pari Passu Indebtedness of the Parent Guarantor, the Issuer (including the Notes) or a Subsidiary Guarantor or any Indebtedness (other than Disqualified Stock) of a Restricted Subsidiary that is not a Subsidiary Guarantor (in each case, excluding Indebtedness owed to the Parent Guarantor or an Affiliate of the Parent Guarantor); provided, however, that, in connection with any prepayment, repayment, redemption or purchase of Indebtedness pursuant to this clause (a), the Parent Guarantor or such Restricted Subsidiary will retire such Indebtedness and will cause the related commitment (if any) to be permanently reduced in an amount equal to the principal amount so prepaid, repaid, redeemed or purchased; or

(b) to invest in Additional Assets;

provided that pending the final application of any such Net Available Cash in accordance with clause (a) or clause (b) above, the Parent Guarantor and its Restricted Subsidiaries may temporarily reduce Indebtedness or otherwise invest such Net Available Cash in any manner not prohibited by the Indenture.

Any Net Available Cash from Asset Dispositions that is not applied or invested as provided in the preceding paragraph will be deemed to constitute "Excess Proceeds." Not later than the 366th day from the later of the date of such Asset Disposition or the receipt of such Net Available Cash, if the aggregate amount of Excess Proceeds exceeds \$20.0 million, the Issuer will be required to make an offer ("Asset Disposition Offer") to all holders of Notes and, to the extent required by the terms of other Pari Passu Indebtedness, to all holders of other Pari Passu Indebtedness outstanding with similar provisions requiring the Issuer to make an offer to purchase such Pari Passu Indebtedness with the proceeds from any Asset Disposition ("Pari Passu Notes") to purchase the maximum principal amount of Notes and any such Pari Passu Notes to which the Asset Disposition Offer applies that may be purchased out of the Excess Proceeds, at an offer price in cash in an amount equal to 100% of the principal amount (or, in the event such Pari Passu Indebtedness was issued with significant original issue discount, 100% of the accreted value thereof) of the Notes and Pari Passu Notes plus accrued and unpaid interest, if any (or in respect of such Pari Passu Indebtedness, such lesser price, if any, as may be provided for by the terms of such Indebtedness), to the date of purchase (subject to the right of holders of record on the relevant record date to receive interest due on the relevant interest payment date), in accordance with the procedures set forth in the Indenture or the agreements governing the Pari Passu Notes, as applicable, in each case in minimum principal amount of \$2,000 and integral multiples of \$1,000 in excess of \$2,000. If the aggregate principal amount of Notes surrendered by

holders thereof and other Pari Passu Notes surrendered by holders or lenders, collectively, exceeds the amount of Excess Proceeds, the Trustee shall select the Notes to be purchased on a pro rata basis on the basis of the aggregate principal amount of tendered Notes and Pari Passu Notes. To the extent that the aggregate principal amount of Notes and Pari Passu Notes so validly tendered and not properly withdrawn pursuant to an Asset Disposition Offer is less than the Excess Proceeds, the Parent Guarantor and its Restricted Subsidiaries may use any remaining Excess Proceeds for general corporate purposes, subject to the other covenants contained in the Indenture. Upon completion of such Asset Disposition Offer, the amount of Excess Proceeds shall be reset at zero.

The Asset Disposition Offer will remain open for a period of 20 Business Days following its commencement, except to the extent that a longer period is required by applicable law (the "Asset Disposition Offer Period"). No later than five Business Days after the termination of the Asset Disposition Offer Period (the "Asset Disposition Purchase Date"), the Issuer will purchase the principal amount of Notes and Pari Passu Notes required to be purchased pursuant to this covenant (the "Asset Disposition Offer Amount") or, if less than the Asset Disposition Offer Amount has been so validly tendered and not properly withdrawn, all Notes and Pari Passu Notes validly tendered and not properly withdrawn in response to the Asset Disposition Offer.

If the Asset Disposition Purchase Date is on or after an interest record date and on or before the related interest payment date, any accrued and unpaid interest, if any, will be paid to the Person in whose name a Note is registered at the close of business on such record date, and no further interest will be payable to holders who tender Notes pursuant to the Asset Disposition Offer.

On or before the Asset Disposition Purchase Date, the Issuer will, to the extent lawful, accept for payment, on a pro rata basis to the extent necessary, the Asset Disposition Offer Amount of Notes and Pari Passu Notes or portions of Notes and Pari Passu Notes so validly tendered and not properly withdrawn pursuant to the Asset Disposition Offer, or if less than the Asset Disposition Offer Amount has been validly tendered and not properly withdrawn, all Notes and Pari Passu Notes so validly tendered and not properly withdrawn, in each case in minimum principal amount of \$2,000 and integral multiples of \$1,000 in excess of \$2,000. The Issuer will deliver to the Trustee an Officers' Certificate stating that such Notes or portions thereof were accepted for payment by the Issuer in accordance with the terms of this covenant and, in addition, the Issuer will deliver all certificates and notes required, if any, by the agreements governing the Pari Passu Notes. The Issuer or the paying agent, as the case may be, will promptly (but in any case not later than five Business Days after the termination of the Asset Disposition Offer Period) mail or deliver to each tendering holder of Notes or holder or lender of Pari Passu Notes, as the case may be, an amount equal to the purchase price of the Notes or Pari Passu Notes so validly tendered and not properly withdrawn by such holder or lender, as the case may be, and accepted by the Issuer for purchase, and the Issuer will promptly issue a new Note, and the Trustee, upon delivery of an Officers' Certificate from the Issuer, will authenticate and mail or deliver such new Note to such holder, in a principal amount equal to any unpurchased portion of the Note surrendered; provided that each such new Note will be in a minimum principal amount of \$2,000 or an integral multiple of \$1,000 in excess of \$2,000. In addition, the Issuer will take any and all other actions required by the agreements governing the Pari Passu Notes. Any Note not so accepted will be promptly mailed or delivered by the Issuer to the holder thereof. The Issuer will publicly announce the results of the Asset Disposition Offer on the Asset Disposition Purchase Date.

The Issuer will comply, to the extent applicable, with the requirements of Rule 14e-1 of the Exchange Act and any other securities laws or regulations in connection with the repurchase of Notes pursuant to an Asset Disposition Offer. To the extent that the provisions of any securities laws or regulations conflict with provisions of this covenant, the Issuer will comply with the applicable securities laws and regulations and will not be deemed to have breached its obligations under the Indenture by virtue of its compliance with such securities laws or regulations.

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For the purposes of clause (2) of the first paragraph of this covenant, the following will be deemed to be cash:

- (1) the assumption by the transferee of Indebtedness (other than Guarantor Subordinated Obligations or Disqualified Stock) of the Parent Guarantor or Indebtedness of a Restricted Subsidiary (other than Subordinated Obligations or Disqualified Stock of the Issuer and Guarantor Subordinated Obligations or Disqualified Stock of any Restricted Subsidiary that is a Subsidiary Guarantor) and the release of the Parent Guarantor or such Restricted Subsidiary from all liability on such Indebtedness in connection with such Asset Disposition (in which case the Parent Guarantor will, without further action, be deemed to have applied such deemed cash to Indebtedness in accordance with clause (3)(a) of the first paragraph of this covenant;
- (2) with respect to any Asset Disposition of oil and gas properties by the Parent Guarantor or any of its Restricted Subsidiaries in which the Parent Guarantor or such Restricted Subsidiary still retains an interest, any agreement by the transferee (or any Affiliate thereof) to pay all or a portion of, the costs and expenses related to the exploration, development, completion or production of such properties and activities related thereto; and
- (3) securities, notes or other obligations received by the Parent Guarantor or any Restricted Subsidiary from the transferee that are converted by the Parent Guarantor or such Restricted Subsidiary into cash within 180 days after receipt thereof.

Notwithstanding the foregoing, the 75% limitation referred to in clause (2) of the first paragraph of this covenant shall be deemed satisfied with respect to any Asset Disposition in which the cash or Cash Equivalents portion of the consideration received therefrom, determined in accordance with the foregoing provision on an after-tax basis, is equal to or greater than what the after-tax proceeds would have been had such Asset Disposition complied with the aforementioned 75% limitation.

The requirement of clause (3)(b) of the first paragraph of this covenant above shall be deemed to be satisfied if an agreement (including a lease, whether a capital lease or an operating lease) committing to make the acquisitions or expenditures referred to therein is entered into by the Parent Guarantor or its Restricted Subsidiary within the specified time period and such Net Available Cash is subsequently applied in accordance with such agreement within six months following such agreement.

The Parent Guarantor will not, and will not permit any Restricted Subsidiary to, engage in any Asset Swaps, unless:

- (1) at the time of entering into such Asset Swap and immediately after giving effect to such Asset Swap, no Default or Event of Default shall have occurred and be continuing or would occur as a consequence thereof; and
- (2) in the event such Asset Swap involves the transfer by the Parent Guarantor or any Restricted Subsidiary of assets having an aggregate Fair Market Value in excess of \$20.0 million, the terms of such Asset Swap have been approved by a majority of the members of the Board of Directors of the Parent Guarantor.

***Limitation on Affiliate Transactions***

The Parent Guarantor will not, and will not permit any of its Restricted Subsidiaries to, directly or indirectly, enter into, make, amend or conduct any transaction (including making a payment to, the purchase, sale, lease or exchange of any property or the rendering of any service), contract, agreement or understanding with or for the benefit of any Affiliate of the Parent Guarantor (an "Affiliate Transaction") unless:

- (1) the terms of such Affiliate Transaction are not materially less favorable to the Parent Guarantor or such Restricted Subsidiary, as the case may be, than those that could reasonably be



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expected to be obtained in a comparable transaction at the time of such transaction in arm's length dealings with a Person who is not such an Affiliate;

(2) if such Affiliate Transaction involves an aggregate consideration in excess of \$20.0 million, the terms of such transaction have been approved by a majority of the members of the Board of Directors of the Parent Guarantor having no personal stake in such transaction, if any (and such majority determines that such Affiliate Transaction satisfies the criteria in clause (1) above); and

(3) if such Affiliate Transaction involves an aggregate consideration in excess of \$50.0 million, the Board of Directors of the Parent Guarantor has received a written opinion from an independent investment banking, accounting, engineering or appraisal firm of nationally recognized standing that such Affiliate Transaction is fair, from a financial standpoint, to the Parent Guarantor or such Restricted Subsidiary or is not materially less favorable than those that could reasonably be expected to be obtained in a comparable transaction at such time on an arm's length basis from a Person that is not an Affiliate.

The preceding paragraph will not apply to:

(1) any Restricted Payment permitted to be made pursuant to the covenant described under "—Limitation on Restricted Payments" or any Permitted Investment;

(2) any issuance of Capital Stock (other than Disqualified Stock), or other payments, awards or grants in cash, Capital Stock (other than Disqualified Stock) or otherwise pursuant to, or the funding of, employment or severance agreements and other compensation arrangements, options to purchase Capital Stock (other than Disqualified Stock) of the Parent Guarantor, restricted stock plans, long-term incentive plans, stock appreciation rights plans, participation plans or similar employee benefits plans and/or insurance and indemnification arrangements provided to or for the benefit of directors and employees approved by the Board of Directors of the Parent Guarantor;

(3) loans or advances to employees, officers or directors in the ordinary course of business of the Parent Guarantor or any of its Restricted Subsidiaries;

(4) advances to or reimbursements of employees for moving, entertainment and travel expenses, drawing accounts and similar expenditures in the ordinary course of business of the Parent Guarantor or any of its Restricted Subsidiaries;

(5) any transaction between the Parent Guarantor and a Restricted Subsidiary or between Restricted Subsidiaries, and guarantees issued by the Parent Guarantor or a Restricted Subsidiary for the benefit of the Parent Guarantor or a Restricted Subsidiary, as the case may be, in accordance with the covenant described under "—Limitation on Indebtedness and Preferred Stock";

(6) any transaction with a joint venture or similar entity which would constitute an Affiliate Transaction solely because the Parent Guarantor or a Restricted Subsidiary owns, directly or indirectly, an Equity Interest in or otherwise controls such joint venture or similar entity;

(7) the issuance or sale of any Capital Stock (other than Disqualified Stock) of the Parent Guarantor to, or the receipt by the Parent Guarantor of any capital contribution from its shareholders;

(8) indemnities of officers, directors and employees of the Parent Guarantor or any of its Restricted Subsidiaries permitted by bylaw or statutory provisions and any employment agreement or other employee compensation plan or arrangement entered into in the ordinary course of business by the Parent Guarantor or any of its Restricted Subsidiaries;

(9) the payment of reasonable compensation and fees paid to, and indemnity provided on behalf of, officers or directors of the Parent Guarantor or any Restricted Subsidiary;

(10) the performance of obligations of the Parent Guarantor or any of its Restricted Subsidiaries under the terms of any agreement to which the Parent Guarantor or any of its Restricted Subsidiaries is a party as of or on the Issue Date, as these agreements may be amended, modified, supplemented, extended or renewed from time to time; provided, however, that any future amendment, modification, supplement, extension or renewal entered into after the Issue Date will be permitted only to the extent that its terms are not materially more disadvantageous, taken as a whole, to the holders of the Notes than the terms of the agreements in effect on the Issue Date;

(11) transactions with customers, clients, suppliers, or purchasers or sellers of goods or services, in each case in the ordinary course of business and otherwise in compliance with the terms of the Indenture, provided that in the reasonable determination of the Board of Directors of the Parent Guarantor or the senior management of the Parent Guarantor, such transactions are on terms not materially less favorable to the Parent Guarantor or the relevant Restricted Subsidiary than those that could reasonably be expected to be obtained in a comparable transaction at such time on an arm's length basis from a Person that is not an Affiliate of the Parent Guarantor;

(12) transactions with a Person (other than an Unrestricted Subsidiary) that is an Affiliate of the Parent Guarantor solely because the Parent Guarantor owns, directly or through a Restricted Subsidiary, an Equity Interest in such Person; and

(13) transactions between the Parent Guarantor or any Restricted Subsidiary and any Person, a director of which is also a director of the Parent Guarantor or any direct or indirect parent of the Parent Guarantor, and such director is the sole cause for such Person to be deemed an Affiliate of the Parent Guarantor or any Restricted Subsidiary; provided, however, that such director shall abstain from voting as a director of the Parent Guarantor or such direct or indirect parent, as the case may be, on any matter involving such other Person.

### ***Provision of Financial Information***

The Indenture provides that, whether or not the Parent Guarantor is subject to the reporting requirements of Section 13 or Section 15(d) of the Exchange Act, to the extent not prohibited by the Exchange Act, the Parent Guarantor will file with the SEC, and make available to the Trustee and the holders of the Notes without cost to any holder, the annual reports and the information, documents and other reports (or copies of such portions of any of the foregoing as the SEC may by rules and regulations prescribe) that are specified in Sections 13 and 15(d) of the Exchange Act and applicable to a U.S. corporation within the time periods specified therein with respect to a non-accelerated filer. In the event that the Parent Guarantor is not permitted to file such reports, documents and information with the SEC pursuant to the Exchange Act, the Parent Guarantor will nevertheless make available such Exchange Act information to the Trustee and the holders of the Notes without cost to any holder as if the Parent Guarantor were subject to the reporting requirements of Section 13 or 15(d) of the Exchange Act within the time periods specified therein with respect to a non-accelerated filer.

This covenant does not impose any duty on the Parent Guarantor under the Sarbanes Oxley Act of 2002 and the related SEC rules that would not otherwise be applicable.

If the Parent Guarantor has designated any of its Subsidiaries as Unrestricted Subsidiaries, then the financial information required will include a reasonably detailed presentation, either on the face of the financial statements or in the footnotes thereto, and in any accompanying Management's Discussion and Analysis of Financial Condition and Results of Operations, of the financial condition and results of operations of the Parent Guarantor and its Restricted Subsidiaries separate from the financial condition and results of operations of the Unrestricted Subsidiaries of the Parent Guarantor.

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The availability of the foregoing materials on the SEC's website or on the Parent Guarantor's website shall be deemed to satisfy the foregoing delivery obligations.

For so long as any old Notes remain outstanding and constitute "restricted securities" under Rule 144, the Guarantors will furnish to the holders of such Notes, and to securities analysts and prospective investors, upon their request, the information required to be delivered pursuant to Rule 144A(d)(4) under the Securities Act.

***Merger and Consolidation***

Neither the Parent Guarantor nor the Issuer will consolidate with or merge with or into or wind up into (whether or not it is the surviving Person), or sell, lease, transfer, convey or otherwise dispose of all or substantially all its assets in one or more related transactions to, any Person, unless:

- (1) the resulting, surviving or transferee Person (the "Successor Company") will be a corporation, partnership, trust or limited liability company organized and existing under the laws of the United States of America, any State of the United States or the District of Columbia and the Successor Company (if not the Parent Guarantor or the Issuer, as the case may be) will expressly assume, by supplemental indenture, executed and delivered to the Trustee, in form reasonably satisfactory to the Trustee, all the obligations of the Parent Guarantor or the Issuer, as the case may be, under the Indenture, the Notes or the Parent Guarantee as applicable;
- (2) immediately after giving effect to such transaction (and treating any Indebtedness that becomes an obligation of the Successor Company or any Subsidiary of the Successor Company as a result of such transaction as having been Incurred by the Successor Company or such Subsidiary at the time of such transaction), no Default or Event of Default shall have occurred and be continuing;
- (3) immediately after giving effect to such transaction on a pro forma basis and any related financing transactions as if the same had occurred at the beginning of the applicable four quarter period, either (A) the Successor Company would be able to Incur at least an additional \$1.00 of Indebtedness pursuant to the first paragraph of the covenant described under "—Limitation on Indebtedness and Preferred Stock" or (B) the Consolidated Coverage Ratio of the Parent Guarantor is equal to or greater than the Consolidated Coverage Ratio of the Parent Guarantor immediately before such transaction;
- (4) if the Issuer is not the Successor Company in any of the transactions referred to above that involve the Issuer, each Guarantor (unless it is the other party to the transactions, in which case clause (1) shall apply) shall have by supplemental indenture confirmed that its Guarantee shall apply to the Successor Company's obligations in respect of the Indenture and the Notes and that its Guarantee shall continue to be in effect; and
- (5) the Parent Guarantor or the Issuer, as the case may be, shall have delivered to the Trustee an Officers' Certificate and an Opinion of Counsel, each stating that such transaction and such supplemental indenture (if any) comply with the Indenture.

For purposes of this covenant, the sale, lease, transfer, conveyance or other disposition of all or substantially all of the assets of one or more Subsidiaries of the Parent Guarantor, which assets, if held by the Parent Guarantor instead of such Subsidiaries, would constitute all or substantially all of the assets of the Parent Guarantor on a consolidated basis, shall be deemed to be the disposition of all or substantially all of the assets of the Parent Guarantor.

The Successor Company will succeed to, and be substituted for, and may exercise every right and power of, the Parent Guarantor or the Issuer, as the case may be, under the Indenture; and its

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predecessor, except in the case of a lease of all or substantially all its assets, will be released from all obligations under the Indenture, the Notes or the Parent Guarantee as applicable.

Although there is a limited body of case law interpreting the phrase "substantially all," there is no precise established definition of the phrase under applicable law. Accordingly, in certain circumstances there may be a degree of uncertainty as to whether a particular transaction would involve "all or substantially all" of the assets of a Person.

Notwithstanding the preceding clause (3), (x) any Restricted Subsidiary may consolidate with, merge into or wind up into, or dispose of all or part of its assets to the Parent Guarantor and the Parent Guarantor may consolidate with, merge into or wind up into, or dispose of all or part of its assets to a Subsidiary Guarantor and (y) the Parent Guarantor may merge with or into an Affiliate incorporated solely for the purpose of reorganizing the Parent Guarantor in another jurisdiction; and provided further that, in the case of a Restricted Subsidiary that consolidates with, merges into, winds up into or disposes of all or part of its properties and assets to the Parent Guarantor, the Issuer will not be required to comply with the preceding clause (5).

In addition, the Parent Guarantor will not permit any Subsidiary Guarantor to consolidate with, merge with or into or wind up into, and will not permit the disposition of all or substantially all of the assets of any Subsidiary Guarantor to, any Person (other than the Parent Guarantor or another Subsidiary Guarantor) unless:

- (1) (a) the resulting, surviving or transferee Person will be a corporation, partnership, trust or limited liability company organized and existing under the laws of the United States of America, any State of the United States or the District of Columbia and such Person (if not such Subsidiary Guarantor) will expressly assume, by supplemental indenture, executed and delivered to the Trustee, all the obligations of such Subsidiary Guarantor under its Subsidiary Guarantee; and (b) immediately after giving effect to such transaction (and treating any Indebtedness that becomes an obligation of the resulting, surviving or transferee Person or any Restricted Subsidiary as a result of such transaction as having been incurred by such Person or such Restricted Subsidiary at the time of such transaction), no Default shall have occurred and be continuing; or
- (2) the transaction results in the release of the Subsidiary Guarantor from its obligations under the Indenture and its Subsidiary Guarantee after and upon compliance with provisions described under "—Guarantees;" and
- (3) the Parent Guarantor will have delivered to the Trustee an Officers' Certificate and an Opinion of Counsel, each stating that such transaction and such supplemental indenture (if any) comply with the Indenture.

### ***Future Subsidiary Guarantors***

The Parent Guarantor will cause (a) each Wholly-Owned Subsidiary of the Parent Guarantor (other than a Foreign Subsidiary) formed or acquired after the Issue Date and (b) any other Domestic Subsidiary (except the Issuer) that is not already a Subsidiary Guarantor that guarantees any Indebtedness of the Parent Guarantor, the Issuer or a Subsidiary Guarantor, in each case to execute and deliver to the Trustee within 30 days a supplemental indenture (in the form specified in the Indenture) pursuant to which such Subsidiary will unconditionally guarantee, on a joint and several basis, the full and prompt payment of the principal of, premium, if any, and interest on the Notes on a senior basis; provided that any Restricted Subsidiary that constitutes an Immaterial Subsidiary need not become a Subsidiary Guarantor until such time as it ceases to be an Immaterial Subsidiary.

### ***Payments for Consent***

Neither the Parent Guarantor nor any of its Restricted Subsidiaries will, directly or indirectly, pay or cause to be paid any consideration, whether by way of interest, fees or otherwise, to any holder of any Notes for or as an inducement to any consent, waiver or amendment of any of the terms or provisions of the Indenture or the Notes unless such consideration is offered to be paid or is paid to all holders of the Notes that consent, waive or agree to amend in the time frame set forth in the solicitation documents relating to such consent, waiver or amendment.

### ***Business Activities***

The Issuer may not engage in any business not related directly or indirectly to obtaining money or arranging financing for the Parent Guarantor or its Restricted Subsidiaries, the Issuer may not have any Subsidiary, and no Person other than the Parent Guarantor or any of its other Restricted Subsidiaries may own any Capital Stock of the Issuer.

### **Covenant Termination**

From and after the occurrence of an Investment Grade Rating Event, the Parent Guarantor and its Restricted Subsidiaries will no longer be subject to the provisions of the Indenture described above under the following headings:

- "—Limitation on Indebtedness and Preferred Stock,"
- "—Limitation on Restricted Payments,"
- "—Limitation on Restrictions on Distributions from Restricted Subsidiaries,"
- "—Limitation on Sales of Assets and Subsidiary Stock,"
- "—Limitation on Affiliate Transactions" and
- Clause (3) of "—Merger and Consolidation"

(collectively, the "Eliminated Covenants"). As a result, after the date on which the Parent Guarantor and its Restricted Subsidiaries are no longer subject to the Eliminated Covenants, the Notes will be entitled to substantially reduced covenant protection.

After the foregoing covenants have been terminated, the Parent Guarantor may not designate any of its Subsidiaries as Unrestricted Subsidiaries pursuant to the second sentence of the definition of "Unrestricted Subsidiary."

### **Events of Default**

Each of the following is an Event of Default with respect to the Notes:

- (1) default in any payment of interest on any Note when due, continued for 30 days;
- (2) default in the payment of principal of or premium, if any, on any Note when due at its Stated Maturity, upon optional redemption, upon required repurchase, upon declaration of acceleration or otherwise;
- (3) failure by the Issuer or any Guarantor to comply with its obligations under "—Certain Covenants—Merger and Consolidation";
- (4) failure by the Parent Guarantor or the Issuer to comply for 30 days (or 180 days in the case of a Reporting Failure) after notice as provided below with any of its obligations under the covenant described under "—Change of Control" above or under the covenants described under "—Certain Covenants" above (in each case, other than a failure to purchase Notes which will

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constitute an Event of Default under clause (2) above and other than a failure to comply with "—Certain Covenants—Merger and Consolidation" which is covered by clause (3));

(5) failure by the Parent Guarantor or the Issuer to comply for 60 days after notice as provided below with its other agreements contained in the Indenture;

(6) default under any mortgage, indenture or instrument under which there may be issued or by which there may be secured or evidenced any Indebtedness for money borrowed by the Parent Guarantor or any of its Restricted Subsidiaries (or the payment of which is guaranteed by the Parent Guarantor or any of its Restricted Subsidiaries), other than Indebtedness owed to the Parent Guarantor or a Restricted Subsidiary, whether such Indebtedness or guarantee now exists, or is created after the date of the Indenture, which default:

(a) is caused by a failure to pay principal of, or interest or premium, if any, on such Indebtedness prior to the expiration of the grace period provided in such Indebtedness (and any extensions of any grace period) ("payment default"); or

(b) results in the acceleration of such Indebtedness prior to its Stated Maturity (the "cross acceleration provision");

and, in each case, the principal amount of any such Indebtedness, together with the principal amount of any other such Indebtedness under which there has been a payment default or the maturity of which has been so accelerated, aggregates \$10.0 million or more;

(7) certain events of bankruptcy, insolvency or reorganization of the Parent Guarantor, the Issuer or a Significant Subsidiary or group of Restricted Subsidiaries that, taken together (as of the latest audited consolidated financial statements for the Parent Guarantor and its Restricted Subsidiaries), would constitute a Significant Subsidiary (the "bankruptcy provisions");

(8) failure by the Parent Guarantor, the Issuer or any Significant Subsidiary or group of Restricted Subsidiaries that, taken together (as of the latest audited consolidated financial statements for the Parent Guarantor and its Restricted Subsidiaries), would constitute a Significant Subsidiary to pay final judgments aggregating in excess of \$10.0 million (to the extent not covered by insurance by a reputable and creditworthy insurer as to which the insurer has not disclaimed coverage), which judgments are not paid or discharged, and there shall be any period of 60 consecutive days following entry of such final judgment or decree during which a stay of enforcement of such final judgment or decree, by reason of pending appeal or otherwise, shall not be in effect (the "judgment default provision"); or

(9) the Parent Guarantee or any Subsidiary Guarantee of a Significant Subsidiary or group of Restricted Subsidiaries that, taken together (as of the latest audited consolidated financial statements for the Parent Guarantor and its Restricted Subsidiaries) would constitute a Significant Subsidiary, ceases to be in full force and effect (except as contemplated by the terms of the Indenture) or is declared null and void in a judicial proceeding or the Parent Guarantor or any Subsidiary Guarantor that is a Significant Subsidiary or group of Subsidiary Guarantors that, taken together (as of the latest audited consolidated financial statements of the Parent Guarantor and its Restricted Subsidiaries) would constitute a Significant Subsidiary, denies or disaffirms its obligations under the Indenture or its Guarantee.

However, a default under clauses (4) and (5) of this paragraph will not constitute an Event of Default until the Trustee or the holders of at least 25% in principal amount of the outstanding Notes notify the Parent Guarantor and the Issuer in writing and, in the case of a notice given by the holders, the Trustee of the default and the Parent Guarantor or the Issuer does not cure such default within the time specified in clauses (4) and (5) of this paragraph after receipt of such notice.

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If an Event of Default (other than an Event of Default described in clause (7) above) occurs and is continuing, the Trustee by notice to the Parent Guarantor and the Issuer, or the holders of at least 25% in principal amount of the outstanding Notes by notice to the Parent Guarantor and the Issuer and the Trustee, may, and the Trustee at the request of such holders shall, declare the principal of, premium, if any, accrued and unpaid interest, if any, on all the Notes to be due and payable. If an Event of Default described in clause (7) above occurs and is continuing, the principal of, premium, if any, accrued and unpaid interest, if any, on all the Notes will become and be immediately due and payable without any declaration or other act on the part of the Trustee or any holders. The holders of a majority in principal amount of the outstanding Notes may rescind any such acceleration with respect to the Notes and its consequences if (1) rescission would not conflict with any judgment or decree of a court of competent jurisdiction and (2) all existing Events of Default, other than the nonpayment of the principal of, premium, if any, and interest on the Notes that have become due solely by such declaration of acceleration, have been cured or waived.

Notwithstanding the foregoing, if an Event of Default specified in clause (6) above shall have occurred and be continuing, such Event of Default and any consequential acceleration (to the extent not in violation of any applicable law or in conflict with any judgment or decree of a court of competent jurisdiction) shall be automatically rescinded if (i) the Indebtedness that is the subject of such Event of Default has been repaid or (ii) if the default relating to such Indebtedness is waived by the holders of such Indebtedness or cured and if such Indebtedness has been accelerated, then the holders thereof have rescinded their declaration of acceleration in respect of such Indebtedness, in each case within 20 days after the declaration of acceleration with respect thereto, and (iii) any other existing Events of Default, except nonpayment of principal, premium or interest on the Notes that became due solely because of the acceleration of the Notes, have been cured or waived.

Subject to the provisions of the Indenture relating to the duties of the Trustee, if an Event of Default occurs and is continuing, the Trustee will be under no obligation to exercise any of the rights or powers under the Indenture at the request or direction of any of the holders unless such holders have offered to the Trustee reasonable indemnity or security against any loss, liability or expense. Except to enforce the right to receive payment of principal, premium, if any, or interest when due, no holder may pursue any remedy with respect to the Indenture or the Notes unless:

- (1) such holder has previously given the Trustee notice that an Event of Default is continuing;
- (2) holders of at least 25% in principal amount of the outstanding Notes have requested the Trustee to pursue the remedy;
- (3) such holders have offered the Trustee reasonable security or indemnity against any loss, liability or expense;
- (4) the Trustee has not complied with such request within 60 days after the receipt of the request and the offer of security or indemnity; and
- (5) the holders of a majority in principal amount of the outstanding Notes have not waived such Event of Default or otherwise given the Trustee a direction that, in the opinion of the Trustee, is inconsistent with such request within such 60-day period.

Subject to certain restrictions, the holders of a majority in principal amount of the outstanding Notes are given the right to direct the time, method and place of conducting any proceeding for any remedy available to the Trustee or of exercising any trust or power conferred on the Trustee. If an Event of Default has occurred and is continuing, the Trustee will be required in the exercise of its powers to use the degree of care that a prudent person would use in the conduct of his own affairs. The Trustee, however, may refuse to follow any direction that conflicts with law or the Indenture or that the Trustee determines is unduly prejudicial to the rights of any other holder or that would involve

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the Trustee in personal liability. Prior to taking any action under the Indenture, the Trustee will be entitled to indemnification satisfactory to it in its sole discretion against all losses and expenses caused by taking or not taking such action.

If a Default occurs and is continuing and is known to the Trustee, the Trustee must mail to each holder notice of the Default within 90 days after it occurs. Except in the case of a Default in the payment of principal of, premium, if any, or interest on any Note, the Trustee may withhold such notice if and so long as a committee of trust officers of the Trustee in good faith determines that withholding notice is in the interests of the holders. In addition, the Issuer is required to deliver to the Trustee, within 120 days after the end of each fiscal year, a certificate indicating whether the signers thereof know of any Default that occurred during the previous year. The Issuer also is required to deliver to the Trustee, within 30 days after the occurrence thereof, written notice of any Defaults, their status and what action the Issuer is taking or proposing to take in respect thereof.

### **Amendments and Waivers**

Subject to certain exceptions, the Indenture and the Notes may be amended with the consent of the holders of a majority in principal amount of the Notes then outstanding (including without limitation, consents obtained in connection with a purchase of, or tender offer or exchange offer for, Notes) and, subject to certain exceptions, any past default or compliance with any provisions may be waived with the consent of the holders of a majority in principal amount of the Notes then outstanding (including, without limitation, consents obtained in connection with a purchase of, or tender offer or exchange offer for, Notes). However, without the consent of each holder of an outstanding Note affected, no amendment may, among other things:

- (1) reduce the principal amount of Notes whose holders must consent to an amendment or waiver;
- (2) reduce the stated rate of or extend the stated time for payment of interest on any Note;
- (3) reduce the principal of or extend the Stated Maturity of any Note;
- (4) reduce the premium payable upon the redemption of any Note as described above under "—Optional Redemption," change the time at which any Note may be redeemed as described above under "—Optional Redemption" or make any change relative to our obligation to make an offer to repurchase the Notes as a result of a Change of Control as described above under "—Change of Control" after (but not before) the occurrence of such Change of Control;
- (5) make any Note payable in money other than that stated in the Note;
- (6) impair the right of any holder to receive payment of the principal of, premium, if any, and interest on such holder's Notes on or after the due dates therefor or to institute suit for the enforcement of any payment on or with respect to such holder's Notes;
- (7) make any change in the amendment provisions which require each holder's consent or in the waiver provisions;
- (8) modify the Guarantees in any manner adverse to the holders of the Notes; or
- (9) make any change to or modify the ranking of the Notes that would adversely affect the holders.

Notwithstanding the foregoing, without the consent of any holder, the Issuer, the Guarantors and the Trustee may amend the Indenture and the Notes to:

- (1) cure any ambiguity, omission, defect, mistake or inconsistency;



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- (2) provide for the assumption by a successor of the obligations of the Parent Guarantor, the Issuer or any Subsidiary Guarantor under the Indenture;
- (3) provide for uncertificated Notes in addition to or in place of certificated Notes (provided that the uncertificated Notes are issued in registered form for purposes of Section 163(f) of the Code;
- (4) add Guarantors with respect to the Notes, including Subsidiary Guarantors, or release a Subsidiary Guarantor from its Subsidiary Guarantee and terminate such Subsidiary Guarantee; provided that the release and termination is in accordance with the applicable provisions of the Indenture;
- (5) secure the Notes or Guarantees;
- (6) add to the covenants of the Parent Guarantor, the Issuer or a Subsidiary Guarantor for the benefit of the holders or surrender any right or power conferred upon the Parent Guarantor, the Issuer or a Subsidiary Guarantor;
- (7) make any change that does not adversely affect the rights of any holder; provided, however, that any change to conform the Indenture to this "Description of Notes" will not be deemed to adversely affect such legal rights;
- (8) comply with any requirement of the SEC in connection with the qualification of the Indenture under the Trust Indenture Act; or
- (9) provide for the succession of a successor Trustee, provided that the successor Trustee is otherwise qualified and eligible to act as such under the Indenture.

The consent of the holders is not necessary under the Indenture to approve the particular form of any proposed amendment. It is sufficient if such consent approves the substance of the proposed amendment. A consent to any amendment or waiver under the Indenture by any holder of Notes given in connection with a tender of such holder's Notes will not be rendered invalid by such tender. After an amendment under the Indenture requiring the consent of the holders becomes effective, the Issuer is required to mail to the holders a notice briefly describing such amendment. However, the failure to give such notice to all the holders, or any defect in the notice will not impair or affect the validity of the amendment.

### **Defeasance**

The Issuer at any time may terminate all its obligations under the Notes and the Indenture ("legal defeasance"), except for certain obligations, including those respecting the defeasance trust and obligations to register the transfer or exchange of the Notes, to replace mutilated, destroyed, lost or stolen Notes and to maintain a registrar and paying agent in respect of the Notes.

The Issuer at any time may terminate its obligations described under "—Change of Control" and the obligations of itself and the Parent Guarantor under the covenants described under "—Certain Covenants" (other than clauses (1), (2), (4) and (5) of "Certain Covenants—Merger and Consolidation"), the operation of the cross default upon a payment default, cross acceleration provisions, the bankruptcy provisions with respect to Significant Subsidiaries, the judgment default provision, the Subsidiary Guarantee provision described under "—Events of Default" above and the limitations contained in clause (3) under "—Certain Covenants—Merger and Consolidation" above ("covenant defeasance").

If the Issuer exercises its legal defeasance or its covenant defeasance option, the Subsidiary Guarantees in effect at such time will terminate and, in the case of covenant defeasance, the Parent Guarantee will terminate.

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The Issuer may exercise its legal defeasance option notwithstanding its prior exercise of its covenant defeasance option. If the Issuer exercises its legal defeasance option, payment of the Notes may not be accelerated because of an Event of Default with respect to the Notes. If the Issuer exercises its covenant defeasance option, payment of the Notes may not be accelerated because of an Event of Default specified in clause (4), (5), (6), (7) (with respect only to Significant Subsidiaries), (8) or (9) under "—Events of Default" above or because of the failure of the Parent Guarantor or the Issuer to comply with clause (3) under "—Certain Covenants—Merger and Consolidation" above.

In order to exercise either defeasance option, the Issuer or a Guarantor must, among other things, irrevocably deposit in trust (the "defeasance trust") with the Trustee money or U.S. Government Obligations for the payment of principal, premium, if any, and interest on the Notes to redemption or Stated Maturity, as the case may be, and must comply with certain other conditions, including delivery to the Trustee of an Opinion of Counsel (subject to customary exceptions and exclusions) to the effect that holders of the Notes will not recognize income, gain or loss for federal income tax purposes as a result of such deposit and defeasance and will be subject to federal income tax on the same amount and in the same manner and at the same times as would have been the case if such deposit and defeasance had not occurred. In the case of legal defeasance only, such Opinion of Counsel must be based on a ruling of the Internal Revenue Service or other change in applicable federal income tax law.

### **Satisfaction and Discharge**

The Indenture will be discharged and will cease to be of further effect as to all Notes issued thereunder, when either:

(1) all Notes that have been authenticated (except lost, stolen or destroyed Notes that have been replaced or paid and Notes for whose payment money has theretofore been deposited in trust or segregated and held in trust by the Issuer and thereafter repaid to the Issuer or discharged from such trust) have been delivered to the Trustee for cancellation, or

(2) all Notes that have not been delivered to the Trustee for cancellation have become due and payable or will become due and payable within one year by reason of the giving of a notice of redemption or otherwise and the Issuer, the Parent Guarantor or any Subsidiary Guarantor has irrevocably deposited or caused to be irrevocably deposited with the Trustee as trust funds in trust solely for such purpose, cash in U.S. dollars, U.S. Government Obligations, or a combination thereof, in such amounts as will be sufficient without consideration of any reinvestment of interest, to pay and discharge the entire indebtedness on the Notes not delivered to the Trustee for cancellation for principal and accrued interest to the date of Stated Maturity or redemption, and in each case certain other requirements set forth in the Indenture are satisfied.

### **No Personal Liability of Directors, Officers, Employees and Stockholders**

No director, officer, employee, incorporator, stockholder, member, partner or trustee of the Parent Guarantor, the Issuer or any Subsidiary Guarantor, as such, shall have any liability for any obligations of the Parent Guarantor, the Issuer or any Subsidiary Guarantor under the Notes, the Indenture or the Guarantees or for any claim based on, in respect of, or by reason of, such obligations or their creation. Each holder by accepting a Note waives and releases all such liability. The waiver and release are part of the consideration for issuance of the Notes.

### **Concerning the Trustee**

Wells Fargo Bank, National Association is the Trustee under the Indenture and has been appointed by the Issuer as registrar and paying agent with regard to the Notes. Such bank is the trustee under the indenture for the existing senior notes and a lender under the Senior Secured Credit Agreement.

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The Indenture contains certain limitations on the rights of the Trustee, should it become a creditor of the Issuer or any Guarantor, to obtain payment of claims in certain cases, or to realize on certain property received in respect of any such claim as security or otherwise. The Trustee may engage in other transactions; provided, however, that if it acquires any conflicting interest (as defined in the Trust Indenture Act) while any Default exists it must eliminate such conflict within 90 days, apply to the SEC for permission to continue as Trustee with such conflict or resign as Trustee.

### **Governing Law**

The Indenture provides that it and the Notes will be governed by, and construed in accordance with, the laws of the State of New York.

### **Book-Entry; Delivery and Form**

#### *Global Notes*

The new Notes, like the old Notes, will be issued in the form of one or more fully registered notes in global form, without interest coupons. Each Global Note will be deposited with the Trustee, as custodian for The Depository Trust Company ("DTC"), and registered in the name of Cede & Co., as nominee of DTC.

Ownership of beneficial interests in each global note will be limited to persons who have accounts with DTC ("DTC participants") or persons who hold interests through DTC participants. We expect that under procedures established by DTC:

- upon deposit of each global note with DTC's custodian, DTC will credit portions of the principal amount of the global notes to the accounts of the DTC participants designated by the exchange agent; and
- ownership of beneficial interests in each global note will be shown on, and transfer of ownership of those interests will be effected only through, records maintained by DTC (with respect to interests of DTC participants) and the records of DTC participants (with respect to other owners of beneficial interests in the global notes).

Beneficial interests in the global notes may not be exchanged for Notes in physical, certificated form except in the limited circumstances described below.

#### *Book-Entry Procedures for the Global Notes*

All interests in the global Notes will be subject to the operations and procedures of DTC, including its participants, Euroclear Bank S.A./N.V., as operator of the Euroclear System ("Euroclear"), and Clearstream Banking S.A. ("Clearstream"). We provide the following summaries of those operations and procedures solely for the convenience of investors. The operations and procedures of each settlement system are controlled by that settlement system and may be changed at any time.

- Neither we nor the Trustee is responsible for those operations or procedures.
- DTC has advised us that it is:
  - a limited purpose trust company organized under the laws of the State of New York;
  - a "banking organization" within the meaning of the New York State Banking Law;
  - a member of the Federal Reserve System;
  - a "clearing corporation" within the meaning of the Uniform Commercial Code; and
  - a "clearing agency" registered under Section 17A of the Exchange Act.

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DTC was created to hold securities for its participants and to facilitate the clearance and settlement of securities transactions between its participants through electronic book-entry changes to the accounts of its participants. DTC's participants include securities brokers and dealers, including the initial purchasers, banks and trust companies, clearing corporations, and other organizations. Indirect access to DTC's system is also available to others such as banks, brokers, dealers, and trust companies. These indirect participants clear through or maintain a custodial relationship with a DTC participant, either directly or indirectly. Investors who are not DTC participants may beneficially own securities held by or on behalf of DTC only through DTC participants or indirect participants in DTC.

So long as DTC's nominee is the registered owner of a global note, that nominee will be considered the sole owner or holder of the Notes represented by that global note for all purposes under the indenture. Except as provided below, owners of beneficial interests in a global note:

- will not be entitled to have Notes represented by the global note registered in their names;
- will not receive or be entitled to receive physical, certificated Notes; and
- will not be considered the owners or holders of the Notes under the Indenture for any purpose, including with respect to the giving of any direction, instruction, or approval to the Trustee.

As a result, each investor who owns a beneficial interest in a global note must rely on the procedures of DTC to exercise any rights of a holder of Notes under the Indenture (and, if the investor is not a participant or an indirect participant in DTC, on the procedures of the DTC participant through which the investor owns its interest).

Payments of principal, premium (if any), and interest with respect to the new Notes represented by a global note will be made by the Trustee to DTC's nominee, as the registered holder of the global note. Neither we nor the Trustee will have any responsibility or liability for the payment of amounts to owners of beneficial interests in a global note, for any aspect of the records relating to or payments made on account of those interests by DTC, or for maintaining, supervising, or reviewing any records of DTC relating to those interests.

Payments by participants and indirect participants in DTC to the owners of beneficial interests in a global note will be governed by standing instructions and customary industry practice and will be the responsibility of those participants or indirect participants and DTC.

Transfers between participants in DTC will be effected under DTC's procedures and will be settled in same-day funds. Transfers between participants in Euroclear or Clearstream will be effected in the ordinary way under the rules and operating procedures of those systems.

Cross market transfers between DTC participants, on the one hand, and Euroclear or Clearstream participants, on the other hand, will be effected within DTC through the DTC participants that are acting as depositaries for Euroclear and Clearstream. To deliver or receive an interest in a global note held in a Euroclear or Clearstream account, an investor must send transfer instructions to Euroclear or Clearstream, as the case may be, under the rules and procedures of that system and within the established deadlines of that system. If the transaction meets its settlement requirements, Euroclear or Clearstream, as the case may be, will send instructions to its DTC depositary to take action to effect final settlement by delivering or receiving interests in the relevant global notes in DTC, and making or receiving payment under normal procedures for same-day funds settlement applicable to DTC. Euroclear and Clearstream participants may not deliver instructions directly to the DTC depositaries that are acting for Euroclear or Clearstream.

Because of time zone differences, the securities account of a Euroclear or Clearstream participant that purchases an interest in a global note from a DTC participant will be credited on the business day for Euroclear or Clearstream immediately following the DTC settlement date. Cash received in Euroclear or Clearstream from the sale of an interest in a global note to a DTC participant will be

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received with value on the DTC settlement date but will be available in the relevant Euroclear or Clearstream cash account as of the business day for Euroclear or Clearstream following the DTC settlement date.

DTC, Euroclear, and Clearstream have agreed to the above procedures to facilitate transfers of interests in the global notes among participants in those settlement systems. However, the settlement systems are not obligated to perform these procedures and may discontinue or change these procedures at any time. Neither we nor the Trustee will have any responsibility for the performance by DTC, Euroclear, or Clearstream, or their participants or indirect participants, of their obligations under the rules and procedures governing their operations.

### *Certificated Notes*

Notes in physical, certificated form will be issued and delivered to each person that DTC identifies as a beneficial owner of the related Notes only if:

- DTC notifies us at any time that it is unwilling or unable to continue as depository for the global notes and a successor depository is not appointed within 90 days;
- DTC ceases to be registered as a clearing agency under the Exchange Act and a successor depository is not appointed within 90 days; or
- we, at our option, notify the Trustee that we elect to cause the issuance of certificated Notes.

### **Certain Definitions**

"*Acquired Indebtedness*" means Indebtedness (i) of a Person or any of its Subsidiaries existing at the time such Person becomes or is merged with and into a Restricted Subsidiary or (ii) assumed in connection with the acquisition of assets from such Person, in each case whether or not Incurred by such Person in connection with, or in anticipation or contemplation of, such Person becoming a Restricted Subsidiary or such acquisition. Acquired Indebtedness shall be deemed to have been Incurred, with respect to clause (i) of the preceding sentence, on the date such Person becomes or is merged with and into a Restricted Subsidiary and, with respect to clause (ii) of the preceding sentence, on the date of consummation of such acquisition of assets.

"*Additional Assets*" means:

- (1) any properties or assets to be used by the Parent Guarantor or a Restricted Subsidiary in the Oil and Gas Business;
- (2) capital expenditures by the Parent Guarantor or a Restricted Subsidiary in the Oil and Gas Business;
- (3) the Capital Stock of a Person that becomes a Restricted Subsidiary as a result of the acquisition of such Capital Stock by the Parent Guarantor or a Restricted Subsidiary; or
- (4) Capital Stock constituting a Minority Interest in any Person that at such time is a Restricted Subsidiary;

provided, however, that, in the case of clauses (3) and (4), such Restricted Subsidiary is primarily engaged in the Oil and Gas Business.

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"Adjusted Consolidated Net Tangible Assets" of the Parent Guarantor means (without duplication), as of the date of determination, the remainder of:

(a) the sum of:

(i) discounted future net revenues from proved oil and gas reserves of the Parent Guarantor and its Restricted Subsidiaries calculated in accordance with SEC guidelines before any state or federal income taxes, as estimated by the Parent Guarantor in a reserve report prepared as of the end of the Parent Guarantor's most recently completed fiscal year for which audited financial statements are available, as increased by, as of the date of determination, the estimated discounted future net revenues from

(A) estimated proved oil and gas reserves acquired since such year end, which reserves were not reflected in such year end reserve report, and

(B) estimated oil and gas reserves attributable to extensions, discoveries and other additions and upward revisions of estimates of proved oil and gas reserves since such year end due to exploration, development or exploitation, production or other activities, which would, in accordance with standard industry practice, cause such revisions (including the impact to proved reserves and future net revenues from estimated development costs incurred and the accretion of discount since such year end),

and decreased by, as of the date of determination, the estimated discounted future net revenues from

(C) estimated proved oil and gas reserves produced or disposed of since such year end, and

(D) estimated oil and gas reserves attributable to downward revisions of estimates of proved oil and gas reserves since such year end due to changes in geological conditions or other factors which would, in accordance with standard industry practice, cause such revisions, in each case calculated on a pre-tax basis and substantially in accordance with SEC guidelines,

in the case of clauses (A) through (D) utilizing prices and costs calculated in accordance with SEC guidelines as if the end of the most recent fiscal quarter preceding the date of determination for which such information is available to the Parent Guarantor were year end; provided, however, that in the case of each of the determinations made pursuant to clauses (A) through (D), such increases and decreases shall be as estimated by the Parent Guarantor's petroleum engineers;

(ii) the capitalized costs that are attributable to Oil and Gas Properties of the Parent Guarantor and its Restricted Subsidiaries to which no proved oil and gas reserves are attributable, based on the Parent Guarantor's books and records as of a date no earlier than the date of the Parent Guarantor's latest available annual or quarterly financial statements;

(iii) the Net Working Capital of the Parent Guarantor and its Restricted Subsidiaries on a date no earlier than the date of the Parent Guarantor's latest annual or quarterly financial statements; and

(iv) the greater of

(A) the net book value of other tangible assets of the Parent Guarantor and its Restricted Subsidiaries, as of a date no earlier than the date of the Parent Guarantor's latest annual or quarterly financial statements, and

(B) the appraised value, as estimated by independent appraisers, of other tangible assets of the Parent Guarantor and its Restricted Subsidiaries, as of a date no earlier than the date of the Parent Guarantor's latest audited financial statements; provided, that, if no such appraisal has been performed the Parent Guarantor shall not be required to obtain such an appraisal and only clause (iv)(A) of this definition shall apply;

*minus*

(b) the sum of:

(i) Minority Interests;

(ii) any net gas balancing liabilities of the Parent Guarantor and its Restricted Subsidiaries reflected in the Parent Guarantor's latest annual or quarterly balance sheet (to the extent not deducted in calculating Net Working Capital of the Parent Guarantor in accordance with clause (a)(iii) above of this definition);

(iii) to the extent included in (a)(i) above, the discounted future net revenues, calculated in accordance with SEC guidelines (but utilizing prices and costs calculated in accordance with SEC guidelines as if the end of the most recent fiscal quarter preceding the date of determination for which such information is available to the Parent Guarantor were year end), attributable to reserves which are required to be delivered to third parties to fully satisfy the obligations of the Parent Guarantor and its Restricted Subsidiaries with respect to Volumetric Production Payments (determined, if applicable, using the schedules specified with respect thereto); and

(iv) the discounted future net revenues, calculated in accordance with SEC guidelines, attributable to reserves subject to Dollar Denominated Production Payments which, based on the estimates of production and price assumptions included in determining the discounted future net revenues specified in (a)(i) above, would be necessary to fully satisfy the payment obligations of the Parent Guarantor and its Subsidiaries with respect to Dollar Denominated Production Payments (determined, if applicable, using the schedules specified with respect thereto).

If the Parent Guarantor changes its method of accounting from the successful efforts method of accounting to the full cost or a similar method, "Adjusted Consolidated Net Tangible Assets" will continue to be calculated as if the Parent Guarantor were still using the successful efforts method of accounting.

"*Affiliate*" of any specified Person means any other Person, directly or indirectly, controlling or controlled by or under direct or indirect common control with such specified Person. For the purposes of this definition, "control" when used with respect to any Person means the power to direct the management and policies of such Person, directly or indirectly, whether through the ownership of voting securities, by contract or otherwise; and the terms "controlling" and "controlled" have meanings correlative to the foregoing.

"*Asset Disposition*" means any direct or indirect sale, lease (including by means of Production Payments and Reserve Sales and a Sale/Leaseback Transaction but excluding an operating lease entered into in the ordinary course of the Oil and Gas Business), transfer, issuance or other disposition, or a series of related sales, leases, transfers, issuances or dispositions that are part of a common plan, of (A) any Capital Stock of a Restricted Subsidiary (other than Preferred Stock of Restricted Subsidiaries issued in compliance with the covenant described under the heading "—Certain Covenants—Limitation on Indebtedness and Preferred Stock," and directors' qualifying shares or shares required by applicable law to be held by a Person other than the Parent Guarantor or a Restricted Subsidiary), (B) all or substantially all the assets of any division or line of business of the Parent Guarantor or any Restricted

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Subsidiary (excluding any division or line of business the assets of which are owned by an Unrestricted Subsidiary) or (C) any other assets of the Parent Guarantor or any Restricted Subsidiary outside of the ordinary course of business of the Parent Guarantor or such Restricted Subsidiary (each referred to for the purposes of this definition as a "disposition"), in each case by the Parent Guarantor or any of its Restricted Subsidiaries, including any disposition by means of a merger, consolidation or similar transaction.

Notwithstanding the preceding, the following items shall not be deemed to be Asset Dispositions:

- (1) a disposition by a Restricted Subsidiary to the Parent Guarantor or by the Parent Guarantor or a Restricted Subsidiary to a Restricted Subsidiary;
- (2) a disposition of cash, Cash Equivalents or other financial assets in the ordinary course of business;
- (3) a disposition of Hydrocarbons or mineral products inventory in the ordinary course of business;
- (4) a disposition of damaged, unserviceable, obsolete or worn out equipment or equipment that is no longer necessary for the proper conduct of the business of the Parent Guarantor and its Restricted Subsidiaries and that is disposed of in each case in the ordinary course of business;
- (5) transactions in accordance with the covenant described under "—Certain Covenants—Merger and Consolidation";
- (6) an issuance of Capital Stock by a Restricted Subsidiary to the Parent Guarantor or to a Restricted Subsidiary;
- (7) the making of a Permitted Investment or a Restricted Payment (or a disposition that would constitute a Restricted Payment but for the exclusions from the definition thereof) permitted by the covenant described under "—Certain Covenants—Limitation on Restricted Payments";
- (8) an Asset Swap;
- (9) dispositions of assets with a Fair Market Value of less than \$10.0 million;
- (10) Permitted Liens;
- (11) dispositions of receivables in connection with the compromise, settlement or collection thereof in the ordinary course of business or in bankruptcy or similar proceedings and exclusive of factoring or similar arrangements;
- (12) the licensing or sublicensing of intellectual property (including, without limitation, the licensing of seismic data) or other general intangibles and licenses, leases or subleases of other property in the ordinary course of business which do not materially interfere with the business of the Parent Guarantor and its Restricted Subsidiaries;
- (13) foreclosure on assets;
- (14) any Production Payments and Reserve Sales; provided that any such Production Payments and Reserve Sales, other than incentive compensation programs on terms that are reasonably customary in the Oil and Gas Business for geologists, geophysicists and other providers of technical services to the Parent Guarantor or a Restricted Subsidiary, shall have been created, Incurred, issued, assumed or guaranteed in connection with the financing of, and within 60 days after the acquisition of, the property that is subject thereto;
- (15) surrender or waiver of contract rights, oil and gas leases, or the settlement, release or surrender of contract, tort or other claims of any kind;



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(16) the abandonment, farmout, lease or sublease of developed or undeveloped Oil and Gas Properties in the ordinary course of business; and

(17) a disposition (whether or not in the ordinary course of business) of any Oil and Gas Property or interest therein to which no proved reserves are attributable at the time of such disposition.

"*Asset Swap*" means any substantially contemporaneous (and in any event occurring within 180 days of each other) purchase and sale or exchange of any oil or natural gas properties or assets or interests therein between the Parent Guarantor or any of its Restricted Subsidiaries and another Person; provided, that any cash received must be applied in accordance with "—Certain Covenants—Limitation on Sales of Assets and Subsidiary Stock" as if the Asset Swap were an Asset Disposition.

"*Average Life*" means, as of the date of determination, with respect to any Indebtedness or Preferred Stock, the quotient obtained by dividing (1) the sum of the products of the numbers of years from the date of determination to the dates of each successive scheduled principal payment of such Indebtedness or redemption or similar payment with respect to such Preferred Stock multiplied by the amount of such payment by (2) the sum of all such payments.

"*Beneficial Owner*" has the meaning assigned to such term in Rule 13d-3 and Rule 13d-5 under the Exchange Act, except that in calculating the beneficial ownership of any particular "person" (as that term is used in Section 13(d)(3) of the Exchange Act), such "person" will be deemed to have beneficial ownership of all securities that such "person" has the right to acquire by conversion or exercise of other securities, whether such right is currently exercisable or is exercisable only after the passage of time. The terms "Beneficially Owns" and "Beneficially Owned" have a corresponding meaning. For purposes of this definition, a Person shall not be deemed to Beneficially Own securities that are the subject of a stock purchase agreement, merger agreement or similar agreement until consummation of the transactions or, as applicable, series of related transactions contemplated thereby.

"*Board of Directors*" means, as to any Person that is a corporation, the board of directors of such Person or any duly authorized committee thereof or as to any Person that is not a corporation, the board of managers or such other individual or group serving a similar function.

"*Business Day*" means each day that is not a Saturday, Sunday or other day on which commercial banking institutions in New York, New York are authorized or required by law to close.

"*Capital Stock*" of any Person means any and all shares, units, interests, rights to purchase, warrants, options, participations or other equivalents of or interests in (however designated) equity of such Person, including any Preferred Stock, but excluding any debt securities convertible into, or exchangeable for, such equity.

"*Capitalized Lease Obligations*" means an obligation that is required to be classified and accounted for as a capitalized lease for financial reporting purposes in accordance with GAAP, and the amount of Indebtedness represented by such obligation will be the capitalized amount of such obligation at the time any determination thereof is to be made as determined in accordance with GAAP, and the Stated Maturity thereof will be the date of the last payment of rent or any other amount due under such lease prior to the first date such lease may be terminated without penalty. Notwithstanding the preceding, any lease (whether entered into before or after the Issue Date) that would have been classified as an operating lease pursuant to GAAP as in effect on the Issue Date will be deemed not to represent a Capitalized Lease Obligation.

"*Cash Equivalents*" means:

(1) securities issued or directly and fully guaranteed or insured by the United States Government or any agency or instrumentality of the United States (provided that the full faith and

credit of the United States is pledged in support thereof), having maturities of not more than one year from the date of acquisition;

(2) marketable general obligations issued by any state of the United States of America or any political subdivision of any such state or any public instrumentality thereof maturing within one year from the date of acquisition and, at the time of acquisition, having a credit rating of "A" (or the equivalent thereof) or better from either S&P or Moody's;

(3) certificates of deposit, time deposits, eurodollar time deposits, overnight bank deposits or bankers' acceptances having maturities of not more than one year from the date of acquisition thereof issued by any commercial bank the short-term deposit of which is rated at the time of acquisition thereof at least "A-2" or the equivalent thereof by S&P, or "P-2" or the equivalent thereof by Moody's, and having combined capital and surplus in excess of \$100.0 million;

(4) repurchase obligations with a term of not more than seven days for underlying securities of the types described in clauses (1), (2) and (3) entered into with any bank meeting the qualifications specified in clause (3) above;

(5) commercial paper rated at the time of acquisition thereof at least "A-2" or the equivalent thereof by S&P or "P-2" or the equivalent thereof by Moody's, or carrying an equivalent rating by a nationally recognized rating agency, if both of the two named Rating Agencies cease publishing ratings of investments, and in any case maturing within one year after the date of acquisition thereof; and

(6) interests in any investment company or money market fund which invests 95% or more of its assets in instruments of the type specified in clauses (1) through (5) above.

"Cash Management Obligations" means, with respect to the Issuer or any Guarantor, any obligations of such Person to U.S. Bank National Association or any other lender in respect of treasury management arrangements, depository or other cash management services, including any treasury management line of credit.

"Change of Control" means:

(1) any "person" or "group" of related persons (as such terms are used in Sections 13(d) and 14(d) of the Exchange Act), other than a Permitted Holder, is or becomes the Beneficial Owner, directly or indirectly, of more than 50% of the total voting power of the Voting Stock of the Parent Guarantor (or its successor by merger, consolidation or purchase of all or substantially all of its assets) (for the purposes of this clause (1), such person or group shall be deemed to Beneficially Own any Voting Stock of the Parent Guarantor held by a parent entity, if such person or group Beneficially Owns, directly or indirectly, more than 50% of the total voting power of the Voting Stock of such parent entity);

(2) the first day on which a majority of the members of the Board of Directors of the Parent Guarantor are not Continuing Directors;

(3) the sale, lease, transfer, conveyance or other disposition (other than by way of merger or consolidation), in one or a series of related transactions, of all or substantially all of the assets of the Parent Guarantor and its Restricted Subsidiaries taken as a whole to any "person" (as such term is used in Sections 13(d) and 14(d) of the Exchange Act); or

(4) the adoption by the members of the Parent Guarantor of a plan or proposal for the liquidation or dissolution of the Parent Guarantor.

Notwithstanding the preceding, a conversion of the Parent Guarantor or any of its Restricted Subsidiaries from a limited liability company, corporation, limited partnership or other form of entity to a limited liability company, corporation, limited partnership or other form of entity or an exchange of

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all of the outstanding Capital Stock in one form of entity for Capital Stock for another form of entity shall not constitute a Change of Control, so long as following such conversion or exchange the "persons" (as that term is used in Section 13(d)(3) of the Exchange Act) who Beneficially Owned the Capital Stock of the Parent Guarantor immediately prior to such transactions continue to Beneficially Own in the aggregate more than 50% of the Voting Stock of such entity, or continue to Beneficially Own sufficient Equity Interests in such entity to elect a majority of its directors, managers, trustees or other persons serving in a similar capacity for such entity, and, in either case no "person" Beneficially Owns more than 50% of the Voting Stock of such entity.

"Code" means the Internal Revenue Code of 1986, as amended.

"Commodity Agreements" means, in respect of any Person, any forward contract, commodity swap agreement, commodity option agreement or other similar agreement or arrangement in respect of Hydrocarbons used, produced, processed or sold by such Person that are customary in the Oil and Gas Business and designed to protect such Person against fluctuation in Hydrocarbon prices.

"Common Stock" means, with respect to any Person, any and all shares, interests or other participations in, and other equivalents (however designated and whether voting or nonvoting) of such Person's common stock whether or not outstanding on the Issue Date, and includes, without limitation, all series and classes of such common stock.

"Consolidated Coverage Ratio" means as of any date of determination, the ratio of (x) the aggregate amount of Consolidated EBITDAX of the Parent Guarantor for the period of the most recent four consecutive fiscal quarters ending prior to the date of such determination for which financial statements are in existence to (y) Consolidated Interest Expense for such four fiscal quarters, provided, however, that:

(1) if the Parent Guarantor or any Restricted Subsidiary:

(a) has Incurred any Indebtedness since the beginning of such period that remains outstanding on such date of determination or if the transaction giving rise to the need to calculate the Consolidated Coverage Ratio is an Incurrence of Indebtedness, Consolidated EBITDAX and Consolidated Interest Expense for such period will be calculated after giving effect on a pro forma basis to such Indebtedness and the use of proceeds thereof as if such Indebtedness had been Incurred on the first day of such period and such proceeds had been applied as of such date (except that in making such computation, the amount of Indebtedness under any revolving Credit Facility outstanding on the date of such calculation will be deemed to be (i) the average daily balance of such Indebtedness during such four fiscal quarters or such shorter period for which such facility was outstanding or (ii) if such revolving Credit Facility was created after the end of such four fiscal quarters, the average daily balance of such Indebtedness during the period from the date of creation of such revolving Credit Facility to the date of such calculation, in each case, provided that such average daily balance shall take into account any repayment of Indebtedness under such revolving Credit Facility as provided in clause (b)); or

(b) has repaid, repurchased, defeased or otherwise discharged any Indebtedness since the beginning of the period, including with the proceeds of such new Indebtedness, that is no longer outstanding on such date of determination or if the transaction giving rise to the need to calculate the Consolidated Coverage Ratio involves a discharge of Indebtedness (in each case other than Indebtedness Incurred under any revolving Credit Facility unless such Indebtedness has been permanently repaid and the related commitment terminated), Consolidated EBITDAX and Consolidated Interest Expense for such period will be calculated after giving effect on a pro forma basis to such discharge of such Indebtedness as if such discharge had occurred on the first day of such period;

(2) if, since the beginning of such period, the Parent Guarantor or any Restricted Subsidiary has made any Asset Disposition or if the transaction giving rise to the need to calculate the Consolidated Coverage Ratio is such an Asset Disposition, the Consolidated EBITDAX for such period will be reduced by an amount equal to the Consolidated EBITDAX (if positive) directly attributable to the assets which are the subject of such Asset Disposition for such period or increased by an amount equal to the Consolidated EBITDAX (if negative) directly attributable thereto for such period and Consolidated Interest Expense for such period shall be reduced by an amount equal to the Consolidated Interest Expense directly attributable to any Indebtedness of the Parent Guarantor or any Restricted Subsidiary repaid, repurchased, defeased or otherwise discharged with respect to the Parent Guarantor and its continuing Restricted Subsidiaries in connection with or with the proceeds from such Asset Disposition for such period (or, if the Capital Stock of any Restricted Subsidiary is sold, the Consolidated Interest Expense for such period directly attributable to the Indebtedness of such Restricted Subsidiary to the extent the Parent Guarantor and its continuing Restricted Subsidiaries are no longer liable for such Indebtedness after such sale);

(3) if, since the beginning of such period, the Parent Guarantor or any Restricted Subsidiary (by merger or otherwise) has made an Investment in any Restricted Subsidiary (or any Person which becomes a Restricted Subsidiary or is merged with or into the Parent Guarantor or a Restricted Subsidiary) or an acquisition (or will have received a contribution) of assets, including any acquisition or contribution of assets occurring in connection with a transaction causing a calculation to be made under the Indenture, which constitutes all or substantially all of a company, division, operating unit, segment, business, group of related assets or line of business, Consolidated EBITDAX and Consolidated Interest Expense for such period will be calculated after giving pro forma effect thereto (including the Incurrence of any Indebtedness) as if such Investment or acquisition or contribution had occurred on the first day of such period; and

(4) if, since the beginning of such period, any Person (that subsequently became a Restricted Subsidiary or was merged with or into the Parent Guarantor or any Restricted Subsidiary since the beginning of such period) made any Asset Disposition or any Investment or acquisition of assets that would have required an adjustment pursuant to clause (2) or (3) above if made by the Parent Guarantor or a Restricted Subsidiary during such period, Consolidated EBITDAX and Consolidated Interest Expense for such period will be calculated after giving pro forma effect thereto as if such Asset Disposition or Investment or acquisition of assets had occurred on the first day of such period.

For purposes of this definition, whenever pro forma effect is to be given to any calculation under this definition, the pro forma calculations will be determined in good faith by a responsible financial or accounting officer of the Parent Guarantor; provided that such officer may in his or her discretion include any reasonably identifiable and factually supportable pro forma changes to Consolidated EBITDAX, including any pro forma expenses and cost reductions, that have occurred or in the judgment of such officer are reasonably expected to occur within 12 months of the date of the applicable transaction (regardless of whether such expense or cost reduction or any other operating improvements could then be reflected properly in pro forma financial statements prepared in accordance with Regulation S-X under the Securities Act or any other regulation or policy of the SEC). If any Indebtedness bears a floating rate of interest and is being given pro forma effect, the interest expense on such Indebtedness will be calculated as if the average rate in effect from the beginning of such period to the date of determination had been the applicable rate for the entire period (taking into account any Interest Rate Agreement applicable to such Indebtedness, but if the remaining term of such Interest Rate Agreement is less than 12 months, then such Interest Rate Agreement shall only be taken into account for that portion of the period equal to the remaining term thereof). If any Indebtedness that is being given pro forma effect bears an interest rate at the option of the Parent

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Guarantor, the interest rate shall be calculated by applying such optional rate chosen by the Parent Guarantor. Interest on Indebtedness that may optionally be determined at an interest rate based upon a factor of a prime or similar rate, a eurocurrency interbank offered rate, or other rate, shall be deemed to have been based upon the rate actually chosen, or, if none, then based upon such optional rate chosen as the Parent Guarantor may designate.

"*Consolidated EBITDAX*" for any period means, without duplication, the Consolidated Net Income for such period, plus the following, without duplication and to the extent deducted (and not added back) in calculating such Consolidated Net Income:

- (1) Consolidated Interest Expense;
- (2) Consolidated Income Tax Expense;
- (3) consolidated depletion and depreciation expense of the Parent Guarantor and its Restricted Subsidiaries;
- (4) consolidated amortization expense or impairment charges of the Parent Guarantor and its Restricted Subsidiaries recorded in connection with the application of FASB ASC Topic No. 350, Intangibles—Goodwill and Others, and FASB ASC Topic No. 360, Property, Plant and Equipment;
- (5) other non-cash charges of the Parent Guarantor and its Restricted Subsidiaries (excluding any such non-cash charge to the extent it represents an accrual of or reserve for cash charges in any future period or amortization of a prepaid cash expense that was paid in a prior period not included in the calculation); and
- (6) consolidated exploration and abandonment expense of the Parent Guarantor and its Restricted Subsidiaries,

if applicable for such period; and less, to the extent included in calculating such Consolidated Net Income and in excess of any costs or expenses attributable thereto that were deducted (and not added back) in calculating such Consolidated Net Income, the sum of (x) the amount of deferred revenues that are amortized during such period and are attributable to reserves that are subject to Volumetric Production Payments, (y) amounts recorded in accordance with GAAP as repayments of principal and interest pursuant to Dollar Denominated Production Payments and (z) other non-cash gains (excluding any non-cash gain to the extent it represents the reversal of an accrual or reserve for a potential cash item that reduced Consolidated EBITDAX in any prior period).

Notwithstanding the preceding sentence, clauses (2) through (6) relating to amounts of a Restricted Subsidiary of the Parent Guarantor will be added to Consolidated Net Income to compute Consolidated EBITDAX of the Parent Guarantor only to the extent (and in the same proportion) that the net income (loss) of such Restricted Subsidiary was included in calculating the Consolidated Net Income of the Parent Guarantor and, to the extent the amounts set forth in clauses (2) through (6) are in excess of those necessary to offset a net loss of such Restricted Subsidiary or if such Restricted Subsidiary has net income for such period included in Consolidated Net Income, only if a corresponding amount would be permitted at the date of determination to be dividended to the Parent Guarantor by such Restricted Subsidiary (unless it is a Guarantor) without prior approval (that has not been obtained), pursuant to the terms of its charter and all agreements, instruments, judgments, decrees, orders, statutes, rules and governmental regulations applicable to that Restricted Subsidiary or the holders of its Capital Stock.

"*Consolidated Income Tax Expense*" means, with respect to any period, the provision for federal, state, local and foreign income taxes (including state franchise taxes) of the Parent Guarantor and its Restricted Subsidiaries for such period as determined in accordance with GAAP.

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"*Consolidated Interest Expense*" means, for any period, the total consolidated interest expense (less interest income) of the Parent Guarantor and its Restricted Subsidiaries, whether paid or accrued, plus, to the extent not included in such interest expense and without duplication:

- (1) interest expense attributable to Capitalized Lease Obligations and the interest component of any deferred payment obligations;
- (2) amortization of debt discount and debt issuance cost (provided that any amortization of bond premium will be credited to reduce Consolidated Interest Expense unless, pursuant to GAAP, such amortization of bond premium has otherwise reduced Consolidated Interest Expense);
- (3) non-cash interest expense;
- (4) commissions, discounts and other fees and charges owed with respect to letters of credit and bankers' acceptance financing;
- (5) the interest expense on Indebtedness of another Person that is guaranteed by the Parent Guarantor or one of its Restricted Subsidiaries or secured by a Lien on assets of the Parent Guarantor or one of its Restricted Subsidiaries, to the extent such guarantee becomes payable or such Lien becomes subject to foreclosure;
- (6) cash costs associated with Interest Rate Agreements (including amortization of fees); provided, however, that if Interest Rate Agreements result in net cash benefits rather than costs, such benefits shall be credited to reduce Consolidated Interest Expense unless, pursuant to GAAP, such net benefits are otherwise reflected in Consolidated Net Income;
- (7) the consolidated interest expense of the Parent Guarantor and its Restricted Subsidiaries that was capitalized during such period; and
- (8) all dividends paid or payable in cash, Cash Equivalents or Indebtedness or accrued during such period on any series of Disqualified Stock of the Parent Guarantor or on Preferred Stock of its Restricted Subsidiaries payable to a party other than the Parent Guarantor or a Wholly-Owned Subsidiary,

*minus*, to the extent included above, any interest attributable to Dollar Denominated Production Payments.

For the purpose of calculating the Consolidated Coverage Ratio in connection with the Incurrence of any Indebtedness described in the final paragraph of the definition of "Indebtedness," the calculation of Consolidated Interest Expense shall include all interest expense (including any amounts described in clauses (1) through (8) above) relating to any Indebtedness of the Parent Guarantor or any Restricted Subsidiary described in the final paragraph of the definition of "Indebtedness."

"*Consolidated Net Income*" means, for any period, the aggregate net income (loss) of the Parent Guarantor and its consolidated Subsidiaries determined in accordance with GAAP and before any reduction in respect of Preferred Stock dividends of such Person; provided, however, that there will not be included (to the extent otherwise included therein) in such Consolidated Net Income:

- (1) any net income (loss) of any Person (other than the Parent Guarantor) if such Person is not a Restricted Subsidiary, except that:
  - (a) subject to the limitations contained in clauses (3) and (4) below, the Parent Guarantor's equity in the net income of any such Person for such period will be included in such Consolidated Net Income up to the aggregate amount of cash actually distributed by such Person during such period to the Parent Guarantor or a Restricted Subsidiary as a dividend or other distribution (subject, in the case of a dividend or other distribution to a Restricted Subsidiary, to the limitations contained in clause (2) below); and

(b) the Parent Guarantor's equity in a net loss of any such Person for such period will be included in determining such Consolidated Net Income to the extent such loss has been funded with cash from the Parent Guarantor or a Restricted Subsidiary during such period;

(2) any net income (but not loss) of any Restricted Subsidiary (other than a Guarantor) if such Subsidiary is subject to restrictions, directly or indirectly, on the payment of dividends or the making of distributions by such Restricted Subsidiary, directly or indirectly, to the Parent Guarantor, except that:

(a) subject to the limitations contained in clauses (3), (4) and (5) below, the Parent Guarantor's equity in the net income of any such Restricted Subsidiary for such period will be included in such Consolidated Net Income up to the aggregate amount of cash that could have been distributed by such Restricted Subsidiary during such period to the Parent Guarantor or another Restricted Subsidiary as a dividend or other distribution (subject, in the case of a dividend or other distribution paid to another Restricted Subsidiary, to the limitation contained in this clause); and

(b) the Parent Guarantor's equity in a net loss of any such Restricted Subsidiary for such period will be included in determining such Consolidated Net Income;

(3) any gain (loss) realized upon the sale or other disposition of any property, plant or equipment of the Parent Guarantor or its consolidated Subsidiaries (including pursuant to any Sale/Leaseback Transaction) which is not sold or otherwise disposed of in the ordinary course of business and any gain (loss) realized upon the sale or other disposition of any Capital Stock of any Person;

(4) any extraordinary or nonrecurring gains or losses, together with any related provision for taxes on such gains or losses and all related fees and expenses;

(5) the cumulative effect of a change in accounting principles;

(6) any asset impairment writedowns on Oil and Gas Properties under GAAP or SEC guidelines;

(7) any unrealized non-cash gains or losses or charges in respect of Hedging Obligations (including those resulting from the application of FASB ASC Topic No. 815, Derivatives and Hedging);

(8) income or loss attributable to discontinued operations (including, without limitation, operations disposed of during such period whether or not such operations were classified as discontinued);

(9) all deferred financing costs written off, and premiums paid, in connection with any early extinguishment of Indebtedness; and

(10) any non-cash compensation charge arising from any grant of stock, stock options or other equity based awards; provided that the proceeds resulting from any such grant will be excluded from clause (c)(ii) of the first paragraph of the covenant described under "Certain Covenants—Limitation on Restricted Payments."

"Continuing Directors" means, as of any date of determination, any member of the Board of Directors of the Parent Guarantor who: (1) was a member of such Board of Directors on the date of the Indenture; or (2) was nominated for election or elected to such Board of Directors with the approval of a majority of the Continuing Directors who were members of such Board of Directors at the time of such nomination or election.

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"*Credit Facility*" means, with respect to the Parent Guarantor or any Restricted Subsidiary, one or more debt facilities (including, without limitation, the Senior Secured Credit Agreement), indentures or commercial paper facilities providing for revolving credit loans, term loans, receivables financing (including through the sale of receivables to such lenders or to special purpose entities formed to borrow from such lenders against such receivables) or letters of credit, in each case, as amended, restated, modified, renewed, refunded, replaced or refinanced in whole or in part from time to time (and whether or not with the original administrative agent and lenders or another administrative agent or agents or other lenders and whether provided under the original Senior Secured Credit Agreement or any other credit or other agreement or indenture).

"*Currency Agreement*" means in respect of a Person any foreign exchange contract, currency swap agreement, futures contract, option contract or other similar agreement as to which such Person is a party or a beneficiary.

"*Customary Recourse Exceptions*" means, with respect to any Non-Recourse Debt of an Unrestricted Subsidiary, exclusions from the exculpation provisions with respect to such Non-Recourse Debt for the voluntary bankruptcy of such Unrestricted Subsidiary, fraud, misapplication of cash, environmental claims, waste, willful destruction and other circumstances customarily excluded by lenders from exculpation provisions or included in separate indemnification agreements in non-recourse financings.

"*Default*" means any event which is, or after notice or passage of time or both would be, an Event of Default.

"*Disqualified Stock*" means, with respect to any Person, any Capital Stock of such Person which by its terms (or by the terms of any security into which it is convertible or for which it is exchangeable) at the option of the holder of the Capital Stock or upon the happening of any event:

- (1) matures or is mandatorily redeemable (other than redeemable only for Capital Stock of such Person which is not itself Disqualified Stock) pursuant to a sinking fund obligation or otherwise;
- (2) is convertible or exchangeable for Disqualified Stock or other Indebtedness (excluding Capital Stock which is convertible or exchangeable solely at the option of such Person or a Subsidiary thereof); or
- (3) is redeemable at the option of the holder of the Capital Stock in whole or in part,

in each case on or prior to the date that is 91 days after the earlier of the date (a) of the Stated Maturity of the Notes or (b) on which there are no Notes outstanding; provided that only the portion of Capital Stock which so matures or is mandatorily redeemable, is so convertible or exchangeable or is so redeemable at the option of the holder thereof prior to such date will be deemed to be Disqualified Stock; provided further, that any Capital Stock that would constitute Disqualified Stock solely because the holders thereof have the right to require the Parent Guarantor to repurchase such Capital Stock upon the occurrence of a change of control or asset sale (each defined in a substantially identical manner to the corresponding definitions in the Indenture) shall not constitute Disqualified Stock if the terms of such Capital Stock (and all such securities into which it is convertible or for which it is exchangeable) provide that (i) the Parent Guarantor may not repurchase or redeem any such Capital Stock (and all such securities into which it is convertible or for which it is ratable or exchangeable) pursuant to such provision prior to compliance by the Parent Guarantor with the provisions of the Indenture described under the captions "—Change of Control" and "—Certain Covenants—Limitation on Sales of Assets and Subsidiary Stock" and (ii) such repurchase or redemption will be permitted solely to the extent also permitted in accordance with the provisions of the Indenture described under the caption "—Certain Covenants—Limitation on Restricted Payments."



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"*Dollar Denominated Production Payments*" means production payment obligations recorded as liabilities in accordance with GAAP, together with all undertakings and obligations in connection therewith.

"*Domestic Subsidiary*" means any Restricted Subsidiary that is organized under the laws of the United States of America or any state thereof or the District of Columbia.

"*Equity Interests*" means Capital Stock and all warrants, options or other rights to acquire Capital Stock (but excluding any debt security that is convertible into, or exchangeable for, Capital Stock).

"*Equity Offering*" means a public or private offering for cash by the Parent Guarantor of Capital Stock (other than Disqualified Stock), other than public offerings registered on Form S-8.

"*Exchange Act*" means the Securities Exchange Act of 1934, as amended, and the rules and regulations of the SEC promulgated thereunder.

"*Exchange Notes*" means Notes issued in exchange for old Notes or Additional Notes pursuant to a Registration Rights Agreement.

"*Fair Market Value*" means, with respect to any asset or property, the sale value that would be obtained in an arm's length free market transaction between an informed and willing seller under no compulsion to sell and an informed and willing buyer under no compulsion to buy. Fair Market Value of an asset or property in excess of \$10.0 million shall be determined by the Board of Directors of the Parent Guarantor acting in good faith, whose determination shall be conclusive and evidenced by a resolution of such Board of Directors, and any lesser Fair Market Value may be determined by an officer of the Parent Guarantor acting in good faith.

"*Foreign Subsidiary*" means any Restricted Subsidiary that is not organized under the laws of the United States of America or any state thereof or the District of Columbia.

"*GAAP*" means generally accepted accounting principles in the United States of America as in effect from time to time. All ratios and computations based on GAAP contained in the Indenture will be computed in conformity with GAAP.

The term "*guarantee*" means any obligation, contingent or otherwise, of any Person directly or indirectly guaranteeing any Indebtedness of any other Person and any obligation, direct or indirect, contingent or otherwise, of such Person:

- (1) to purchase or pay (or advance or supply funds for the purchase or payment of) such Indebtedness of such other Person (whether arising by virtue of partnership arrangements, or by agreement to keep-well, to purchase assets, goods, securities or services, to take-or-pay, or to maintain financial statement conditions or otherwise); or
- (2) entered into for purposes of assuring in any other manner the obligee of such Indebtedness of the payment thereof or to protect such obligee against loss in respect thereof (in whole or in part);

provided, however, that the term "guarantee" will not include endorsements for collection or deposit in the ordinary course of business or any obligation to the extent it is payable only in Capital Stock of the guarantor that is not Disqualified Stock. The term "guarantee" used as a verb has a corresponding meaning.

"*Guarantees*" means the Parent Guarantee and the Subsidiary Guarantees collectively.

"*Guarantors*" means the Parent Guarantor and the Subsidiary Guarantors collectively.

"*Guarantor Subordinated Obligation*" means, with respect to a Guarantor, any Indebtedness of such Guarantor (whether outstanding on the Issue Date or thereafter Incurred) which is expressly

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subordinated in right of payment to the obligations of such Guarantor under its Guarantee pursuant to a written agreement.

"*Hedging Obligations*" of any Person means the obligations of such Person pursuant to any Interest Rate Agreement, Currency Agreement or Commodity Agreement.

"*holder*" means a Person in whose name a Note is registered on the registrar's books.

"*Hydrocarbons*" means oil, natural gas, casing head gas, drip gasoline, natural gasoline, condensate, distillate, liquid hydrocarbons, gaseous hydrocarbons and all constituents, elements or compounds thereof and products refined or processed therefrom.

"*Immaterial Subsidiary*" means, as of any date, any Restricted Subsidiary whose total assets, as of the end of the most recent month for which financial statements are available, are less than \$1,000,000 and whose total revenues for the most recent 12-month period for which financial statements are available do not exceed \$1,000,000; provided that a Restricted Subsidiary will not be considered to be an Immaterial Subsidiary if it, directly or indirectly, guarantees or otherwise provides direct credit support for any Indebtedness of the Parent Guarantor.

"*Incur*" means issue, create, assume, guarantee, incur or otherwise become directly or indirectly liable for, contingently or otherwise; provided, however, that any Indebtedness or Capital Stock of a Person existing at the time such Person becomes a Restricted Subsidiary (whether by merger, consolidation, acquisition or otherwise) will be deemed to be Incurred by such Restricted Subsidiary at the time it becomes a Restricted Subsidiary; and the terms "Incurred" and "Incurrence" have meanings correlative to the foregoing.

"*Indebtedness*" means, with respect to any Person on any date of determination (without duplication, whether or not contingent):

- (1) the principal of and premium (if any) in respect of indebtedness of such Person for borrowed money;
- (2) the principal of and premium (if any) in respect of obligations of such Person evidenced by bonds, debentures, notes or other similar instruments;
- (3) the principal component of all obligations of such Person in respect of letters of credit, bankers' acceptances or other similar instruments (including reimbursement obligations with respect thereto except to the extent such reimbursement obligation relates to a trade payable, to the extent such letters of credit are not drawn upon or, if and to the extent drawn upon, such obligation is satisfied within 30 days of payment on the letter of credit);
- (4) the principal component of all obligations of such Person (other than obligations payable solely in Capital Stock that is not Disqualified Stock) to pay the deferred and unpaid purchase price of property (except as described in clause (8) of the penultimate paragraph of this definition of "Indebtedness"), which purchase price is due more than six months after the date of placing such property in service or taking delivery and title thereto to the extent such obligations would appear as a liabilities upon the consolidated balance sheet of such Person in accordance with GAAP;
- (5) Capitalized Lease Obligations of such Person to the extent such Capitalized Lease Obligations would appear as liabilities on the consolidated balance sheet of such Person in accordance with GAAP;
- (6) the principal component or liquidation preference of all obligations of such Person with respect to the redemption, repayment or other repurchase of any Disqualified Stock or, with respect to any Subsidiary of such Person, any Preferred Stock (but excluding, in each case, any accrued dividends);

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(7) the principal component of all Indebtedness of other Persons secured by a Lien on any asset of such Person, whether or not such Indebtedness is assumed by such Person; provided, however, that the amount of such Indebtedness will be the lesser of (a) the Fair Market Value of such asset at such date of determination and (b) the amount of such Indebtedness of such other Persons;

(8) the principal component of Indebtedness of other Persons to the extent guaranteed by such Person; and

(9) to the extent not otherwise included in this definition, net obligations of such Person under Commodity Agreements, Currency Agreements and Interest Rate Agreements (the amount of any such obligations to be equal at any time to the termination value of such agreement or arrangement giving rise to such obligation that would be payable by such Person at such time);

provided, however, that any indebtedness which has been defeased in accordance with GAAP or defeased pursuant to the deposit of cash or Cash Equivalents (in an amount sufficient to satisfy all such indebtedness obligations at maturity or redemption, as applicable, and all payments of interest and premium, if any) in a trust or account created or pledged for the sole benefit of the holders of such indebtedness, and subject to no other Liens, shall not constitute "Indebtedness."

The amount of Indebtedness of any Person at any date will be the outstanding balance at such date of all unconditional obligations as described above and the maximum liability, upon the occurrence of the contingency giving rise to the obligation, of any contingent obligations at such date.

Notwithstanding the preceding, "Indebtedness" of a Person shall not include:

(1) Production Payments and Reserve Sales;

(2) any obligation of such Person in respect of a farm-in agreement or similar arrangement whereby such Person agrees to pay all or a share of the drilling, completion or other expenses of an exploratory or development well (which agreement may be subject to a maximum payment obligation, after which expenses are shared in accordance with the working or participation interest therein or in accordance with the agreement of the parties) or perform the drilling, completion or other operation on such well in exchange for an ownership interest in an oil or gas property;

(3) any obligations under Currency Agreements, Commodity Agreements and Interest Rate Agreements; provided that such Agreements are entered into for bona fide hedging purposes of such Person or its Subsidiaries (as determined in good faith by the Board of Directors or senior management of such Person, whether or not accounted for as a hedge in accordance with GAAP) and, in the case of Currency Agreements or Commodity Agreements, such Currency Agreements or Commodity Agreements are related to business transactions of such Person or its Subsidiaries entered into in the ordinary course of business and, in the case of Interest Rate Agreements, such Interest Rate Agreements substantially correspond in terms of notional amount, duration and interest rates, as applicable, to Indebtedness of such Person or its Subsidiaries Incurred without violation of the Indenture;

(4) any obligation arising from agreements of such Person or a Subsidiary providing for indemnification, guarantees, adjustment of purchase price, holdbacks, contingency payment obligations or similar obligations, in each case, Incurred or assumed in connection with the acquisition or disposition of any business, assets or Capital Stock of a Restricted Subsidiary, provided that such Indebtedness is not reflected on the face of the balance sheet of such Person or any Subsidiary;

(5) any obligation arising from the honoring by a bank or other financial institution of a check, draft or similar instrument (including daylight overdrafts) drawn against insufficient funds in

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the ordinary course of business, provided that such Indebtedness is extinguished within five Business Days of Incurrence;

(6) in-kind obligations relating to net oil or natural gas balancing positions arising in the ordinary course of business;

(7) all contracts and other obligations, agreements, instruments or arrangements described in clause (19), (20), (21) or (28)(a) of the definition of "Permitted Liens;"

(8) accrued expenses and trade payables and other accrued liabilities arising in the ordinary course of business that are not overdue by 90 days past the invoice or billing date or more or are being contested in good faith by appropriate proceedings promptly instituted and diligently conducted;

(9) any repayment or reimbursement obligation of such Person or any of its Subsidiaries with respect to Customary Recourse Exceptions, unless and until an event or circumstance occurs that triggers the Person's or such Subsidiary's direct repayment or reimbursement obligation (as opposed to contingent or performance obligations) to the lender or other Person to whom such obligation is actually owed, in which case the amount of such direct payment or reimbursement obligation shall constitute Indebtedness.

In addition, "Indebtedness" of any Person shall include Indebtedness described in the first paragraph of this definition of "Indebtedness" that would not appear as a liability on the balance sheet of such Person if:

(1) such Indebtedness is the obligation of a partnership or joint venture that is not a Subsidiary of such Person (a "Joint Venture");

(2) such Person or a Restricted Subsidiary of such Person is a general partner of the Joint Venture or otherwise liable for all or a portion of the Joint Venture's liabilities (a "General Partner"); and

(3) there is recourse, by contract or operation of law, with respect to the payment of such Indebtedness to property or assets of such Person or a Subsidiary of such Person; and then such Indebtedness shall be included in an amount not to exceed:

(a) the lesser of (i) the net assets of the General Partner and (ii) the amount of such obligations to the extent that there is recourse, by contract or operation of law, to the property or assets of such Person or a Subsidiary of such Person; or

(b) if less than the amount determined pursuant to clause (a) immediately above, the actual amount of such Indebtedness that is with recourse to such Person or a Subsidiary of such Person, if the Indebtedness is evidenced by a writing and is for a determinable amount and the related interest expense shall be included in Consolidated Interest Expense to the extent actually paid by such Person and its Subsidiaries.

"*Interest Rate Agreement*" means with respect to any Person any interest rate protection agreement, interest rate future agreement, interest rate option agreement, interest rate swap agreement, interest rate cap agreement, interest rate collar agreement, interest rate hedge agreement or other similar agreement or arrangement as to which such Person is party or a beneficiary.

"*Investment*" means, with respect to any Person, all investments by such Person in other Persons (including Affiliates) in the form of any direct or indirect advance, loan or other extensions of credit (including by way of guarantee or similar arrangement, but excluding any debt or extension of credit represented by a bank deposit other than a time deposit and advances or extensions of credit to customers in the ordinary course of business) or capital contribution to (by means of any transfer of cash or other property to others or any payment for property or services for the account or use of

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others), or any purchase or acquisition of Capital Stock, Indebtedness or other similar instruments (excluding any interest in a crude oil or natural gas leasehold to the extent constituting a security under applicable law) issued by, such other Person and all other items that are or would be classified as investments on a balance sheet prepared in accordance with GAAP; provided that none of the following will be deemed to be an Investment:

- (1) Hedging Obligations entered into in the ordinary course of business and in compliance with the Indenture;
- (2) endorsements of negotiable instruments and documents in the ordinary course of business; and
- (3) an acquisition of assets, Capital Stock or other securities by such Person or a Subsidiary for consideration to the extent such consideration consists of Common Stock of such Person.

The amount of any Investment shall not be adjusted for increases or decreases in value, write-ups, write downs or write-offs with respect to such Investment.

For purposes of the definition of "Unrestricted Subsidiary" and the covenant described under "—Certain Covenants—Limitation on Restricted Payments,"

(1) "Investment" will include the portion (proportionate to the Parent Guarantor's equity interest in a Restricted Subsidiary to be designated as an Unrestricted Subsidiary) of the Fair Market Value of the net assets of such Restricted Subsidiary at the time that such Restricted Subsidiary is designated an Unrestricted Subsidiary; provided, however, that upon a redesignation of such Subsidiary as a Restricted Subsidiary, the Parent Guarantor will be deemed to continue to have a permanent "Investment" in an Unrestricted Subsidiary in an amount (if positive) equal to (a) the Parent Guarantor's "Investment" in such Subsidiary at the time of such redesignation less (b) the portion (proportionate to the Parent Guarantor's equity interest in such Subsidiary) of the Fair Market Value of the net assets of such Subsidiary at the time that such Subsidiary is so re-designated a Restricted Subsidiary; and

(2) any property transferred to or from an Unrestricted Subsidiary will be valued at its Fair Market Value at the time of such transfer; and

(3) if the Company or any Restricted Subsidiary sells or otherwise disposes of any Capital Stock of any Restricted Subsidiary such that, after giving effect to any such sale or disposition, such entity is no longer a Subsidiary of the Company, then the Company shall be deemed to have made an Investment on the date of any such sale or disposition equal to the Fair Market Value of the Capital Stock of such former Subsidiary not sold or disposed of.

"*Investment Grade Rating*" means a rating equal to or higher than:

- (1) Baa3 (or the equivalent) with a stable or better outlook by Moody's; and
- (2) BBB (or the equivalent) with a stable or better outlook by S&P,

or, if either such entity ceases to make a rating on the Notes publicly available for reasons outside of the Parent Guarantor's control, the equivalent investment grade credit rating from any other Rating Agency.

"*Investment Grade Rating Event*" means the first day on which the Notes have an Investment Grade Rating from each Rating Agency, and no Default has occurred and is then continuing under the Indenture.

"*Issue Date*" means the first date on which the Notes are issued under the Indenture.

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"*Lien*" means, with respect to any asset, any mortgage, lien (statutory or otherwise), pledge, hypothecation, charge, security interest, preference, priority or encumbrance of any kind in respect of such asset, whether or not filed, recorded or otherwise perfected under applicable law, including any conditional sale or other title retention agreement, any lease in the nature thereof, any option or other agreement to sell or give a security interest in and any filing of or agreement to give any financing statement under the Uniform Commercial Code (or equivalent statutes) of any jurisdiction; provided that in no event shall an operating lease be deemed to constitute a Lien.

"*Minority Interest*" means the percentage interest represented by any class of Capital Stock of a Restricted Subsidiary that are not owned by the Parent Guarantor or a Restricted Subsidiary.

"*Moody's*" means Moody's Investors Service, Inc., or any successor to the rating agency business thereof.

"*Net Available Cash*" from an Asset Disposition means cash payments received (including any cash payments received by way of deferred payment of principal pursuant to a note or installment receivable or otherwise and net proceeds from the sale or other disposition of any securities received as consideration, but only as and when received, but excluding any other consideration received in the form of assumption by the acquiring Person of Indebtedness or other obligations relating to the properties or assets that are the subject of such Asset Disposition or received in any other non-cash form), including consideration deemed to be cash pursuant to the seventh paragraph of the covenant described under "—Certain Covenants—Limitation on Sales of Assets and Subsidiary Stock," therefrom, in each case net of:

- (1) all legal, accounting, investment banking, title and recording tax expenses, commissions and other fees and expenses incurred, and all federal, state, provincial, foreign and local taxes required to be paid (including, for this purpose, any associated Permitted Tax Distributions) or accrued as a liability under GAAP (after taking into account any available tax credits or deductions and any tax sharing agreements), as a consequence of such Asset Disposition;
- (2) all payments made on any Indebtedness (including any Hedging Obligation) which is secured by any assets subject to such Asset Disposition, in accordance with the terms of any Lien upon such assets, or which must by its terms, or in order to obtain a necessary consent to such Asset Disposition, or by applicable law be repaid out of the proceeds from such Asset Disposition;
- (3) all distributions and other payments required to be made to minority interest holders in Subsidiaries or joint ventures or to holders of royalty or similar interests as a result of such Asset Disposition;
- (4) the deduction of appropriate amounts to be provided by the seller as a reserve, in accordance with GAAP, against any liabilities associated with the assets disposed of in such Asset Disposition and retained by the Parent Guarantor or any Restricted Subsidiary after such Asset Disposition; and
- (5) all relocation expenses incurred as a result thereof and all related severance and associated costs, expenses and charges of personnel related to assets and related operations disposed of;

provided, however, that if any consideration for an Asset Disposition (that would otherwise constitute Net Available Cash) is required to be held in escrow pending determination of whether or not a purchase price adjustment will be made, such consideration (or any portion thereof) shall become Net Available Cash only at such time as it is released to the Parent Guarantor or any of its Restricted Subsidiaries from escrow.

"*Net Cash Proceeds*," with respect to any issuance or sale of Capital Stock or any contribution to equity capital, means the cash proceeds of such issuance, sale or contribution net of attorneys' fees,

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accountants' fees, underwriters' or placement agents' fees, listing fees, discounts or commissions and brokerage, consultant and other fees and charges actually Incurred in connection with such issuance, sale or contribution and net of taxes paid or payable as a result of such issuance or sale (after taking into account any available tax credit or deductions and any tax sharing arrangements).

"*Net Working Capital*" means (a) the sum of (i) all current assets of the Parent Guarantor and its Restricted Subsidiaries, except current assets from commodity price risk management activities arising in the ordinary course of the Oil and Gas Business, plus (ii) the amount of revolving credit borrowings available to be Incurred under the Senior Secured Credit Agreement, less (b) all current liabilities of the Parent Guarantor and its Restricted Subsidiaries, except current liabilities (i) associated with asset retirement obligations relating to Oil and Gas Properties, (ii) included in Indebtedness and (iii) any current liabilities from commodity price risk management activities arising in the ordinary course of the Oil and Gas Business, in each case as set forth in the consolidated financial statements of the Parent Guarantor prepared in accordance with GAAP.

"*Non-Recourse Debt*" means Indebtedness of a Person:

(1) as to which neither the Parent Guarantor nor any Restricted Subsidiary (a) provides any guarantee or credit support of any kind (including any undertaking, guarantee, indemnity, agreement or instrument that would constitute Indebtedness) or (b) is directly or indirectly liable (as a guarantor or otherwise), except for Customary Recourse Exceptions;

(2) no default with respect to which (including any rights that the holders thereof may have to take enforcement action against an Unrestricted Subsidiary) would permit (upon notice, lapse of time or both) any holder of any other Indebtedness of the Parent Guarantor or any Restricted Subsidiary to declare a default under such other Indebtedness or cause the payment thereof to be accelerated or payable prior to its stated maturity; and

(3) the explicit terms of which provide there is no recourse against any of the assets of the Parent Guarantor or its Restricted Subsidiaries, except for Customary Recourse Exceptions.

"*Officer*" means the Chairman of the Board, the Chief Executive Officer, the President, the Chief Financial Officer, any Vice President, the Treasurer or the Secretary of the Issuer. Officer of any Guarantor has a correlative meaning.

"*Officers' Certificate*" means a certificate signed by two Officers of the Issuer.

"*Oil and Gas Business*" means:

(1) the business of acquiring, exploring, exploiting, developing, producing, operating and disposing of interests in oil, natural gas, liquefied natural gas and other Hydrocarbon and mineral properties or products produced in association with any of the foregoing;

(2) the business of gathering, marketing, distributing, treating, processing, storing, refining, selling and transporting of any production from such interests or properties and products produced in association therewith and the marketing of oil, natural gas, other Hydrocarbons and minerals obtained from unrelated Persons;

(3) any other related energy business, including power generation and electrical transmission business, directly or indirectly, from oil, natural gas and other Hydrocarbons and minerals produced substantially from properties in which the Parent Guarantor or its Restricted Subsidiaries, directly or indirectly, participate;

(4) any business relating to oil field sales and service; and

(5) any business or activity relating to, arising from, or necessary, appropriate or incidental to the activities described in the foregoing clauses (1) through (4) of this definition.

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"*Oil and Gas Properties*" means all properties, including equity or other ownership interests therein, owned by a Person which contain or are believed to contain oil and gas reserves.

"*Opinion of Counsel*" means a written opinion from legal counsel who is acceptable to the Trustee. The counsel may be an employee of or counsel to the Issuer, a Guarantor or the Trustee.

"*Parent Guarantee*" means the guarantee of payment of the Notes by the Parent Guarantor pursuant to the terms of the Indenture.

"*Pari Passu Indebtedness*" means any Indebtedness of the Issuer or any Guarantor that ranks equally in right of payment to the Notes or the Guarantees, as the case may be.

"*Permitted Acquisition Indebtedness*" means Indebtedness (including Disqualified Stock) of the Parent Guarantor or any of the Restricted Subsidiaries to the extent such Indebtedness was Indebtedness:

- (1) of an acquired Person prior to the date on which such Person became a Restricted Subsidiary as a result of having been acquired and not incurred in contemplation of such acquisition; or
- (2) of a Person that was merged, consolidated or amalgamated with or into the Parent Guarantor or a Restricted Subsidiary that was not incurred in contemplation of such merger, consolidation or amalgamation,

provided that on the date such Person became a Restricted Subsidiary or the date such Person was merged, consolidated and amalgamated with or into the Parent Guarantor or a Restricted Subsidiary, as applicable, after giving pro forma effect thereto,

- (a) the Restricted Subsidiary or the Parent Guarantor, as applicable, would be permitted to incur at least \$1.00 of additional Indebtedness pursuant to the Consolidated Coverage Ratio test described under "—Certain Covenants—Limitation on Indebtedness and Preferred Stock," or
- (b) the Consolidated Coverage Ratio for the Parent Guarantor would be greater than the Consolidated Coverage Ratio for the Parent Guarantor immediately prior to such transaction.

"*Permitted Business Investment*" means any Investment made in the ordinary course of, and of a nature that is or shall have become customary in, the Oil and Gas Business including investments or expenditures for actively exploiting, exploring for, acquiring, developing, producing, processing, gathering, marketing or transporting oil, natural gas or other Hydrocarbons and minerals through agreements, transactions, interests or arrangements which permit one to share risks or costs, comply with regulatory requirements regarding local ownership or satisfy other objectives customarily achieved through the conduct of the Oil and Gas Business jointly with third parties including:

- (1) ownership interests in oil, natural gas, other Hydrocarbons and minerals properties, liquefied natural gas facilities, processing facilities, gathering systems, pipelines, storage facilities or related systems or ancillary real property interests;
- (2) Investments in the form of or pursuant to operating agreements, working interests, royalty interests, mineral leases, processing agreements, farm-in agreements, farm-out agreements, contracts for the sale, transportation or exchange of oil, natural gas, other Hydrocarbons and minerals, production sharing agreements, participation agreements, development agreements, area of mutual interest agreements, unitization agreements, pooling agreements, joint bidding agreements, service contracts, joint venture agreements, partnership agreements (whether general or limited), subscription agreements, stock purchase agreements, stockholder agreements and other similar agreements (including for limited liability companies) with third parties; and



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(3) direct or indirect ownership interests in drilling rigs and related equipment, including, without limitation, transportation equipment.

"*Permitted Holder*" means each of (i) Warburg Pincus & Co.; (ii) Paul M. Rady ("Rady"); (iii) Glen C. Warren, Jr. ("Warren"); (iv) Rady's wife or Warren's wife; (v) any lineal descendant of either Rady or Warren; (vi) the guardian or other legal representative of either Rady or Warren; (vii) the estate of either Rady or Warren; (viii) any trust of which at least one of the trustees is either Rady or Warren, or the principal beneficiaries of which are any one or more of the Persons referred to in the preceding clauses (ii) through (vii); (ix) any Person that is controlled by any one or more of the Persons in the preceding clauses (i) through (viii); and (x) any group (within the meaning of the Exchange Act) that includes one or more of the Persons described in the preceding clauses (i) through (ix), provided that such Persons described in the preceding clauses (i) through (ix) control more than 50% of the total voting power of such group.

"*Permitted Investment*" means an Investment by the Parent Guarantor or any Restricted Subsidiary in:

(1) the Parent Guarantor, a Restricted Subsidiary or a Person which will, upon the making of such Investment, become a Restricted Subsidiary; provided, however, that the primary business of such Restricted Subsidiary is the Oil and Gas Business;

(2) another Person whose primary business is the Oil and Gas Business if as a result of such Investment such other Person becomes a Restricted Subsidiary or is merged or consolidated with or into, or transfers or conveys all or substantially all its assets to, the Parent Guarantor or a Restricted Subsidiary and, in each case, any Investment held by such Person; provided that such Investment was not acquired by such Person in contemplation of such acquisition, merger, consolidation or transfer;

(3) cash and Cash Equivalents;

(4) receivables owing to the Parent Guarantor or any Restricted Subsidiary created or acquired in the ordinary course of business and payable or dischargeable in accordance with customary trade terms; provided, however, that such trade terms may include such concessionary trade terms as the Parent Guarantor or any such Restricted Subsidiary deems reasonable under the circumstances;

(5) payroll, commission, travel, relocation and similar advances to cover matters that are expected at the time of such advances ultimately to be treated as expenses for accounting purposes and that are made in the ordinary course of business;

(6) loans or advances to employees (other than executive officers) made in the ordinary course of business consistent with past practices of the Parent Guarantor or such Restricted Subsidiary;

(7) Capital Stock, obligations or securities received in settlement of debts (x) created in the ordinary course of business and owing to the Parent Guarantor or any Restricted Subsidiary or in satisfaction of judgments or (y) pursuant to any plan of reorganization or similar arrangement in a bankruptcy or insolvency proceeding;

(8) any Person as a result of the receipt of non-cash consideration from an Asset Disposition that was made pursuant to and in compliance with the covenant described under "Certain Covenants—Limitation on Sales of Assets and Subsidiary Stock";

(9) Investments in existence on the Issue Date;

(10) Commodity Agreements, Currency Agreements, Interest Rate Agreements and related Hedging Obligations, which transactions or obligations are Incurred in compliance with "—Certain Covenants—Limitation on Indebtedness and Preferred Stock";

(11) Guarantees issued in accordance with the covenant described under "—Certain Covenants—Limitation on Indebtedness and Preferred Stock";

(12) Permitted Business Investments;

(13) any Person where such Investment was acquired by the Parent Guarantor or any of its Restricted Subsidiaries (a) in exchange for any other Investment or accounts receivable held by the Parent Guarantor or any such Restricted Subsidiary in connection with or as a result of a bankruptcy, workout, reorganization or recapitalization of the issuer of such other Investment or accounts receivable or (b) as a result of a foreclosure by the Parent Guarantor or any of its Restricted Subsidiaries with respect to any secured Investment or other transfer of title with respect to any secured Investment in default;

(14) any Person to the extent such Investments consist of prepaid expenses, negotiable instruments held for collection and lease, utility and workers' compensation, performance and other similar deposits made in the ordinary course of business by the Parent Guarantor or any Restricted Subsidiary;

(15) Guarantees of performance or other obligations (other than Indebtedness) arising in the ordinary course in the Oil and Gas Business, including obligations under oil and natural gas exploration, development, joint operating, and related agreements and licenses, concessions or operating leases related to the Oil and Gas Business;

(16) Investments in the Notes; and

(17) Investments by the Parent Guarantor or any of its Restricted Subsidiaries, together with all other Investments pursuant to this clause (17), in an aggregate amount outstanding at the time of such Investment not to exceed the greater of \$20.0 million and 1.0% of the Parent Guarantor's Adjusted Consolidated Net Tangible Assets (with the Fair Market Value of such Investment being measured at the time such Investment is made and without giving effect to subsequent changes in value); provided, however, that if any Investment pursuant to this clause (17) is made in any Person that is not a Restricted Subsidiary at the date of the making of such Investment and such Person becomes a Restricted Subsidiary after such date, such Investment shall thereafter be deemed to have been made pursuant to clause (1) above and shall cease to have been made pursuant to this clause (17) for so long as such Person continues to be a Restricted Subsidiary).

"*Permitted Liens*" means, with respect to any Person:

(1) Liens securing Indebtedness under a Credit Facility permitted to be Incurred under the Indenture;

(2) pledges or deposits by such Person under workers' compensation laws, unemployment insurance laws, social security or old age pension laws or similar legislation, or good faith deposits in connection with bids, tenders, contracts (other than for the payment of Indebtedness) or leases to which such Person is a party, or deposits (which may be secured by a Lien) to secure public or statutory obligations of such Person including letters of credit and bank guarantees required or requested by the United States, any State thereof or any foreign government or any subdivision, department, agency, organization or instrumentality of any of the foregoing in connection with any contract or statute (including lessee or operator obligations under statutes, governmental regulations, contracts or instruments related to the ownership, exploration and production of oil, natural gas, other hydrocarbons and minerals on State, Federal or foreign lands or waters), or deposits of cash or United States government bonds to secure indemnity performance, surety or

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appeal bonds or other similar bonds to which such Person is a party, or deposits as security for contested taxes or import or customs duties or for the payment of rent, in each case Incurred in the ordinary course of business;

(3) statutory and contractual Liens of landlords and Liens imposed by law, including carriers', warehousemen's, mechanics', materialmen's and repairmen's Liens, in each case for sums not yet due or being contested in good faith by appropriate proceedings if a reserve or other appropriate provisions, if any, as shall be required by GAAP shall have been made in respect thereof;

(4) Liens for taxes, assessments or other governmental charges or claims not yet subject to penalties for non-payment or which are being contested in good faith by appropriate proceedings; provided that appropriate reserves, if any, required pursuant to GAAP have been made in respect thereof;

(5) Liens in favor of issuers of surety or performance bonds or bankers' acceptances issued pursuant to the request of and for the account of such Person in the ordinary course of its business;

(6) survey exceptions, encumbrances, ground leases, easements or reservations of, or rights of others for, licenses, rights of way, sewers, electric lines, telegraph and telephone lines and other similar purposes, or zoning, building codes or other restrictions (including, without limitation, minor defects or irregularities in title and similar encumbrances) as to the use of real properties or Liens incidental to the conduct of the business of such Person or to the ownership of its properties which do not in the aggregate materially adversely affect the value of the assets of such Person and its Restricted Subsidiaries, taken as a whole, or materially impair their use in the operation of the business of such Person;

(7) Liens securing Hedging Obligations;

(8) leases, licenses, subleases and sublicenses of assets (including, without limitation, real property and intellectual property rights) which do not materially interfere with the ordinary conduct of the business of the Parent Guarantor or any of its Restricted Subsidiaries;

(9) prejudgment Liens and judgment Liens not giving rise to an Event of Default so long as such Lien is adequately bonded and any appropriate legal proceedings which may have been duly initiated for the review of such judgment have not been finally terminated or the period within which such proceedings may be initiated has not expired;

(10) Liens for the purpose of securing the payment of all or a part of the purchase price of, or Capitalized Lease Obligations, purchase money obligations or other payments Incurred to finance the acquisition, lease, improvement or construction of or repairs or additions to, assets or property acquired or constructed in the ordinary course of business; provided that:

(a) the aggregate principal amount of Indebtedness secured by such Liens is otherwise permitted to be Incurred under the Indenture and does not exceed the cost of the assets or property so acquired or constructed; and

(b) such Liens are created within 360 days of the later of the acquisition, lease, completion of improvements, construction, repairs or additions or commencement of full operation of the assets or property subject to such Lien and do not encumber any other assets or property of the Parent Guarantor or any Restricted Subsidiary other than such assets or property and assets affixed or appurtenant thereto;

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(11) Liens arising solely by virtue of any statutory or common law provisions relating to banker's Liens, rights of set-off or similar rights and remedies as to deposit accounts or other funds maintained with a depository institution; provided that:

(a) such deposit account is not a dedicated cash collateral account and is not subject to restrictions against access by the Parent Guarantor in excess of those set forth by regulations promulgated by the Federal Reserve Board; and

(b) such deposit account is not intended by the Parent Guarantor or any Restricted Subsidiary to provide collateral to the depository institution;

(12) Liens arising from Uniform Commercial Code financing statement filings regarding operating leases entered into by the Parent Guarantor and its Restricted Subsidiaries in the ordinary course of business;

(13) Liens existing on the Issue Date, other than Liens securing the Senior Secured Credit Agreement;

(14) Liens on property or shares of Capital Stock of a Person at the time such Person becomes a Subsidiary; provided, however, that such Liens are not created or Incurred in connection with, or in contemplation of, such other Person becoming a Subsidiary; provided further, however, that any such Lien may not extend to any other property owned by the Parent Guarantor or any Restricted Subsidiary (other than assets or property affixed or appurtenant thereto);

(15) Liens on property at the time the Parent Guarantor or any of its Subsidiaries acquired the property, including any acquisition by means of a merger or consolidation with or into the Parent Guarantor or any of its Subsidiaries; provided, however, that such Liens are not created or Incurred in connection with, or in contemplation of, such acquisition; provided further, however, that such Liens may not extend to any other property owned by the Parent Guarantor or any Restricted Subsidiary (other than assets or property affixed or appurtenant thereto);

(16) Liens securing the Notes, Guarantees and other obligations under the Indenture;

(17) Liens securing Refinancing Indebtedness Incurred to refinance Indebtedness that was previously so secured, provided that any such Lien is limited to all or part of the same property or assets (plus improvements, accessions, proceeds or dividends or distributions in respect thereof) that secured (or, under the written arrangements under which the original Lien arose, could secure) the Indebtedness being refinanced or is in respect of property or assets that is the security for a Permitted Lien hereunder;

(18) any interest or title of a lessor under any Capitalized Lease Obligation or operating lease;

(19) Liens in respect of Production Payments and Reserve Sales, which Liens shall be limited to the property that is the subject of such Production Payments and Reserve Sales;

(20) Liens arising under farm-out agreements, farm-in agreements, division orders, contracts for the sale, purchase, exchange, transportation, gathering or processing of Hydrocarbons, unitizations and pooling designations, declarations, orders and agreements, development agreements, joint venture agreements, partnership agreements, operating agreements, royalties, working interests, net profits interests, joint interest billing arrangements, participation agreements, production sales contracts, area of mutual interest agreements, gas balancing or deferred production agreements, injection, repressuring and recycling agreements, salt water or other disposal agreements, seismic or geophysical permits or agreements, and other agreements which are customary in the Oil and Gas Business; provided, however, in all instances that such Liens are limited to the assets that are the subject of the relevant agreement, program, order or contract;

(21) Liens on pipelines or pipeline facilities that arise by operation of law;

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(22) Liens securing Indebtedness in an aggregate principal amount outstanding at any one time, added together with all other Indebtedness secured by Liens Incurred pursuant to this clause (22), not to exceed the greater of \$20.0 million and 1.0% of the Parent Guarantor's Adjusted Consolidated Net Tangible Assets, as determined on the date of Incurrence of such Indebtedness after giving pro forma effect to such Incurrence and the application of the proceeds therefrom;

(23) Liens in favor of the Parent Guarantor, the Issuer or any Subsidiary Guarantor;

(24) deposits made in the ordinary course of business to secure liability to insurance carriers;

(25) Liens in favor of customs and revenue authorities arising as a matter of law to secure payment of customs duties in connection with the importation of goods in the ordinary course of business;

(26) Liens deemed to exist in connection with Investments in repurchase agreements permitted under "—Certain Covenants—Limitation on Indebtedness and Preferred Stock"; provided that such Liens do not extend to any assets other than those that are the subject of such repurchase agreement;

(27) Liens encumbering reasonable customary initial deposits and margin deposits and similar Liens attaching to commodity trading accounts or other brokerage accounts incurred in the ordinary course of business and not for speculative purposes;

(28) any (a) interest or title of a lessor or sublessor under any lease, liens reserved in oil, gas or other Hydrocarbons, minerals, leases for bonus, royalty or rental payments and for compliance with the terms of such leases; (b) restriction or encumbrance that the interest or title of such lessor or sublessor may be subject to (including, without limitation, ground leases or other prior leases of the demised premises, mortgages, mechanics' liens, tax liens, and easements); or (c) subordination of the interest of the lessee or sublessee under such lease to any restrictions or encumbrance referred to in the preceding clause (b);

(29) Liens upon specific items of inventory or other goods and proceeds of any Person securing such Person's obligations in respect of bankers' acceptances issued or created for the account of such Person to facilitate the purchase, shipment or storage of such inventory or other goods;

(30) Liens arising under the Indenture in favor of the Trustee for its own benefit and similar Liens in favor of other trustees, agents and representatives arising under instruments governing Indebtedness permitted to be incurred under the Indenture, provided, however, that such Liens are solely for the benefit of the trustees, agents or representatives in their capacities as such and not for the benefit of the holders of such Indebtedness;

(31) Liens arising from the deposit of funds or securities in trust for the purpose of decreasing or defeasing Indebtedness so long as such deposit of funds or securities and such decreasing or defeasing of Indebtedness are permitted under the covenant described under "—Certain Covenants—Limitation on Restricted Payments"; and

(32) Liens in favor of collecting or payer banks having a right of setoff, revocation, or charge back with respect to money or instruments of the Parent Guarantor or any Subsidiary of the Parent Guarantor on deposit with or in possession of such bank.

In each case set forth above, notwithstanding any stated limitation on the assets that may be subject to such Lien, a Permitted Lien on a specified asset or group or type of assets may include Liens on all improvements, additions and accessions thereto and all products and proceeds thereof (including dividends, distributions and increases in respect thereof).

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"*Permitted Tax Distributions*" means, for any calendar year or portion thereof during which the Parent Guarantor is a pass-through entity for U.S. federal income tax purposes, any payments or distributions made by the Parent Guarantor to its members on or about each estimated tax payment date as well as each other applicable due date to enable the members of the Parent Guarantor (or, if any of them is itself a pass-through entity for U.S. federal income tax purposes, the owners of such member's Capital Stock) to make payments of U.S. federal and state income taxes (including estimates thereof) as a result of the operations of the Parent Guarantor and its Subsidiaries during the current or any previous calendar year, not to exceed an amount equal to each such member's (or in the case of a pass-through entity, the owners of its Capital Stock) U.S. federal and state income tax liability resulting solely from the pass-through tax treatment of such member's (or its owners') interest in the Parent Guarantor and as calculated pursuant to the terms of the limited liability company agreement of the Parent Guarantor as in effect on the Issue Date and as it may be amended thereafter in a manner that is not, considered as a whole, adverse to the holders of the Notes.

"*Person*" means any individual, corporation, partnership, joint venture, association, joint stock company, trust, unincorporated organization, limited liability company, government or any agency or political subdivision thereof or any other entity.

"*Preferred Stock*," as applied to the Capital Stock of any corporation, or other Person, means Capital Stock of any class or classes (however designated) which is preferred as to the payment of dividends, or as to the distribution of assets upon any voluntary or involuntary liquidation or dissolution of such corporation, or other Person, over shares of Capital Stock of any other class of such corporation, or other Person.

"*Production Payments and Reserve Sales*" means the grant or transfer by the Parent Guarantor or a Restricted Subsidiary to any Person of a royalty, overriding royalty, net profits interest, production payment (whether volumetric or dollar denominated), partnership or other interest in Oil and Gas Properties, reserves or the right to receive all or a portion of the production or the proceeds from the sale of production attributable to such properties where the holder of such interest has recourse solely to such production or proceeds of production, subject to the obligation of the grantor or transferor to operate and maintain, or cause the subject interests to be operated and maintained, in a reasonably prudent manner or other customary standard or subject to the obligation of the grantor or transferor to indemnify for environmental, title or other matters customary in the Oil and Gas Business, including any such grants or transfers pursuant to incentive compensation programs on terms that are reasonably customary in the Oil and Gas Business for geologists, geophysicists or other providers of technical services to the Parent Guarantor or a Restricted Subsidiary.

"*Rating Agency*" means each of S&P and Moody's, or if S&P or Moody's or both shall not make a rating on the Notes publicly available, a nationally recognized statistical rating agency or agencies, as the case may be, selected by the Parent Guarantor (as certified by a resolution of the Board of Directors) which shall be substituted for S&P or Moody's, or both, as the case may be.

"*Refinancing Indebtedness*" means Indebtedness that is Incurred to refund, refinance, replace, exchange, renew, repay, extend, prepay, redeem or retire (including pursuant to any defeasance or discharge mechanism) (collectively, "refinance" and "refinances" and "refinanced" shall have correlative meanings) any Indebtedness (including Indebtedness of the Parent Guarantor that refinances Indebtedness of any Restricted Subsidiary and Indebtedness of any Restricted Subsidiary that refinances Indebtedness of another Restricted Subsidiary, but excluding Indebtedness of a Subsidiary that is not a Restricted Subsidiary that refinances Indebtedness of the Parent Guarantor or a Restricted Subsidiary), including Indebtedness that refinances Refinancing Indebtedness, provided, however, that:

- (1) (a) if the Stated Maturity of the Indebtedness being refinanced is the same as or earlier than the Stated Maturity of the Notes, the Refinancing Indebtedness has a Stated Maturity no earlier than the Stated Maturity of the Indebtedness being refinanced or (b) if the Stated Maturity

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of the Indebtedness being refinanced is later than the Stated Maturity of the Notes, the Refinancing Indebtedness has a Stated Maturity at least 91 days later than the Stated Maturity of the Notes;

(2) the Refinancing Indebtedness has an Average Life at the time such Refinancing Indebtedness is Incurred that is equal to or greater than the Average Life of the Indebtedness being refinanced;

(3) such Refinancing Indebtedness is Incurred in an aggregate principal amount (or if issued with original issue discount, an aggregate issue price) that is equal to or less than the sum of the aggregate principal amount (or if issued with original issue discount, the aggregate accreted value) then outstanding of the Indebtedness being refinanced (plus, without duplication, any additional Indebtedness Incurred to pay interest, premiums or defeasance costs required by the instruments governing such existing Indebtedness and fees and expenses Incurred in connection therewith); and

(4) if the Indebtedness being refinanced is subordinated in right of payment to the Notes or a Guarantee, such Refinancing Indebtedness is subordinated in right of payment to the Notes or the Guarantee on terms at least as favorable to the holders as those contained in the documentation governing the Indebtedness being refinanced.

"*Registration Rights Agreement*" means that certain registration rights agreement dated as of the Issue Date by and among the Issuer, the Guarantors and the initial purchasers set forth therein and, with respect to any Additional Notes, one or more substantially similar registration rights agreements among the Issuer and the other parties thereto, as any such agreement may be amended from time to time.

"*Reporting Failure*" means the failure of the Parent Guarantor to file with the SEC and make available or otherwise deliver to the Trustee and each holder of Notes, within the time periods specified in "*Certain Covenants—Provision of Financial Information*" (after giving effect to any grace period specified under Rule 12b-25 under the Exchange Act), the periodic reports, information, documents or other reports which the Parent Guarantor may be required to file with the SEC pursuant to such provision.

"*Restricted Investment*" means any Investment other than a Permitted Investment.

"*Restricted Subsidiary*" means any Subsidiary of the Parent Guarantor other than an Unrestricted Subsidiary.

"*S&P*" means Standard & Poor's Rating Services, a division of The McGraw-Hill Companies, Inc., or any successor to the rating agency business thereof.

"*Sale/Leaseback Transaction*" means an arrangement relating to property now owned or hereafter acquired whereby the Parent Guarantor or a Restricted Subsidiary transfers such property to a Person and the Parent Guarantor or a Restricted Subsidiary leases it from such Person.

"*SEC*" means the United States Securities and Exchange Commission.

"*Senior Secured Credit Agreement*" means the Fourth Amended and Restated Credit Agreement dated as of November 4, 2010, among Antero Resources Arkoma LLC (F/K/A Antero Resources Corporation), Antero Resources Piceance LLC (F/K/A Antero Resources Piceance Corporation), Antero Resources Pipeline LLC (F/K/A Antero Resources Pipeline Corporation), Antero Resources Appalachian Corporation, the subsidiary guarantors party thereto, JPMorgan Chase Bank, N.A., as administrative agent, and the lenders parties thereto from time to time, including any guarantees, collateral documents, instruments and agreements executed in connection therewith, and any amendments, supplements, modifications, extensions, renewals, restatements, refundings or refinancings thereof and any indentures or credit facilities or commercial paper facilities with banks or other

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institutional lenders or investors that replace, refund or refinance any part of the loans, notes, other credit facilities or commitments thereunder, including any such replacement, refunding or refinancing facility or indenture that increases the amount borrowable thereunder or alters the maturity thereof (provided that such increase in borrowings is permitted under "—Certain Covenants—Limitation on Indebtedness and Preferred Stock" above).

"*Significant Subsidiary*" means any Restricted Subsidiary that would be a "Significant Subsidiary" of the Parent Guarantor within the meaning of Rule 1-02 under Regulation S-X promulgated by the SEC, as in effect on the Issue Date.

"*Stated Maturity*" means, with respect to any security, the date specified in such security as the fixed date on which the payment of principal of such security is due and payable, including pursuant to any mandatory redemption provision, but shall not include any contingent obligations to repay, redeem or repurchase any such principal prior to the date originally scheduled for the payment thereof.

"*Subordinated Obligation*" means any Indebtedness of the Issuer (whether outstanding on the Issue Date or thereafter Incurred) which is expressly subordinated in right of payment to the Notes pursuant to a written agreement.

"*Subsidiary*" of any Person means (a) any corporation, association or other business entity (other than a partnership, joint venture, limited liability company or similar entity) of which more than 50% of the total ordinary voting power of shares of Capital Stock entitled (without regard to the occurrence of any contingency) to vote in the election of directors, managers or trustees thereof (or Persons performing similar functions) or (b) any partnership, joint venture, limited liability company or similar entity of which more than 50% of the capital accounts, distribution rights, total equity and voting interests or general or limited partnership interests, as applicable, that is, in the case of clauses (a) and (b), at the time owned or controlled, directly or indirectly, by (1) such Person, (2) such Person and one or more Subsidiaries of such Person or (3) one or more Subsidiaries of such Person. Unless otherwise specified in the Indenture or the context indicates otherwise, each reference to a Subsidiary (other than in this definition) will refer to a Subsidiary of the Parent Guarantor.

"*Subsidiary Guarantee*" means, individually, any guarantee of payment of the Notes by a Subsidiary Guarantor pursuant to the terms of the Indenture and any supplemental indenture thereto, and, collectively, all such guarantees.

"*Subsidiary Guarantors*" means any Subsidiary of the Parent Guarantor that is a guarantor of the Notes, including any Person that is required after the Issue Date to guarantee the Notes pursuant to the "Future subsidiary guarantors" covenant, in each case until a successor replaces such Person pursuant to the applicable provisions of the Indenture and, thereafter, means such successor; provided, however, that the Issuer shall not be a Subsidiary Guarantor.

"*Unrestricted Subsidiary*" means:

- (1) any Subsidiary of the Parent Guarantor (other than the Issuer) that at the time of determination shall be designated an Unrestricted Subsidiary by the Board of Directors of the Parent Guarantor in the manner provided below; and
- (2) any Subsidiary of an Unrestricted Subsidiary.

The Board of Directors of the Parent Guarantor may designate any Subsidiary of the Parent Guarantor (including any newly acquired or newly formed Subsidiary or a Person becoming a Subsidiary through merger or consolidation or Investment therein) to be an Unrestricted Subsidiary only if:

- (1) such Subsidiary or any of its Subsidiaries does not own any Capital Stock or Indebtedness of or have any Investment in, or own or hold any Lien on any property of, any other Subsidiary of



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the Parent Guarantor which is not a Subsidiary of the Subsidiary to be so designated or otherwise an Unrestricted Subsidiary;

(2) all the Indebtedness of such Subsidiary and its Subsidiaries shall, at the date of designation, and will at all times thereafter, consist of Non-Recourse Debt;

(3) on the date of such designation, such designation and the Investment of the Parent Guarantor or a Restricted Subsidiary in such Subsidiary complies with "—Certain Covenants—Limitation on Restricted Payments";

(4) such Subsidiary is a Person with respect to which neither the Parent Guarantor nor any of its Restricted Subsidiaries has any direct or indirect obligation to subscribe for additional Capital Stock of such Person;

(5) such Subsidiary, either alone or in the aggregate with all other Unrestricted Subsidiaries, does not operate, directly or indirectly, all or substantially all of the business of the Parent Guarantor and its Subsidiaries; and

(6) on the date such Subsidiary is designated an Unrestricted Subsidiary, such Subsidiary is not a party to any agreement, contract, arrangement or understanding with the Parent Guarantor or any Restricted Subsidiary with terms substantially less favorable to the Parent Guarantor or such Restricted Subsidiary than those that might have been obtained from Persons who are not Affiliates of the Parent Guarantor.

Any such designation by the Board of Directors of the Parent Guarantor shall be evidenced to the Trustee by filing with the Trustee a resolution of the Board of Directors of the Parent Guarantor giving effect to such designation and an Officers' Certificate certifying that such designation complies with the foregoing conditions. If, at any time, any Unrestricted Subsidiary would fail to meet the foregoing requirements as an Unrestricted Subsidiary, it shall thereafter cease to be an Unrestricted Subsidiary for purposes of the Indenture and any Indebtedness of such Subsidiary shall be deemed to be Incurred as of such date.

The Board of Directors of the Parent Guarantor may designate any Unrestricted Subsidiary to be a Restricted Subsidiary; provided that immediately after giving effect to such designation, no Default or Event of Default shall have occurred and be continuing or would occur as a consequence thereof and the Parent Guarantor could Incur at least \$1.00 of additional Indebtedness under the first paragraph of the covenant described under "—Certain Covenants—Limitation on Indebtedness and Preferred Stock" on a pro forma basis taking into account such designation.

"*U.S. Government Obligations*" means securities that are (a) direct obligations of the United States of America for the timely payment of which its full faith and credit is pledged or (b) obligations of a Person controlled or supervised by and acting as an agency or instrumentality of the United States of America the timely payment of which is unconditionally guaranteed as a full faith and credit obligation of the United States of America, which, in either case, are not callable or redeemable at the option of the issuer thereof, and shall also include a depositary receipt issued by a bank (as defined in Section 3(a)(2) of the Securities Act), as custodian with respect to any such U.S. Government Obligations or a specific payment of principal of or interest on any such U.S. Government Obligations held by such custodian for the account of the holder of such depositary receipt; provided that (except as required by law) such custodian is not authorized to make any deduction from the amount payable to the holder of such depositary receipt from any amount received by the custodian in respect of the U.S. Government Obligations or the specific payment of principal of or interest on the U.S. Government Obligations evidenced by such depositary receipt.

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"*Volumetric Production Payments*" means production payment obligations recorded as deferred revenue in accordance with GAAP, together with all undertakings and obligations in connection therewith.

"*Voting Stock*" of an entity means all classes of Capital Stock of such entity then outstanding and normally entitled to vote in the election of members of such entity's Board of Directors.

"*Wholly-Owned Subsidiary*" means a Restricted Subsidiary, all of the Capital Stock of which (other than directors' qualifying shares) is owned by the Parent Guarantor or another Wholly-Owned Subsidiary.

## PLAN OF DISTRIBUTION

You may transfer new notes issued under the exchange offer in exchange for the old notes if:

- you acquire the new notes in the ordinary course of your business;
- you have no arrangement or understanding with any person to participate in the distribution (within the meaning of the Securities Act) of such new notes in violation of the provisions of the Securities Act; and
- you are not our "affiliate" (within the meaning of Rule 405 under the Securities Act).

Each broker-dealer that receives new notes for its own account pursuant to the exchange offer in exchange for old notes that were acquired by such broker-dealer as a result of market-making or other trading activities must acknowledge that it will deliver a prospectus in connection with any resale of such new notes. This prospectus, as it may be amended or supplemented from time to time, may be used by a broker-dealer in connection with resales of new notes received in exchange for old notes where such old notes were acquired as a result of market-making activities or other trading activities.

If you wish to exchange new notes for your old notes in the exchange offer, you will be required to make representations to us as described in "Exchange Offer—Purpose and Effect of the Exchange Offer" and "—Your Representations to Us" in this prospectus and in the letter of transmittal. In addition, if you are a broker-dealer who receives new notes for your own account in exchange for old notes that were acquired by you as a result of market-making activities or other trading activities, you will be required to acknowledge that you will deliver a prospectus in connection with any resale by you of such new notes.

We will not receive any proceeds from any sale of new notes by broker-dealers. New notes received by broker-dealers for their own account pursuant to the exchange offer may be sold from time to time on one or more transactions in any of the following ways:

- in the over-the-counter market;
- in negotiated transactions;
- through the writing of options on the new notes or a combination of such methods of resale;
- at market prices prevailing at the time of resale;
- at prices related to such prevailing market prices; or
- at negotiated prices.

Any such resale may be made directly to purchasers or through brokers or dealers who may receive compensation in the form of commissions or concessions from any such broker-dealer or the purchasers of any such new notes.

Any broker-dealer that resells new notes that were received by it for its own account pursuant to the exchange offer in exchange for old notes that were acquired by such broker-dealer as a result of market-making or other trading activities may be deemed to be an "underwriter" within the meaning of the Securities Act. The letter of transmittal states that by acknowledging that it will deliver and by delivering a prospectus, a broker-dealer will not be deemed to admit that it is an "underwriter" within the meaning of the Securities Act. We agreed to permit the use of this prospectus for a period of up to 180 days after the completion of the exchange offer by such broker-dealers to satisfy this prospectus delivery requirement. Furthermore, we agreed to amend or supplement this prospectus during such period if so requested in order to expedite or facilitate the disposition of any new notes by broker-dealers.

We have agreed to pay all expenses incident to the exchange offer other than fees and expenses of counsel to the holders and brokerage commissions and transfer taxes, if any, and will indemnify the holders of the old notes (including any broker-dealers) against certain liabilities, including liabilities under the Securities Act.

## **MATERIAL UNITED STATES FEDERAL INCOME TAX CONSEQUENCES**

The following discussion is a summary of the material federal income tax considerations relevant to the exchange of old notes for new notes, but does not purport to be a complete analysis of all potential tax effects. The discussion is based upon the Internal Revenue Code of 1986, as amended (the "Code"), Treasury Regulations, Internal Revenue Service rulings and pronouncements and judicial decisions now in effect, all of which may be subject to change at any time by legislative, judicial or administrative action. These changes may be applied retroactively in a manner that could adversely affect a holder of new notes. Some holders, including financial institutions, insurance companies, regulated investment companies, tax-exempt organizations, dealers in securities or currencies, persons whose functional currency is not the U.S. dollar, or persons who hold the notes as part of a hedge, conversion transaction, straddle or other risk reduction transaction may be subject to special rules not discussed below. We recommend that each holder consult his own tax advisor as to the particular tax consequences of exchanging such holder's old notes for new notes, including the applicability and effect of any foreign, state, local or other tax laws or estate or gift tax considerations.

We believe that the exchange of old notes for new notes will not be an exchange or otherwise a taxable event to a holder for United States federal income tax purposes. Accordingly, a holder will not recognize gain or loss upon receipt of a new note in exchange for an old note in the exchange, and the holder's basis and holding period in the new note will be the same as its basis and holding period in the corresponding old note immediately before the exchange.

## **LEGAL MATTERS**

The validity of the new notes offered in this exchange offer will be passed upon for us by Vinson & Elkins L.L.P., Houston, Texas.

## **EXPERTS**

The consolidated financial statements of Antero Resources LLC as of December 31, 2011 and 2012 and for each of the years in the three-year period ended December 31, 2012 have been included herein in reliance upon the report of KPMG LLP, independent registered public accounting firm, appearing elsewhere herein and upon the authority of said firm as experts in accounting and auditing.

Estimates of our natural gas and oil reserves, related future net cash flows and the present values thereof as of December 31, 2012 included elsewhere in this prospectus were based in part upon reserve reports audited by independent petroleum engineers, DeGolyer and MacNaughton. We have included these estimates in reliance on the authority of such firms as experts in such matters.

**LETTER OF TRANSMITTAL**  
**TO TENDER**  
**OLD 6.0% SENIOR NOTES DUE 2020**  
**OF**  
**ANTERO RESOURCES FINANCE CORPORATION**  
**PURSUANT TO THE EXCHANGE OFFER AND PROSPECTUS**  
**DATED APRIL 1, 2013**

THE EXCHANGE OFFER AND WITHDRAWAL RIGHTS WILL EXPIRE AT 11:59 P.M., NEW YORK CITY TIME, ON APRIL 26, 2013 (THE "EXPIRATION DATE"), UNLESS THE EXCHANGE OFFER IS EXTENDED BY THE ISSUER.

The Exchange Agent for the Exchange Offer is Wells Fargo Bank, N.A., and its contact information is as follows:

*By Registered & Certified Mail:*  
Wells Fargo Bank, N.A.  
Corporate Trust Operations MAC N9303  
—121  
PO Box 1517  
Minneapolis, Minnesota 55480

*By Regular Mail or Overnight  
Courier:*  
Wells Fargo Bank, N.A.  
Corporate Trust Operations  
MAC N9303—121  
Sixth & Marquette Avenue  
Minneapolis, Minnesota 55479

*In Person by Hand Only:*  
Wells Fargo Bank, N.A.  
12th Floor—Northstar East Building  
Corporate Trust Operations  
608 Second Avenue South  
Minneapolis, MN 55402

*By Facsimile (for Eligible Institutions only):*  
(612) 667-6282

*For Information or Confirmation by Telephone:*  
(800) 344-5128

If you wish to exchange old 6.0% Senior Notes due 2020 for an equal aggregate principal amount of new 6.0% Senior Notes due 2020 pursuant to the exchange offer, you must validly tender (and not withdraw) old notes to the Exchange Agent prior to the Expiration Date.

We refer you to the Prospectus, dated April 1, 2013 (the "Prospectus"), of Antero Resources Finance Corporation (the "Issuer"), and this Letter of Transmittal (the "Letter of Transmittal"), which together describe the Issuer's offer (the "Exchange Offer") to exchange its 6.0% Senior Notes due 2020 (the "new notes") that have been registered under the Securities Act of 1933, as amended (the "Securities Act"), for a like principal amount of its issued and outstanding 6.0% Senior Notes due 2020 (the "old notes"). Capitalized terms used but not defined herein have the respective meaning given to them in the Prospectus.

The Issuer reserves the right, at any time or from time to time, to extend the Exchange Offer at its discretion, in which event the term "Expiration Date" shall mean the latest date to which the Exchange Offer is extended. The Issuer shall notify the Exchange Agent and each registered holder of the old notes of any extension by oral or written notice prior to 9:00 a.m., New York City time, on the next business day after the previously scheduled Expiration Date.

This Letter of Transmittal is to be used by holders of the old notes. Tender of old notes is to be made according to the Automated Tender Offer Program ("ATOP") of The Depository Trust Company ("DTC") pursuant to the procedures set forth in the Prospectus under the caption "Exchange Offer—Procedures for Tendering." DTC participants that are accepting the Exchange Offer must transmit their acceptance to DTC, which will verify the acceptance and execute a book-entry delivery to the Exchange Agent's DTC account. DTC will then send a computer generated message known as an "agent's message" to the Exchange Agent for its acceptance. For you to validly tender your old notes in the

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Exchange Offer the Exchange Agent must receive, prior to the Expiration Date, an agent's message under the ATOP procedures that confirms that:

- DTC has received your instructions to tender your old notes; and
- you agree to be bound by the terms of this Letter of Transmittal.

BY USING THE ATOP PROCEDURES TO TENDER OLD NOTES, YOU WILL NOT BE REQUIRED TO DELIVER THIS LETTER OF TRANSMITTAL TO THE EXCHANGE AGENT. HOWEVER, YOU WILL BE BOUND BY ITS TERMS, AND YOU WILL BE DEEMED TO HAVE MADE THE ACKNOWLEDGMENTS AND THE REPRESENTATIONS AND WARRANTIES IT CONTAINS, JUST AS IF YOU HAD SIGNED IT.

**PLEASE READ THE ACCOMPANYING INSTRUCTIONS CAREFULLY.**

Ladies and Gentlemen:

1. By tendering old notes in the Exchange Offer, you acknowledge receipt of the Prospectus and this Letter of Transmittal.
2. By tendering old notes in the Exchange Offer, you represent and warrant that you have full authority to tender the old notes described above and will, upon request, execute and deliver any additional documents deemed by the Issuer to be necessary or desirable to complete the tender of old notes.
3. You understand that the tender of the old notes pursuant to all of the procedures set forth in the Prospectus will constitute an agreement between you and the Issuer as to the terms and conditions set forth in the Prospectus.
4. By tendering old notes in the Exchange Offer, you acknowledge that the Exchange Offer is being made in reliance upon interpretations contained in no-action letters issued to third parties by the staff of the Securities and Exchange Commission (the "SEC"), including Exxon Capital Holdings Corp., SEC No-Action Letter (available April 13, 1989), Morgan Stanley & Co., Inc., SEC No-Action Letter (available June 5, 1991) and Shearman & Sterling, SEC No-Action Letter (available July 2, 1993), that the new notes issued in exchange for the old notes pursuant to the Exchange Offer may be offered for resale, resold and otherwise transferred by holders thereof without compliance with the registration and prospectus delivery provisions of the Securities Act (other than a broker-dealer who purchased old notes exchanged for such new notes directly from the Issuer to resell pursuant to Rule 144A or any other available exemption under the Securities Act and any such holder that is an "affiliate" of the Issuer within the meaning of Rule 405 under the Securities Act), provided that such new notes are acquired in the ordinary course of such holders' business and such holders are not participating in, and have no arrangement with any other person to participate in, the distribution of such new notes.
5. By tendering old notes in the Exchange Offer, you hereby represent and warrant that:
  - (a) the new notes acquired pursuant to the Exchange Offer are being obtained in the ordinary course of business of you, whether or not you are the holder;
  - (b) you have no arrangement or understanding with any person to participate in the distribution of old notes or new notes within the meaning of the Securities Act;
  - (c) you are not an "affiliate," as such term is defined under Rule 405 promulgated under the Securities Act, of the Company; and
  - (d) if you are a broker-dealer, that you will receive the new notes for your own account in exchange for old notes that were acquired as a result of market-making activities or other trading activities and that you acknowledge that you will deliver a prospectus (or, to the extent permitted by law, make available a prospectus) in connection with any resale of such new notes.

You may, if you are unable to make all of the representations and warranties contained in Item 5 above and as otherwise permitted in the Registration Rights Agreements (as defined below), elect to have your old notes registered in the shelf registration statement described in the Registration Rights Agreements, dated as of November 19, 2012 and February 4, 2013 (the "Registration Rights Agreements"), by and among the Issuer, the several guarantors named therein, and the Initial Purchasers (as defined therein). Such election may be made by notifying the Issuer in writing at 1625 17th Street, Denver, Colorado 80202, Attention: Corporate Secretary. By making such election, you agree, as a holder of old notes participating in a shelf registration, to indemnify and hold harmless the Issuer, each of the directors of the Issuer, each of the officers of the Issuer who signs such shelf registration statement, each person who controls the Issuer within the meaning of either the Securities

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Act or the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and each other holder of old notes, from and against any and all losses, claims, damages or liabilities caused by any untrue statement or alleged untrue statement of a material fact contained in any shelf registration statement or prospectus, or in any supplement thereto or amendment thereof, or caused by the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; but only with respect to information relating to you furnished in writing by or on behalf of you expressly for use in a shelf registration statement, a prospectus or any amendments or supplements thereto. Any such indemnification shall be governed by the terms and subject to the conditions set forth in the Registration Rights Agreements, including, without limitation, the provisions regarding notice, retention of counsel, contribution and payment of expenses set forth therein. The above summary of the indemnification provision of the Registration Rights Agreements is not intended to be exhaustive and is qualified in its entirety by the Registration Rights Agreements.

6. If you are a broker-dealer that will receive new notes for your own account in exchange for old notes that were acquired as a result of market-making activities or other trading activities, you acknowledge by tendering old notes in the Exchange Offer, that you will deliver a prospectus in connection with any resale of such new notes; however, by so acknowledging and by delivering a prospectus, you will not be deemed to admit that you are an "underwriter" within the meaning of the Securities Act.

7. If you are a broker-dealer and old notes held for your own account were not acquired as a result of market-making or other trading activities, such old notes cannot be exchanged pursuant to the Exchange Offer.

8. Any of your obligations hereunder shall be binding upon your successors, assigns, executors, administrators, trustees in bankruptcy and legal and personal representatives.



## INSTRUCTIONS

### FORMING PART OF THE TERMS AND CONDITIONS OF THE EXCHANGE OFFER

1. Book-Entry Confirmations.

Any confirmation of a book-entry transfer to the Exchange Agent's account at DTC of old notes tendered by book-entry transfer (a "Book-Entry Confirmation"), as well as Agent's Message and any other documents required by this Letter of Transmittal, must be received by the Exchange Agent at one of its addresses set forth herein prior to 11:59 p.m., New York City time, on the Expiration Date.

2. Partial Tenders.

Tenders of old notes will be accepted only in minimum denominations of \$2,000 and integral multiples of \$1,000 in excess thereof. The entire principal amount of old notes delivered to the Exchange Agent will be deemed to have been tendered unless otherwise communicated to the Exchange Agent. If the entire principal amount of all old notes is not tendered, then old notes for the principal amount of old notes not tendered and new notes issued in exchange for any old notes accepted will be delivered to the holder via the facilities of DTC promptly after the old notes are accepted for exchange.

3. Validity of Tenders.

All questions as to the validity, form, eligibility (including time of receipt), acceptance, and withdrawal of tendered old notes will be determined by the Issuer, in its sole discretion, which determination will be final and binding. The Issuer reserves the absolute right to reject any or all tenders not in proper form or the acceptance for exchange of which may, in the opinion of counsel for the Issuer, be unlawful. The Issuer also reserves the absolute right to waive any of the conditions of the Exchange Offer or any defect or irregularity in the tender of any old notes. The Issuer's interpretation of the terms and conditions of the Exchange Offer (including the instructions on the Letter of Transmittal) will be final and binding on all parties. Unless waived, any defects or irregularities in connection with tenders of old notes must be cured within such time as the Issuers shall determine. Although the Issuer intends to notify holders of defects or irregularities with respect to tenders of old notes, neither the Issuer, the Exchange Agent, nor any other person shall be under any duty to give notification of any defects or irregularities in tenders or incur any liability for failure to give such notification. Tenders of old notes will not be deemed to have been made until such defects or irregularities have been cured or waived. Any old notes received by the Exchange Agent that are not properly tendered and as to which the defects or irregularities have not been cured or waived will be returned by the Exchange Agent to the tendering holders, unless otherwise provided in the Letter of Transmittal, promptly following the Expiration Date.

4. Waiver of Conditions.

The Issuer reserves the absolute right to waive, in whole or part, up to the expiration of the Exchange Offer, any of the conditions to the Exchange Offer set forth in the Prospectus or in this Letter of Transmittal.

5. No Conditional Tender.

No alternative, conditional, irregular or contingent tender of old notes will be accepted.

6. Request for Assistance or Additional Copies.

Requests for assistance or for additional copies of the Prospectus or this Letter of Transmittal may be directed to the Exchange Agent using the contact information set forth on the cover page of this Letter of Transmittal. Holders may also contact their broker, dealer, commercial bank, trust company or other nominee for assistance concerning the Exchange Offer.

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7. Withdrawal.

Tenders may be withdrawn only pursuant to the limited withdrawal rights set forth in the Prospectus under the caption "Exchange Offer —Withdrawal of Tenders."

8. No Guarantee of Late Delivery.

There is no procedure for guarantee of late delivery in the Exchange Offer.

IMPORTANT: BY USING THE ATOP PROCEDURES TO TENDER OLD NOTES, YOU WILL NOT BE REQUIRED TO DELIVER THIS LETTER OF TRANSMITTAL TO THE EXCHANGE AGENT. HOWEVER, YOU WILL BE BOUND BY ITS TERMS, AND YOU WILL BE DEEMED TO HAVE MADE THE ACKNOWLEDGMENTS AND THE REPRESENTATIONS AND WARRANTIES IT CONTAINS, JUST AS IF YOU HAD SIGNED IT.

## ANNEX B: GLOSSARY OF NATURAL GAS AND OIL TERMS

The following are abbreviations and definitions of certain terms used in this document, which are commonly used in the oil and gas industry:

"*3D*." Method for collecting, processing, and interpreting seismic data in three dimensions.

"*Bbl*." One stock tank barrel, of 42 U.S. gallons liquid volume, used herein in reference to crude oil, condensate or NGLs.

"*Bcf*." One billion cubic feet of natural gas.

"*Bcfe*." One billion cubic feet of natural gas equivalent with one barrel of oil, condensate or NGLs converted to six thousand cubic feet of natural gas.

"*Basin*." A large natural depression on the earth's surface in which sediments generally brought by water accumulate.

"*Completion*." The process of treating a drilled well followed by the installation of permanent equipment for the production of natural gas or oil, or in the case of a dry hole, the reporting of abandonment to the appropriate agency.

"*DD&A*." Depreciation, depletion, amortization and accretion.

"*Delineation*." The process of placing a number of wells in various parts of a reservoir to determine its boundaries and production characteristics.

"*Developed acreage*." The number of acres that are allocated or assignable to productive wells or wells capable of production.

"*Development well*." A well drilled within the proved area of an oil or natural gas reservoir to the depth of a stratigraphic horizon known to be productive.

"*Dry hole*." A well found to be incapable of producing hydrocarbons in sufficient quantities such that proceeds from the sale of such production exceed production expenses and taxes.

"*Exploratory well*." A well drilled to find and produce natural gas or oil reserves not classified as proved, to find a new reservoir in a field previously found to be productive of natural gas or oil in another reservoir or to extend a known reservoir.

"*Field*." An area consisting of a single reservoir or multiple reservoirs all grouped on, or related to, the same individual geological structural feature or stratigraphic condition. The field name refers to the surface area, although it may refer to both the surface and the underground productive formations.

"*Formation*." A layer of rock which has distinct characteristics that differs from nearby rock.

"*Gross acres or gross wells*." The total acres or wells, as the case may be, in which a working interest is owned.

"*Horizontal drilling*." A drilling technique used in certain formations where a well is drilled vertically to a certain depth and then drilled at a right angle within a specified interval.

"*MBbl*." One thousand barrels of crude oil, condensate or NGLs.

"*Mcf*." One thousand cubic feet of natural gas.

"*MMBbl*." One million barrels of crude oil, condensate or NGLs.

"*MMBoe*." One million barrels of oil equivalent.

"*MMBtu*." One million British thermal units.

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"*MMcf*." One million cubic feet of natural gas.

"*MMcfe*." One million cubic feet equivalent, determined using the ratio of six Mcf of natural gas to one Bbl of crude oil, condensate or NGLs.

"*MMcfe/d*." MMcfe per day.

"*NGLs*." Natural gas liquids. Hydrocarbons found in natural gas which may be extracted as liquefied petroleum gas and natural gasoline.

"*NYMEX*." The New York Mercantile Exchange.

"*Net acres*." The percentage of total acres an owner has out of a particular number of acres, or a specified tract. An owner who has 50% interest in 100 acres owns 50 net acres.

"*Potential well locations*." Total gross resource play locations that we may be able to drill on our existing acreage. Actual drilling activities may change depending on the availability of capital, regulatory approvals, seasonal restrictions, natural gas and oil prices, costs, drilling results and other factors.

"*Productive well*." A well that is found to be capable of producing hydrocarbons in sufficient quantities such that proceeds from the sale of the production exceed production expenses and taxes.

"*Prospect*." A specific geographic area which, based on supporting geological, geophysical or other data and also preliminary economic analysis using reasonably anticipated prices and costs, is deemed to have potential for the discovery of commercial hydrocarbons.

"*Proved developed reserves*." Reserves that can be expected to be recovered through existing wells with existing equipment and operating methods.

"*Proved reserves*." The estimated quantities of oil, natural gas and natural gas liquids which geological and engineering data demonstrate with reasonable certainty to be commercially recoverable in future years from known reservoirs under existing economic and operating conditions.

"*Proved undeveloped reserves ("PUD")*." Proved reserves that are expected to be recovered from new wells on undrilled acreage or from existing wells where a relatively major expenditure is required for recompletion.

"*PV-10*." When used with respect to natural gas and oil reserves, PV-10 means the estimated future gross revenue to be generated from the production of proved reserves, net of estimated production, future development and abandonment costs, using prices and costs in effect at the determination date, before income taxes, and without giving effect to non-property-related expenses, discounted to a present value using an annual discount rate of 10% in accordance with the guidelines of the SEC. PV-10 is not a financial measure calculated in accordance with generally accepted accounting principles ("GAAP") and generally differs from Standardized Measure, the most directly comparable GAAP financial measure, because it does not include the effects of income taxes on future net revenues. Neither PV-10 nor Standardized Measure represents an estimate of the fair market value of our natural gas and oil properties. We and others in the industry use PV-10 as a measure to compare the relative size and value of proved reserves held by companies without regard to the specific tax characteristics of such entities.

"*Recompletion*." The process of re-entering an existing wellbore that is either producing or not producing and completing new reservoirs in an attempt to establish or increase existing production.

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"*Reservoir.*" A porous and permeable underground formation containing a natural accumulation of producible oil and/or natural gas that is confined by impermeable rock or water barriers and is separate from other reservoirs.

"*Simul-frac.*" Simultaneously fracture treating two or more wells within the same fracture plane in order to create pressure interference between the wells and thereby increasing the stimulated reservoir volume.

"*Spacing.*" The distance between wells producing from the same reservoir. Spacing is often expressed in terms of acres, e.g., 40-acre spacing, and is often established by regulatory agencies.

"*Standardized measure.*" Discounted future net cash flows estimated by applying year-end prices to the estimated future production of year-end proved reserves. Future cash inflows are reduced by estimated future production and development costs based on period-end costs to determine pre-tax cash inflows. Future income taxes, if applicable, are computed by applying the statutory tax rate to the excess of pre-tax cash inflows over our tax basis in the natural gas and oil properties. Future net cash inflows after income taxes are discounted using a 10% annual discount rate.

"*Undeveloped acreage.*" Lease acreage on which wells have not been drilled or completed to a point that would permit the production of commercial quantities of natural gas and oil regardless of whether such acreage contains proved reserves.

"*Unit.*" The joining of all or substantially all interests in a reservoir or field, rather than a single tract, to provide for development and operation without regard to separate property interests. Also, the area covered by a unitization agreement.

"*Wellbore.*" The hole drilled by the bit that is equipped for natural gas production on a completed well. Also called well or borehole.

"*Working interest.*" The right granted to the lessee of a property to explore for and to produce and own natural gas or other minerals. The working interest owners bear the exploration, development, and operating costs on either a cash, penalty, or carried basis.

**Report of Independent Registered Public Accounting Firm**

The Board of Directors and Members  
Antero Resources LLC and Subsidiaries:

We have audited the accompanying consolidated balance sheets of Antero Resources LLC and subsidiaries as of December 31, 2011 and 2012, and the related consolidated statements of operations and comprehensive income (loss), members' equity, and cash flows for each of the years in the three-year period ended December 31, 2012. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Antero Resources LLC and subsidiaries as of December 31, 2011 and 2012, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2012, in conformity with U.S. generally accepted accounting principles.

/s/ KPMG LLP

Denver, Colorado  
March 15, 2013

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Consolidated Balance Sheets

December 31, 2011 and 2012

(In thousands)

	<u>2011</u>	<u>2012</u>
<b>Assets</b>		
Current assets:		
Cash and cash equivalents	\$ 3,343	18,989
Accounts receivable—trade, net of allowance for doubtful accounts of \$182 and \$174 in 2011 and 2012, respectively	25,117	21,296
Notes receivable—short-term portion	7,000	4,555
Accrued revenue	35,986	46,669
Derivative instruments	248,550	160,579
Other	13,646	22,518
Total current assets	<u>333,642</u>	<u>274,606</u>
Property and equipment:		
Natural gas properties, at cost (successful efforts method):		
Unproved properties	834,255	1,243,237
Producing properties	2,497,306	1,689,132
Gathering systems and facilities	142,241	168,930
Other property and equipment	8,314	9,517
	<u>3,482,116</u>	<u>3,110,816</u>
Less accumulated depletion, depreciation, and amortization	<u>(601,702)</u>	<u>(173,343)</u>
Property and equipment, net	2,880,414	2,937,473
Derivative instruments	541,423	371,436
Notes receivable—long-term portion	5,111	2,667
Other assets, net	28,210	32,611
Total assets	<u>\$3,788,800</u>	<u>3,618,793</u>
<b>Liabilities and Equity</b>		
Current liabilities:		
Accounts payable	\$ 107,027	181,478
Accrued liabilities	37,955	61,161
Revenue distributions payable	34,768	46,037
Current portion of long-term debt	—	25,000
Deferred income tax liability	75,308	62,620
Total current liabilities	<u>255,058</u>	<u>376,296</u>
Long-term liabilities:		
Long-term debt	1,317,330	1,444,058
Deferred income tax liability	245,327	91,692
Other long-term liabilities	12,279	33,010
Total liabilities	<u>1,829,994</u>	<u>1,945,056</u>
Equity:		
Members' equity	1,460,947	1,460,947
Accumulated earnings	497,859	212,790
Total equity	<u>1,958,806</u>	<u>1,673,737</u>
Total liabilities and equity	<u>\$3,788,800</u>	<u>3,618,793</u>

See accompanying notes to consolidated financial statements.

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

## Consolidated Statements of Operations and Comprehensive Income (Loss)

Years ended December 31, 2010, 2011 and 2012

(In thousands)

	<u>2010</u>	<u>2011</u>	<u>2012</u>
Revenue:			
Natural gas sales	\$ 47,392	195,116	259,743
Natural gas liquids sales	—	—	3,719
Oil sales	39	173	1,520
Realized and unrealized gains on commodity derivative instruments (including unrealized gains of \$62,536, \$446,120 and \$1,055 in 2010, 2011, and 2012, respectively)	77,599	496,064	179,546
Gain on sale of gathering system	—	—	291,190
Total revenue	<u>125,030</u>	<u>691,353</u>	<u>735,718</u>
Operating expenses:			
Lease operating expenses	1,158	4,608	6,243
Gathering, compression, and transportation	9,237	37,315	91,094
Production taxes	2,885	11,915	20,210
Exploration expenses	2,350	4,034	14,675
Impairment of unproved properties	6,076	4,664	12,070
Depletion, depreciation, and amortization	18,522	55,716	102,026
Accretion of asset retirement obligations	11	76	101
Expenses related to business acquisition	2,544	—	—
General and administrative	21,952	33,342	45,284
Loss on sale of assets	—	8,700	—
Total operating expenses	<u>64,735</u>	<u>160,370</u>	<u>291,703</u>
Operating income	<u>60,295</u>	<u>530,983</u>	<u>444,015</u>
Other expense:			
Interest expense	(56,463)	(74,404)	(97,510)
Realized and unrealized losses on interest derivative instruments, net (including unrealized gains of \$6,875 and \$4,212 in 2010 and 2011, respectively)	(2,677)	(94)	—
Total other expense	<u>(59,140)</u>	<u>(74,498)</u>	<u>(97,510)</u>
Income from continuing operations before income taxes and discontinued operations	1,155	456,485	346,505
Provision for income taxes	(939)	(185,297)	(121,229)
Income from continuing operations	216	271,188	225,276
Discontinued operations:			
Income (loss) from results of operations and sale of discontinued operations, net of income tax (expense) benefit of \$(29,070), \$(45,155), and \$272,553 in 2010, 2011, and 2012, respectively	<u>228,412</u>	<u>121,490</u>	<u>(510,345)</u>
Net income (loss) and comprehensive income (loss) attributable to Antero equity owners	<u>\$ 228,628</u>	<u>392,678</u>	<u>(285,069)</u>

See accompanying notes to consolidated financial statements.



**ANTERO RESOURCES LLC AND SUBSIDIARIES**

## Consolidated Statements of Equity

Years ended December 31, 2010, 2011, and 2012

(In thousands)

	<u>Members' equity</u>	<u>Accumulated deficit</u>	<u>Total Antero equity</u>	<u>Noncontrolling interest</u>	<u>Total equity</u>
Balances, December 31, 2009	\$ 1,392,833	(123,447)	1,269,386	29,721	1,299,107
Issuance of member units in business acquisition	97,000	—	97,000	—	97,000
Equity issuance costs	(27)	—	(27)	—	(27)
Sale of midstream subsidiary	—	—	—	(31,285)	(31,285)
Net income and comprehensive income	—	228,628	228,628	1,564	230,192
Balances, December 31, 2010	1,489,806	105,181	1,594,987	—	1,594,987
Distribution to members	(28,859)	—	(28,859)	—	(28,859)
Net income and comprehensive income	—	392,678	392,678	—	392,678
Balances, December 31, 2011	1,460,947	497,859	1,958,806	—	1,958,806
Net income (loss) and comprehensive income (loss)	—	(285,069)	(285,069)	—	(285,069)
Balances, December 31, 2012	<u>\$ 1,460,947</u>	<u>212,790</u>	<u>1,673,737</u>	<u>—</u>	<u>1,673,737</u>

See accompanying notes to consolidated financial statements.

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Consolidated Statements of Cash Flows

Years ended December 31, 2010, 2011, and 2012

(In thousands)

	2010	2011	2012
<b>Cash flows from operating activities:</b>			
Net income (loss)	\$ 228,628	392,678	(285,069)
Adjustment to reconcile net income (loss) to net cash provided by operating activities:			
Depletion, depreciation, amortization, and depletion	18,533	55,792	102,127
Impairment of unproved properties	6,076	4,664	12,070
Unrealized gains on derivative instruments, net	(69,411)	(450,332)	(1,055)
Deferred income tax expense	939	185,297	106,229
(Gain) loss on sale of assets	—	8,700	(291,190)
Loss (gain) on sale of discontinued operations	(147,559)	—	795,945
Depletion, depreciation, amortization, impairment of unproved properties, and dry hole expense—discontinued operations	164,993	126,041	90,096
Unrealized (gains) losses on derivative instruments, net—discontinued operations	(108,035)	(113,476)	45,808
Deferred income tax expense (benefit)—discontinued operations	29,070	45,155	(272,553)
Other	5,255	3,479	4,960
Changes in assets and liabilities:			
Accounts receivable	(2,306)	3,854	5,511
Accrued revenue	(7,408)	(11,118)	(10,683)
Other current assets	261	(4,528)	(8,882)
Accounts payable	9,779	(1,875)	(2,117)
Accrued liabilities	(2,771)	17,124	14,790
Revenue distributions payable	1,747	4,852	11,268
Other	—	—	15,000
Net cash provided by operating activities	127,791	266,307	332,255
<b>Cash flows from investing activities:</b>			
Additions to proved properties	—	(105,405)	(10,254)
Additions to unproved properties	(41,277)	(195,131)	(687,403)
Drilling costs	(299,926)	(527,710)	(839,151)
Additions to gathering systems and facilities	(47,124)	(72,837)	(142,294)
Additions to other property and equipment	(2,647)	(2,339)	(3,447)
(Increase) decrease in notes receivable	(2,000)	(10,111)	4,889
Increase in other assets	(556)	(3,095)	(3,707)
Proceeds from asset sales	258,918	15,379	1,217,876
Net assets of business acquired, net of cash of \$170	(96,060)	—	—
Net cash used in investing activities	(230,672)	(901,249)	(463,491)
<b>Cash flows from financing activities:</b>			
Issuance of senior notes	156,000	400,000	300,000
Borrowings (repayments) on bank credit facility, net	(42,080)	265,000	(148,000)
Payments of deferred financing costs	(10,459)	(6,691)	(5,926)
Distribution to members	—	(28,859)	—
Other	(2,261)	(153)	808
Net cash provided by financing activities	101,200	629,297	146,882
Net increase (decrease) in cash and cash equivalents	(1,681)	(5,645)	15,646
Cash and cash equivalents, beginning of period	10,669	8,988	3,343
Cash and cash equivalents, end of period	\$ 8,988	3,343	18,989
<b>Supplemental disclosure of cash flow information:</b>			
Cash paid during the period for interest	\$ 52,326	59,107	90,122
<b>Supplemental disclosure of noncash investing activities:</b>			
Changes in accounts payable for additions to properties, gathering systems and facilities	\$ 32,028	26,465	72,881

See accompanying notes to consolidated financial statements.

## ANTERO RESOURCES LLC AND SUBSIDIARIES

Notes to Consolidated Financial Statements

December 31, 2010, 2011, and 2012

### (1) Organization

#### *Business and Organization*

Antero Resources LLC, a limited liability company, and its consolidated operating subsidiaries (collectively referred to as the Company, we, or our) are engaged in the exploration for and the production of natural gas, natural gas liquids (NGLs), and oil onshore in the United States in unconventional reservoirs, which can generally be characterized as fractured shales and tight sand formations. Our properties are primarily located in the Appalachian Basin in West Virginia, Ohio, and Pennsylvania. During 2012 we sold our Oklahoma Arkoma Basin properties and our Colorado Piceance Basin properties. We also have certain midstream gathering and pipeline operations which are ancillary to our interests in producing properties. Our corporate headquarters are in Denver, Colorado.

Our consolidated financial statements as of December 31, 2012 include the accounts of Antero Resources LLC, and its directly and indirectly owned subsidiaries. The subsidiaries include Antero Resources Appalachian Corporation and its wholly owned subsidiaries, Antero Resources Arkoma LLC (Antero Arkoma), Antero Resources Piceance LLC (Antero Piceance), Antero Resources Pipeline LLC (Antero Pipeline), Antero Resources Bluestone LLC, and Antero Resources Finance Corporation (Antero Finance) (collectively referred to as the Antero Entities). Subsequent to December 31, 2012 the Antero Arkoma, Antero Piceance, and Antero Pipeline LLCs were merged into Antero Resources Appalachian Corporation.

### (2) Summary of Significant Accounting Policies

#### *(a) Basis of Presentation*

The accompanying consolidated financial statements include the accounts of Antero Resources LLC and its subsidiaries. All significant intercompany accounts and transactions have been eliminated.

As of the date these financial statements were filed with the Securities and Exchange Commission, the Company completed its evaluation of potential subsequent events for disclosure and no items other than the event described in Note 7 (d) requiring disclosure were identified.

#### *(b) Use of Estimates*

The preparation of consolidated financial statements in conformity with generally accepted accounting principles in the United States requires management to make estimates and assumptions that affect the reported assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Changes in facts and circumstances or discovery of new information may result in revised estimates, and actual results could differ from those estimates.

The Company's consolidated financial statements are based on a number of significant estimates including estimates of gas and oil reserve quantities, which are the basis for the calculation of depreciation, depletion, amortization, present value of cash flows from reserves, and impairment of oil and gas properties. Reserve estimates by their nature are inherently imprecise.

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(2) Summary of Significant Accounting Policies (Continued)**

**(c) Risks and Uncertainties**

Historically, the market for natural gas, NGLs, and oil has experienced significant price fluctuations. Prices for natural gas have been particularly volatile in recent years. The price fluctuations can result from variations in weather, levels of production in the region, availability of transportation capacity to other regions of the country, and various other factors. Increases or decreases in prices received could have a significant impact on the Company's future results of operations.

**(d) Cash and Cash Equivalents**

The Company considers all liquid investments purchased with an initial maturity of three months or less to be cash equivalents. The carrying value of cash and cash equivalents approximates fair value due to the short-term nature of these instruments.

**(e) Oil and Gas Properties**

The Company accounts for its natural gas and crude oil exploration and development activities under the successful efforts method of accounting. Under the successful efforts method, costs of productive wells, development dry holes, and undeveloped leases are capitalized. Oil and gas lease acquisition costs are also capitalized. Exploration costs, including personnel and other internal costs, geological and geophysical expenses, and delay rentals for gas and oil leases, are charged to expense as incurred. Exploratory drilling costs are initially capitalized, but charged to expense if and when the well is determined not to have found reserves in commercial quantities. The Company reviews exploration costs related to wells-in-progress at the end of each quarter and makes a determination based on known results of drilling at that time whether the costs should continue to be capitalized pending further well testing and results or charged to expense. The sale of a partial interest in a proved property is accounted for as a cost recovery, and no gain or loss is recognized as long as this treatment does not significantly affect the units-of-production amortization rate. A gain or loss is recognized for all other sales of producing properties.

Unproved properties with significant acquisition costs are assessed for impairment on a property-by-property basis, and any impairment in value is charged to expense. Impairment is assessed based on remaining lease terms, drilling results, reservoir performance, commodity price outlooks, and future plans to develop acreage. Other unproved properties are assessed for impairment on an aggregate basis. Unproved properties and the related costs are transferred to proved properties when reserves are discovered on or otherwise attributed to the property. Proceeds from sales of partial interests in unproved properties are accounted for as a recovery of cost without recognizing any gain or loss until the cost has been recovered. Impairment of unproved properties (including discontinued operations) for leases which have expired or are expected to expire was \$35.9 million, \$11.1 million, and \$13.0 million for the years ended December 31, 2010, 2011, and 2012, respectively.

The Company reviews its proved oil and gas properties for impairment whenever events and circumstances indicate that the carrying value of the properties may not be recoverable. When determining whether impairment has occurred, the Company estimates the expected future cash flows of its oil and gas properties and compares such future cash flows to the carrying amount of the properties to determine if the carrying amount is recoverable. If the carrying amount exceeds the estimated undiscounted future cash flows, the Company reduces the carrying amount of the properties

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(2) Summary of Significant Accounting Policies (Continued)**

to their estimated fair value. The factors used to determine fair value include estimates of proved reserves, future commodity prices, cash flow from commodity hedges, future production estimates, anticipated capital expenditures, and a commensurate discount rate. There were no impairments of proved natural gas properties during the years ended December 31, 2010, 2011, and 2012.

At December 31, 2012, the Company did not have significant capitalized costs related to exploratory wells-in-progress which were pending determination of proved reserves. The Company had no significant costs which have been deferred for longer than one year pending proved reserves at December 31, 2012.

The provision for depreciation, depletion, and amortization of oil and gas properties (including discontinued operations) is calculated on a geological reservoir basis using the units-of-production method. Depreciation, depletion, and amortization expense for oil and gas properties was \$124.3 million, \$164.0 million, and \$181.7 million for the years ended December 31, 2010, 2011, and 2012, respectively.

**(f) Inventories**

Inventories consist of pipe and well equipment, and are stated at the lower of cost or market. Cost is determined using the first-in, first-out (FIFO) method.

**(g) Gathering Systems and Facilities**

Gathering systems and compressors are depreciated using the straight-line method over their estimated useful life of 20 years. Expenditures for installation, major additions, and improvements are capitalized, and minor replacements, maintenance, and repairs are charged to expenses as incurred. For the years ended December 31, 2010, 2011, and 2012, depreciation expense (including discontinued operations) for gathering systems and processing facilities was \$8.8 million, \$5.5 million, and \$7.4 million, respectively. A gain or loss is recognized upon the sale or disposal of property and equipment.

**(h) Impairment of Long-Lived Assets Other than Oil and Gas Properties**

The Company evaluates its long-lived assets other than natural gas properties for impairment when events or changes in circumstances indicate that the related carrying amount of the assets may not be recoverable. Generally, the basis for making such assessments is undiscounted future cash flow projections for the unit being assessed. If the carrying value amounts of the assets are deemed to be not recoverable, the carrying amount is reduced to the estimated fair value, which is based on discounted future cash flows or other techniques, as appropriate. No impairments for such assets have been recorded through December 31, 2012.

**(i) Other Property and Equipment**

Other property and equipment is depreciated using the straight-line method over estimated useful lives ranging from three to five years. For the years ended December 31, 2010, 2011, and 2012, depreciation expense for other property and equipment was \$0.8 million, \$1.0 million, and \$1.7 million, respectively. A gain or loss is recognized upon the sale or disposal of property and equipment.

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(2) Summary of Significant Accounting Policies (Continued)**

***(j) Deferred Financing Costs***

Deferred financing costs represent loan origination fees, initial purchasers' discounts, and other borrowing costs and are included in noncurrent other assets on the consolidated balance sheets. These costs are being amortized over the term of the related debt using the effective interest method. The Company charges interest expense for deferred financing costs remaining for debt facilities that have been retired prior to their maturity date. At December 31, 2012, the Company had \$28.1 million of unamortized deferred financing costs included in other long-term assets. The amounts amortized and the write-off of previously deferred debt issuance costs were \$4.1 million, \$3.8 million, and \$5.2 million for the years ended December 31, 2010, 2011, and 2012, respectively.

***(k) Derivative Financial Instruments***

In order to manage its exposure to oil and gas price volatility, the Company enters into derivative transactions from time to time, including commodity swap agreements, collar agreements, and other similar agreements relating to natural gas expected to be produced. From time to time, the Company also enters into derivative contracts to mitigate the effects of interest rate fluctuations. To the extent legal right of offset with a counterparty exists, the Company reports derivative assets and liabilities on a net basis. The Company has exposure to credit risk to the extent the counterparty is unable to satisfy its settlement obligation. The Company actively monitors the creditworthiness of counterparties and assesses the impact, if any, on its derivative position.

The Company records derivative instruments on the consolidated balance sheets as either an asset or liability measured at fair value and records changes in the fair value of derivatives in current earnings as they occur. Changes in the fair value of commodity derivatives are classified as revenues, and changes in the fair value of interest rate derivatives are classified as other income (expense). Cash flows from the termination of commodity derivatives in conjunction with sales of oil and gas assets are included in the investing section of the statement of cash flows.

***(l) Asset Retirement Obligations***

The Company is obligated to dispose of certain long-lived assets upon their abandonment. The Company's asset retirement obligations (ARO) relate primarily to its obligation to plug and abandon oil and gas wells at the end of their life. The ARO is recorded at its estimated fair value, measured by reference to the expected future cash outflows required to satisfy the retirement obligation discounted at the Company's credit-adjusted, risk-free interest rate. Revisions to estimated ARO can result from changes in retirement cost estimates, revisions to estimated inflation rates, and changes in the estimated timing of abandonment. The fair value of the liability is added to the carrying amount of the associated asset, and this additional carrying amount is depreciated over the life of the asset. The liability is accreted at the end of each period through charges to operating expense. If the obligation is settled for an amount other than the carrying amount of the liability, we will recognize a gain or loss on settlement.

The Company delivers natural gas through its gathering assets and may become obligated by regulatory requirements to remove certain facilities or perform other remediation upon retirement of these assets. However, the Company is not able to reasonably determine the fair value of the ARO since future dismantlement and removal dates are indeterminate. The Company does not have access

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(2) Summary of Significant Accounting Policies (Continued)**

to adequate forecasts that predict the timing of expected production for existing reserves on those fields in which the Company operates. In the absence of such information, the Company is not able to make a reasonable estimate of when future dismantlement and removal dates will occur and will continue to monitor regulatory requirements to remove its gathering assets.

**(m) Environmental Liabilities**

Environmental expenditures that relate to an existing condition caused by past operations and that do not contribute to current or future revenue generation are expensed as incurred. Liabilities are accrued when environmental assessments and/or clean up is probable, and the costs can be reasonably estimated. These liabilities are adjusted as additional information becomes available or circumstances change. As of December 31, 2011 and 2012, the Company has not accrued a material amount for any environmental liabilities nor has it been fined or cited for any environmental violations that could have a material adverse effect on future capital expenditures or operating results of the Company.

**(n) Natural Gas, NGL and Oil Revenues**

Sales of natural gas, NGLs, and crude oil are recognized when the products are delivered to the purchaser and title transfers to the purchaser. Payment is generally received one month months after the sale has occurred. Variances between estimated sales and actual amounts received are recorded in the month payment is received and are not material. The Company recognizes natural gas revenues based on its entitlement share of natural gas that is produced based on its working interests in the properties. The Company records a receivable (payable) to the extent it receives less (more) than its proportionate share natural gas revenues. At December 31, 2011 and 2012, the Company had no significant imbalance positions.

**(o) Concentrations of Credit Risk**

The Company's revenues are derived principally from uncollateralized sales to purchasers in the oil and gas industry. The concentration of credit risk in a single industry affects the Company's overall exposure to credit risk because purchasers may be similarly affected by changes in economic and other conditions. The Company has not experienced significant credit losses on its receivables.

The Company's sales to major customers (purchases in excess of 10% of total sales) for the years ended December 31, 2010, 2011, and 2012 are as follows (including sales in discontinued operations):

	<u>2010</u>	<u>2011</u>	<u>2012</u>
Company A	23%	28%	23%
Company B	13	17	13
Company C	11	12	10
All others	53	43	54
	<u>100%</u>	<u>100%</u>	<u>100%</u>

Although a substantial portion of production is purchased by these major customers, we do not believe the loss of any one or several customers would have a material adverse effect on our business, as other customers or markets would be accessible to us.

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(2) Summary of Significant Accounting Policies (Continued)**

The Company is also exposed to credit risk on its commodity derivative portfolio. Any default by the counterparties to these derivative contracts when they become due would have a material adverse effect on our financial condition and results of operations. The fair value of our commodity derivative contracts of approximately \$532 million at December 31, 2012 includes the following values by bank counterparty: JP Morgan—\$94 million; BNP Paribas—\$124 million; Credit Suisse—\$150 million; Wells Fargo—\$86 million; Barclays—\$57 million; Deutsche Bank—\$11 million; and Union Bank—\$4 million. Additionally, contracts with Dominion Field Services account for \$6 million of the fair value. The estimated fair value of our commodity derivative assets has been risk adjusted using a discount rate based upon the respective published credit default swap rates at December 31, 2012 for each of the European and American banks. We believe that all of these institutions currently are acceptable credit risks.

The Company, at times, may have cash in banks in excess of federally insured amounts.

**(p) Income Taxes**

Antero Resources LLC and each of its operating subsidiaries file separate federal and state income tax returns. Antero Resources LLC is a partnership for income tax purposes and therefore is not subject to federal or state income taxes. The tax on the income of Antero Resources LLC is borne by the individual members through the allocation of taxable income.

The Company's operating subsidiaries recognize deferred tax assets and liabilities for temporary differences resulting from net operating loss carryforwards for income tax purposes and the differences between the financial statement and tax basis of assets and liabilities. The effect of changes in the tax laws or tax rates is recognized in income in the period such changes are enacted. Deferred tax assets are reduced by a valuation allowance, when, in the opinion of management, it is more likely than not that some portion or all of the deferred tax assets will not be realized.

Unrecognized tax benefits represent potential future tax obligations for uncertain tax positions taken on previously filed tax returns that may not ultimately be sustained. The Company recognizes interest expense related to unrecognized tax benefits in interest expense and fines and penalties as income tax expense. The tax years 2009 through 2012 remain open to examination by the U.S. Internal Revenue Service. The Company files tax returns with various state taxing authorities which remain open to examination for tax years 2008 through 2012.

**(q) Fair Value Measures**

FASB ASC Topic 820, *Fair Value Measurements and Disclosures*, clarifies the definition of fair value, establishes a framework for measuring fair value, and expands disclosures about fair value measurements. This guidance also relates to all nonfinancial assets and liabilities that are not recognized or disclosed on a recurring basis (e.g., those measured at fair value in a business combination, the initial recognition of asset retirement obligations, and impairments of proved oil and gas properties, and other long-lived assets). The fair value is the price that the Company estimates would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. A fair value hierarchy is used to prioritize input to valuation techniques used to estimate fair value. An asset or liability subject to the fair value requirements is categorized within the hierarchy based on the lowest level of input that is significant to



**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(2) Summary of Significant Accounting Policies (Continued)**

the fair value measurement. The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment and considers factors specific to the asset or liability. The highest priority (Level 1) is given to unadjusted quoted market prices in active markets for identical assets or liabilities, and the lowest priority (Level 3) is given to unobservable inputs. Level 2 inputs are data, other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. Instruments which are valued using Level 2 inputs include nonexchange traded derivatives such as over-the-counter commodity price swaps, basis swaps, and interest rate swaps. Valuation models used to measure fair value of these instruments consider various Level 2 inputs including (i) quoted forward prices for commodities, (ii) time value, (iii) quoted forward interest rates, (iv) current market prices and contractual prices for the underlying instruments, (v) risk of nonperformance by the Company and the counterparty, and (vi) other relevant economic measures. The Company utilizes its counterparties to assess the reasonableness of its prices and valuation techniques. To the extent a legal right of offset with a counterparty exists, the derivative assets and liabilities are reported on a net basis.

***(r) Industry Segment and Geographic Information***

We have evaluated how the Company is organized and managed and have identified one operating segment—the exploration and production of oil, natural gas, and natural gas liquids. We consider our gathering, processing, and marketing functions as ancillary to our oil and gas producing activities. All of our assets are located in the United States and all of our revenues are attributable to customers located in the United States.

**(3) Sale of Piceance and Arkoma Properties—Discontinued Operations**

On December 21, 2012 the Company completed the sale of its Piceance Basin assets. Proceeds from the sale of \$316 million represent the purchase price of \$325 million, adjusted for expenses of the sale and estimated income, expenses, and capital costs related to the Piceance Basin properties from the October 1, 2012 effective date of the sale through December 21, 2012. The Company had a loss of \$364 million on the sale of the Piceance Basin assets. The purchaser also assumed all of the Company's Rocky Mountain firm transportation obligations. Because of the sale of the Piceance Basin assets, the Company also liquidated its hedge positions related to the Piceance Basin and realized additional proceeds from these transactions of approximately \$100 million.

On June 29, 2012 the Company completed its sale of its Arkoma Basin assets and the commodity hedges associated with the Arkoma assets. Proceeds from the sale of \$427 million represent the purchase price of \$445 million adjusted for expenses of the sale and estimated income, expenses, and capital costs from the effective date of the sale through the closing date of June 29, 2012. The Company had a loss of \$432 million on the sale of the Arkoma Basin assets. The Company's Arkoma Basin midstream operations, which were sold on November 5, 2010, are also included in discontinued operations through the date of the sale. The Company realized a gain in 2010 of \$148 million on the sale of those midstream operations.

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(3) Sale of Piceance and Arkoma Properties—Discontinued Operations (Continued)**

Results of operations and the loss on the sale of the Piceance Basin and Arkoma Basin assets are shown as discontinued operations on the accompanying Consolidated Statement of Operations and Comprehensive Income (Loss) and are comprised of the following (in thousands):

	Year ended December 31		
	2010	2011	2012
Sales of oil, natural gas, and natural gas liquids	\$ 159,031	196,705	125,396
Realized gains on commodity derivative instruments	58,650	66,654	92,166
Unrealized gains (losses) on commodity derivative instruments	108,035	113,476	(45,808)
Gas gathering and processing revenue	20,554	—	—
Gain on sale of midstream assets	147,559	—	—
Total revenues	<u>493,829</u>	<u>376,835</u>	<u>171,754</u>
Lease operating expenses	24,353	26,037	19,901
Gathering, compression, and transportation	36,572	50,453	45,089
Production taxes	5,892	6,307	2,967
Exploration expenses	22,444	5,842	664
Impairment of unproved properties	29,783	6,387	962
Depletion, depreciation, and amortization	115,433	114,805	88,720
Accretion of asset retirement obligations	306	359	404
Loss on sale of assets	—	—	795,945
Total expenses	<u>234,783</u>	<u>210,190</u>	<u>954,652</u>
Income (loss) from discontinued operations before income taxes	259,046	166,645	(782,898)
Income tax (expense) benefit	(29,070)	(45,155)	272,553
Net income (loss)	<u>229,976</u>	<u>121,490</u>	<u>(510,345)</u>
Noncontrolling interest in net income of consolidated subsidiary	(1,564)	—	—
Net income (loss) from discontinued operations attributable to Antero equity owners	<u>\$ 228,412</u>	<u>121,490</u>	<u>(510,345)</u>

**(4) Sale of Appalachian Gathering Assets**

On March 26, 2012, the Company closed the sale of a portion of its Marcellus Shale gathering system assets along with exclusive rights to gather the Company's gas for a 20-year period within an area of dedication (AOD) to a joint venture owned by Crestwood Midstream Partners and Crestwood Holdings Partners LLC (together Crestwood) for \$375 million (subject to customary purchase price adjustments). The sale included approximately 25 miles of low pressure pipeline systems and gathering rights on 104,000 net acres held by the Company within a 250,000 acre AOD and had an effective date of January 1, 2012. Other third-party producers will also have access to the Crestwood system. During the first seven years of the contract, the Company is committed to deliver minimum annual volumes into the gathering systems, with certain carryback and carryforward adjustments for overages or deficiencies. The Company can earn up to an additional \$40 million of sale proceeds over the next three years if it meets certain volume thresholds. Crestwood is obligated to incur all future capital costs

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(4) Sale of Appalachian Gathering Assets (Continued)**

to build out gathering systems and compression facilities within the AOD to connect the Company's wells as it executes its drilling program and has assumed the various risks and rewards of the system build-out and operations. Because the Company has not retained the substantial risks and rewards of ownership associated with the gathering rights and systems transferred to Crestwood, it has recognized a gain on the sale of the gathering system and gathering rights of approximately \$291 million.

**(5) Bluestone Acquisition**

On December 1, 2010, the Company, through a newly formed subsidiary of Antero Appalachian, Antero Resources Bluestone LLC, acquired 100% of the interests in Bluestone Energy Partners (BEP), a general partnership which owned approximately 96 producing wells and 37,250 acres of unproved leaseholds in the Appalachian Basin.

The following table summarizes the consideration paid for the BEP partnership interests and the amounts of the assets acquired and liabilities assumed (in millions).

Consideration:	
Cash	\$ 96.2
I-5 and B-6 units (3,814,392 each) in Antero Resources LLC	97.0
Total fair value of consideration transferred	<u>\$ 193.2</u>
Acquisition related costs (included in operating expenses in the Company's statement of operations for the year ended December 31, 2011)	\$ 2.5
Fair values of identifiable assets acquired and liabilities assumed:	
Current assets	\$ 17.2
Oil and gas properties:	
Producing properties	50.7
Undeveloped leases	206.3
Other	4.3
Other long-term assets	9.3
Current liabilities	(7.0)
Long term liabilities	(26.2)
Deferred tax liabilities	(61.4)
Net assets acquired	<u>\$ 193.2</u>

The fair value of property and equipment and other long-term assets was determined using Level 3 inputs. Deferred tax liabilities were calculated by applying the estimated effective tax rate to the difference between the fair value of the assets acquired and their tax basis. The Company's I-5 and B-6 units, representing additional membership interests issued as part of the consideration, were recorded based on their estimated fair value of \$97.0 million on the acquisition date, using Level 3 inputs. There was no contingent consideration given as part of the purchase price.

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

## Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(6) Notes Receivable**

At December 31, 2011 and 2012 the Company had notes receivable from a drilling contractor of \$12.1 million and \$7.2 million, respectively. The notes result from the Company's advances to the drilling contractor to construct drilling rigs to be used by the contractor to fulfill long-term drilling contracts with the Company. The notes are noninterest bearing and are repayable over the term of the service agreements with the drilling contractor.

**(7) Long-term Debt**

The Company's had long-term debt as follows at December 31, 2011 and 2012 (in thousands):

	<u>2011</u>	<u>2012</u>
Bank credit facility (a)	\$ 365,000	217,000
9.375% senior notes due 2017 (b)	525,000	525,000
7.25% senior notes due 2019 (c)	400,000	400,000
6.00% senior notes due 2020 (d)	—	300,000
9.00% senior note due 2013 (e)	25,000	25,000
Net unamortized premium	2,330	2,058
	<u>1,317,330</u>	<u>1,469,058</u>
Less amounts due within one year	—	25,000
	<u>\$ 1,317,330</u>	<u>1,444,058</u>

**(a) Bank Credit Facility**

The Company has a senior secured revolving bank credit facility (the Credit Facility) with a consortium of bank lenders. The maximum amount of the Credit Facility is \$2.5 billion. Borrowings under the Credit Facility are subject to borrowing base limitations based on the collateral value of our proved properties and commodity hedge positions and are subject to regular semiannual redeterminations. The next redetermination of the borrowing base is scheduled to occur in May 2013. After giving effect to the issuance of the 6.00% senior notes due 2020 in November 2012 and February 2013, the borrowing base was \$1.22 billion and lender commitments totaled \$700 million. Lender commitments can be increased to the full \$1.22 billion borrowing base upon approval of the lending bank group. The maturity date of the Credit Facility is May 12, 2016.

The Credit Facility is secured by mortgages on substantially all of the Company's properties and guarantees from the Company's operating subsidiaries. The Credit Facility contains certain covenants, including restrictions on indebtedness and dividends, and requirements with respect to working capital and interest coverage ratios. Interest is payable at a variable rate based on LIBOR or the prime rate based on the Company's election at the time of borrowing. The Company was in compliance with all of the financial debt covenants under the Credit Facility as of December 31, 2011 and 2012.

As of December 31, 2012, the Company had an outstanding balance under the Credit Facility of \$217 million, with a weighted average interest rate of 1.91%, and outstanding letters of credit of approximately \$43 million. As of December 31, 2011, the Company had an outstanding balance under the Credit Facility of \$365 million, with a weighted average interest rate of 2.12%, and outstanding

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(7) Long-term Debt (Continued)**

letters of credit of approximately \$21 million. Commitment fees on the unused portion of the Credit Facility are due quarterly at rates ranging from 0.375% to 0.50% of the unused facility based on utilization.

**(b) 9.375% Senior Notes Due 2017**

On November 17, 2009, an indirect wholly owned finance subsidiary of Antero Resources LLC, Antero Finance, issued \$375 million of 9.375% senior notes due December 1, 2017 at a discount of \$2.6 million. In January 2010, the Company issued an additional \$150 million of the same series of 9.375% senior notes at a premium of \$6.0 million. The notes are unsecured and effectively subordinated to the Company's Credit Facility to the extent of the value of the collateral securing the Credit Facility. The notes are guaranteed on a full and unconditional basis and joint and severally by Antero Resources LLC, all of its wholly owned subsidiaries (other than Antero Finance), and certain of its future restricted subsidiaries. Antero Resources LLC has no independent assets or operations. Interest on the notes is payable on June 1 and December 1 of each year. Antero Finance may redeem all or part of the notes at any time on or after December 1, 2013 at redemption prices ranging from 104.688% on or after December 1, 2013 to 100.00% on or after December 1, 2015. At any time prior to December 1, 2013, Antero Finance may also redeem the notes, in whole or in part, at a price equal to 100% of the principal amount of the notes plus a "make-whole" premium. If Antero Resources LLC undergoes a change of control, Antero Finance may be required to offer to purchase notes from the holders. Antero Resources LLC, the stand-alone parent entity, has insignificant independent assets and no operations. There are no restrictions on the Company's ability to obtain cash dividends or other distributions of funds from its subsidiaries, except those imposed by applicable law.

**(c) 7.25% Senior Notes Due 2019**

On August 1, 2011, Antero Finance issued \$400 million of 7.25% senior notes due August 1, 2019 at par. The notes are unsecured and effectively subordinated to the Company's Credit Facility to the extent of the value of the collateral securing the Credit Facility. The notes rank pari passu to the existing 9.375% senior notes. The notes are guaranteed on a senior unsecured basis by Antero Resources LLC, all of its wholly owned subsidiaries (other than Antero Finance), and certain of its future restricted subsidiaries. Interest on the notes is payable on August 1 and February 1 of each year. Antero Finance may redeem all or part of the notes at any time on or after August 1, 2014 at redemption prices ranging from 105.438% on or after August 1, 2014 to 100.00% on or after August 1, 2017. In addition, on or before August 1, 2014, Antero Finance may redeem up to 35% of the aggregate principal amount of the notes with the net cash proceeds of certain equity offerings, if certain conditions are met, at a redemption price of 107.25% of the principal amount of the notes, plus accrued interest. At any time prior to August 1, 2014, Antero Finance may redeem the notes, in whole or in part, at a price equal to 100% of the principal amount of the notes plus a "make-whole" premium and accrued interest. If Antero Resources LLC undergoes a change of control, the note holders will have the right to require Antero Finance to repurchase all or a portion of the notes at a price equal to 101% of the principal amount of the notes, plus accrued interest.

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(7) Long-term Debt (Continued)**

**(d) 6.00% Senior Notes Due 2020**

On November 19, 2012, Antero Finance issued \$300 million of 6.00% senior notes due December 1, 2020 at par. In a subsequent transaction, on February 4, 2013 Antero Finance issued an additional \$225 million of the 6.00% notes at 103% of par. The notes are unsecured and effectively subordinated to the Company's Credit Facility to the extent of the value of the collateral securing the Credit Facility. The notes rank pari passu to the existing 9.375% and 7.25% senior notes. The notes are guaranteed on a senior unsecured basis by Antero Resources LLC, all of its wholly owned subsidiaries (other than Antero Finance), and certain of its future restricted subsidiaries. Interest on the notes is payable on June 1 and December 1 of each year, commencing on June 1, 2013. Antero Finance may redeem all or part of the notes at any time on or after December 1, 2015 at redemption prices ranging from 104.500% on or after December 1, 2015 to 100.00% on or after December 1, 2018. In addition, on or before December 1, 2015, Antero Finance may redeem up to 35% of the aggregate principal amount of the notes with the net cash proceeds of certain equity offerings, if certain conditions are met, at a redemption price of 106.00% of the principal amount of the notes, plus accrued interest. At any time prior to December 1, 2015, Antero Finance may redeem the notes, in whole or in part, at a price equal to 100% of the principal amount of the notes plus a "make-whole" premium and accrued interest. If a change of control (as defined in the bond indenture) occurs at any time prior to January 1, 2014, Antero Finance may, at its option, redeem all, but not less than all, of the notes at a redemption price equal to 110% of the principal amount of the notes, plus accrued interest. If Antero Resources LLC undergoes a change of control, the note holders will have the right to require Antero Finance to repurchase all or a portion of the notes at a price equal to 101% of the principal amount of the notes, plus accrued interest.

**(e) 9.00% Senior Note**

The Company assumed a \$25 million unsecured note payable in the business acquisition consummated on December 1, 2010. The note bears interest at 9% and is due December 1, 2013.

**(f) Treasury Management Facility**

The Company has a stand-alone revolving note with a lender under the Credit Facility which provides for up to \$25.0 million of cash management obligations in order to facilitate the Company's daily treasury management. Borrowings under the revolving note are secured by the collateral for the revolving credit facility. Borrowings under the facility bear interest at the lender's prime rate plus 1.0%. The note matures on June 1, 2013. At December 31, 2012, there were no outstanding borrowings under this facility.

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(8) Asset Retirement Obligations**

The following is a reconciliation of the Company's asset retirement obligations for the years ended December 31, 2011 and 2012 (in thousands).

	<u>2011</u>	<u>2012</u>
Asset retirement obligations—beginning of year	\$ 5,374	6,715
Obligations incurred for wells drilled or on properties acquired	906	9,440
Obligations related to assets sold	—	(6,107)
Accretion expense	435	504
Asset retirement obligations—end of year	<u>\$ 6,715</u>	<u>10,552</u>

**(9) Ownership Structure**

At December 31, 2012, the outstanding units in Antero Resources LLC are summarized as follows:

	<u>Units authorized and issued</u>
Class I units	107,281,058
Class A and B units	40,007,463
Class A and B profit units	19,726,873
	<u>167,015,394</u>

None of the three classes of outstanding units are entitled to current cash distributions, except as provided in the limited liability operating agreement, nor are they convertible into indebtedness. The Company has no obligation to repurchase these units at the election of the unit holders.

Antero Resources Employee Holdings LLC, a limited liability company owned by certain officers and directors, owns Class A-2, A-4, B-2, B-3, B-4, and B-5 profit units and has issued similar units to its members. These units participate only in distributions upon liquidation events meeting requisite financial return thresholds.

In December 2010, Antero Resources LLC issued new Class I-5 and B-6 units valued in aggregate at \$97 million in connection with the acquisition of Bluestone Energy Partners (see note 4).

In the event of a distribution from Antero Resources LLC, amounts available for distribution are distributed according to a formula set forth in the limited liability company agreement that takes into account the relative priority of the various classes of units outstanding. In the event of a distribution due to the disposition of an individual subsidiary, a portion of the proceeds is allocated to the employees of the Company based on a requisite return financial threshold. In general, distributions are made first to holders of the Class I units until they have received their investment amount and an 8% special allocation and then, as a group, to the holders of all classes of units together. The Class I units participate on a pro rata basis with the other classes of units in funds available for distributions in excess of the Class I unit investment and special allocation amounts.

At December 31, 2012, the Class I units had an aggregate liquidation priority, including the special allocation of 8% per annum, of \$2.191 billion. Under the terms of the Antero Resources LLC limited

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(9) Ownership Structure (Continued)**

liability company agreement, the Company is obligated to distribute cash to the members of the limited liability company each year in an amount sufficient for the members to fund income tax liabilities for partnership income allocated to them. As a result of the gain recognized by Antero Resources LLC on the sale of Antero Resources Midstream Corporation in 2010, the Company distributed approximately \$28.9 million to the members to fund income tax liabilities in February 2011.

**(10) Membership Interests Awards**

The Company has issued membership interests in Antero Resources Employee Holdings LLC, a limited liability company owned by certain officers and employees. The membership interests participate only in distributions from Antero Resources LLC in liquidation events, meeting requisite financial thresholds after the Class I and other classes of unitholders have recovered their investment and special allocation amounts. The membership interests have no voting rights. Compensation expense for these awards will be recognized when all performance, market, and service conditions are probable of being satisfied (in general, upon a liquidating event). Accordingly, no value was assigned to the interests when issued. A summary of the status of the net membership interests outstanding in Antero Holdings and changes during the year ended December 31, 2012 is summarized as follows:

Balance, January 1, 2012	7,957,283
Granted	806,000
Forfeited/canceled	(203,500)
Outstanding at December 31, 2012	<u>8,559,783</u>

**(11) Financial Instruments**

The carrying values of trade receivables and trade payables at December 31, 2011 and 2012 approximated market value because of their short-term nature. The carrying value of the bank credit facility at December 31, 2011 and 2012 approximated fair value because the variable interest rates are reflective of current market conditions.

The fair value of the Company's senior notes was approximately \$1.3 billion, based on Level 2 market data inputs at December 31, 2012.

See note 12 for information regarding the fair value of derivative financial instruments.

**(12) Derivative Instruments****(a) Commodity Derivatives**

The Company periodically enters into natural gas derivative contracts with counterparties to hedge the price risk associated with a portion of its production. These derivatives are not held for trading purposes. To the extent that changes occur in the market prices of natural gas, the Company is exposed to market risk on these open contracts. This market risk exposure is generally offset by the change in market prices of natural gas recognized upon the ultimate sale of the natural gas produced.



**ANTERO RESOURCES LLC AND SUBSIDIARIES**

## Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(12) Derivative Instruments (Continued)**

For the years ended December 31, 2010, 2011, and 2012, the Company was party to natural gas fixed price swaps. When actual commodity prices exceed the fixed price provided by the swap contracts, the Company pays the excess to the counterparty, and when actual commodity prices are below the contractually provided fixed price the Company receives the difference from the counterparty. The Company's natural gas swaps have not been designated as hedges for accounting purposes; therefore, all gains and losses were recognized in income currently.

As of December 31, 2012, the Company has entered into fixed price natural gas and oil swaps in order to hedge a portion of its natural gas and oil production from January 1, 2013 through December 31, 2018 as summarized in the following table.

	<u>MMbtu/day</u>	<u>Bbls/day</u>	<u>price</u>
Year ending December 31, 2013:			
CGTAP	122,631	—	\$ 5.02
Dominion South	191,702	—	4.77
NYMEX-WTI	—	300	90.30
2013 Total	<u>314,333</u>	<u>300</u>	
Year ending December 31, 2014:			
CGLA	10,000		\$ 3.87
CGTAP	200,000		5.16
Dominion South	160,000		5.15
2014 Total	<u>370,000</u>		
Year ending December 31, 2015:			
CGLA	40,000		\$ 4.00
CGTAP	120,000		5.01
Dominion South	230,000		5.60
2015 Total	<u>390,000</u>		
Year ending December 31, 2016:			
CGLA	170,000		\$ 4.09
CGTAP	60,000		4.91
Dominion South	272,500		5.35
2016 Total	<u>502,500</u>		
Year ending December 31, 2017:			
CGLA	420,000		\$ 4.27
Year ending December 31, 2018:			
CGLA	<u>75,000</u>		\$ 4.90

**(b) Interest Rate Derivatives**

From time to time, the Company has entered into various floating-to-fixed interest rate swap derivative contracts to manage exposures to changes in interest rates from variable rate obligations.

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(12) Derivative Instruments (Continued)**

Under the swaps, the Company made payments to the swap counterparty when the variable LIBOR three-month rate fell below the fixed rate or received payments from the swap counterparty when the variable LIBOR three-month rate went above the fixed rate. The Company had no outstanding interest rate swap agreements at December 31, 2012.

*(c) Summary*

The following is a summary of the fair values of derivative instruments not designated as hedges for accounting purposes and where such values are recorded in the consolidated balance sheets as of December 31, 2011 and 2012. None of the Company's derivative instruments are designated as hedges for accounting purposes.

	2011		2012	
	Balance sheet location	Fair value (In thousands)	Balance sheet location	Fair value (In thousands)
Asset derivatives not designated as hedges for accounting purposes:				
Commodity contracts	Current assets	\$ 248,550	Current assets	\$ 160,579
Commodity contracts	Long-term assets	541,423	Long-term assets	371,436
Total asset derivatives		<u>\$ 789,973</u>		<u>\$ 532,015</u>

The following is a summary of realized and unrealized gains (losses) on derivative instruments and where such values are recorded in the consolidated statements of operations for the years ended December 31, 2010, 2011, and 2012 (in thousands):

	Statement of operations location	2010	2011	2012
Realized gains on commodity contracts	Revenue	\$ 15,063	49,944	178,491
Unrealized gains on commodity contracts	Revenue	62,536	446,120	1,055
Realized gains on commodity contracts	Discontinued operations	58,650	66,654	92,166
Unrealized gains (losses) on commodity contracts	Discontinued operations	108,035	113,476	(45,808)
Total gains on commodity contracts		<u>244,284</u>	<u>676,194</u>	<u>225,904</u>
Realized losses on interest rate contracts	Other expense	(9,552)	(4,306)	—
Unrealized gains on interest rate contracts	Other income	6,875	4,212	—
Total losses on interest rate contracts		<u>(2,677)</u>	<u>(94)</u>	<u>—</u>
Net gains on derivative contracts		<u>\$ 241,607</u>	<u>676,100</u>	<u>225,904</u>

The fair value of commodity and interest rate derivative instruments was determined using Level 2 inputs.

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

## Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(13) Income Taxes**

Antero Resources LLC is a partnership for income tax purposes and therefore is not subject to federal or state income taxes. The Company's subsidiaries are subject to federal and state income taxes.

For the years ended December 31, 2010, 2011, and 2012 income tax expense from continuing operations consisted of the following (in thousands):

	<u>2010</u>	<u>2011</u>	<u>2012</u>
Current income tax expense	\$ —	—	15,000
Deferred income tax expense	939	185,297	106,229
Total income tax expense from continuing operations	<u>\$ 939</u>	<u>185,297</u>	<u>121,229</u>

The income tax expense from continuing operations differs from the amount that would be computed by applying the U.S. statutory federal income tax rate of 35% to consolidated income for the years ended December 31, 2010, 2011, and 2012, as a result of the following (in thousands):

	<u>2010</u>	<u>2011</u>	<u>2012</u>
Federal income tax expense	\$ 404	159,770	121,276
State income tax expense, net of federal benefit	57	23,593	4,761
Change in valuation allowance	1,197	(934)	(4,872)
Other	(719)	2,868	64
Total income tax expense from continuing operations	<u>\$ 939</u>	<u>185,297</u>	<u>121,229</u>

For the years ended December 31, 2010, 2011, and 2012 income tax expense (benefit) was allocated to continuing and discontinued operations as follows (in thousands):

	<u>2010</u>	<u>2011</u>	<u>2012</u>
Continuing operations	\$ 939	185,297	121,229
Discontinued operations and sale of discontinued operations	29,070	45,155	(272,553)
Total income tax expense / (benefit)	<u>\$ 30,009</u>	<u>230,452</u>	<u>(151,324)</u>

Deferred income taxes reflect the impact of temporary differences between amounts of assets and liabilities for financial reporting purposes and such amounts as measured by tax laws. The tax effect of

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

## Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(13) Income Taxes (Continued)**

the temporary differences giving rise to net deferred tax assets and liabilities at December 31, 2011 and 2012 is as follows (in thousands):

	<u>2011</u>	<u>2012</u>
Deferred tax assets:		
Net operating loss carryforwards	\$ 364,017	417,385
Capital loss carryforwards	5,292	5,367
Minimum tax credit carryforward		15,000
Other	10,490	5,006
Total deferred tax assets	<u>379,799</u>	<u>442,758</u>
Valuation allowance	(13,833)	(47,678)
Net deferred tax assets	<u>365,966</u>	<u>395,080</u>
Deferred tax liabilities:		
Unrealized gains on derivative instruments	311,434	206,937
Depreciation differences on gathering system	5,100	—
Oil and gas properties	370,067	342,455
Total deferred tax liabilities	<u>686,601</u>	<u>549,392</u>
Net deferred tax liabilities	<u>\$ (320,635)</u>	<u>(154,312)</u>

In assessing the realizability of deferred tax assets, management considers whether some portion or all of the deferred tax assets will be realized based on a more likely than not standard of judgment. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income, and tax planning strategies in making this assessment. Based upon the projections for future taxable income over the periods in which the deferred tax assets are deductible, management believes that the Company will not realize the benefits of all of these deductible differences and has recorded a valuation allowance of approximately \$14 million and \$48 million at December 31, 2011 and 2012, respectively, which is primarily related to capital loss carryforwards and certain state NOL carryforwards. The amount of the deferred tax asset considered realizable could be reduced in the near term if estimates of future taxable income during the carryforward period are revised.

The calculation of the Company's tax liabilities involves uncertainties in the application of complex tax laws and regulations. The Company gives financial statement recognition to those tax positions that it believes are more-likely-than-not to be sustained upon examination by the Internal Revenue Service or state revenue authorities. The financial statements include unrecognized benefits at December 31, 2012 of \$15 million that, if recognized, would result in a reduction of noncurrent income taxes payable (included in other long-term liabilities) and an increase in noncurrent deferred tax liabilities. No impact to the Company's 2012 effective tax rate would result. As of December 31, 2012, no interest or

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(13) Income Taxes (Continued)**

penalties have been accrued on unrecognized tax benefits. A reconciliation of beginning and ending amount of unrecognized tax benefits is as follows:

	<u>2012</u>
Balance at beginning of year	\$ —
Additions based upon tax positions related to the current year	15,000
Balance at end of year	<u>\$ 15,000</u>

The Company's corporate subsidiaries have U.S Federal and state net operating loss carryforwards (NOLs) as of December 31, 2012 of \$1.0 billion and \$1.3 billion, respectively, which expire at various dates from 2024 to 2032. Included in other current assets are \$14 million of estimated Federal tax payments made during 2012 that will be refunded to the Company when it files its 2012 tax return.

The tax years 2009 through 2012 remain open to examination by the U.S. Internal Revenue Service. The Company and subsidiaries file tax returns with various state taxing authorities; these returns remain open to examination for tax years 2008 through 2012.

**(14) Commitments**

The following is a schedule of future minimum payments for firm transportation agreements, drilling and compression facility obligations, and leases that have remaining lease terms in excess of one year as of December 31, 2012 (in millions).

	Firm transportation (a)	Gas processing, gathering and compression (b)	Drilling rigs and frac Services (c)	Office and equipment (d)	Total
Year ending December 31:					
2013	\$ 36	111	150	1	298
2014	93	107	98	3	301
2015	116	126	44	3	289
2016	116	131	—	3	250
2017	113	125	—	3	241
Thereafter	854	564	—	15	1,433
Total	<u>\$ 1,328</u>	<u>1,164</u>	<u>292</u>	<u>28</u>	<u>2,812</u>

**(a) Firm Transportation**

The Company has entered into firm transportation agreements with various pipelines in order to facilitate the delivery of production to market. These contracts commit the Company to transport minimum daily natural gas volumes or ethane at a negotiated rate, or pay for any deficiencies at a specified reservation fee rate. The amounts in this table represent our minimum daily volumes at the reservation fee rate.

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(14) Commitments (Continued)**

**(b) Gas Processing and Compression Service Commitments**

The Company has entered into various long-term gas processing agreements for certain of its production that will allow us to realize the value of our NGLs. The minimum payment obligations under the agreements are presented in the table.

The Company has various compressor service agreements with third parties that provide for payments based on volumes compressed and have minimum payment obligations which are presented in the table.

**(c) Drilling Rig Service Commitments**

The Company has obligations under agreements with service providers to procure drilling rigs and compression and frac services. At December 31, 2012, the Company had contracts for the services of 13 rigs. The contracts expire at various dates from January 2013 through January 2016.

**(d) Office and Equipment Leases**

The Company leases various office space and equipment under operating lease arrangements. Rental expense under operating leases is included in general and administrative expenses and was \$0.8 million, \$1.0 million, and \$1.1 million for the years ended December 31, 2010, 2011, and 2012, respectively.

**(15) Contingencies**

In March 2011, the Company received orders for compliance from the U.S. Environmental Protection Agency relating to certain of our activities in West Virginia. The orders allege that certain of the Company's operations at several well sites are not in compliance with certain environmental regulations pertaining to unpermitted discharges of fill material into wetlands or waters that are potentially in violation of the Clean Water Act. The Company has responded to all pending orders and is actively cooperating with the relevant agencies. No fine or penalty relating to these matters has been proposed at this time, but the Company believes that these actions will result in monetary sanctions exceeding \$100,000. The Company is unable to estimate the total amount of such monetary sanctions or costs to remediate these locations in order to bring them into compliance with applicable environmental laws and regulations.

The Company has been named in separate lawsuits in Colorado, Pennsylvania, and West Virginia in which the plaintiffs have alleged that its oil and natural gas activities exposed them to hazardous substances and damaged their properties and their persons. The plaintiffs have requested unspecified damages and other injunctive or equitable relief. The Company denies any such allegations and intends to vigorously defend itself against these actions. The Company is unable to estimate the amount of monetary or other damages, if any, that might result from these claims.

The Company is party to various other legal proceedings and claims in the ordinary course of its business. The Company believes certain of these matters will be covered by insurance and that the outcome of other matters will not have a material adverse effect on its consolidated financial position, results of operations, or liquidity.

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(16) Supplemental Information on Oil and Gas Producing Activities (Unaudited)**

The following is supplemental information regarding our consolidated oil and gas producing activities. The amounts shown include our net working and royalty interests in all of our oil and gas properties.

**(a) Capitalized Costs Relating to Oil and Gas Producing Activities**

	Year ended December 31	
	2011	2012
	(In thousands)	
Producing properties	\$ 2,497,306	1,689,132
Unproved properties	834,255	1,243,237
	3,331,561	2,932,369
Accumulated depreciation and depletion	(586,444)	(158,210)
Net capitalized costs	\$ 2,745,117	2,774,159

**(b) Costs Incurred in Certain Oil and Gas Activities**

	Year ended December 31		
	2010	2011	2012
	(In thousands)		
Proved property acquisition costs	\$ 50,657	105,405	10,254
Unproved property acquisition costs	247,733	195,131	687,403
Development costs and other	299,926	527,710	839,151
Asset retirement obligation	332	906	9,440
Total costs incurred	\$ 598,648	829,152	1,546,248

Costs incurred in 2010 include costs allocated to proved and unproved properties of \$50.7 million and \$206.3 million, respectively, as a result of a business acquisition. See note 3.

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(16) Supplemental Information on Oil and Gas Producing Activities (Unaudited) (Continued)****(c) Results of Operations (including discontinued operations) for Oil and Gas Producing Activities**

	Year ended December 31		
	2010	2011	2012
	(In thousands)		
Revenues	\$ 206,462	391,994	390,378
Operating expenses:			
Production expenses	80,097	136,635	185,505
Exploration expenses	24,794	9,876	15,339
Depreciation and depletion	124,341	164,011	181,664
Impairment	35,859	11,051	13,032
Results of operations before income tax expense (benefit)	(58,629)	70,421	(5,162)
Income tax (expense) benefit	6,449	(26,056)	2,008
Results of operations	\$ (52,180)	44,365	(3,154)

**(d) Oil and Gas Reserves**

The following table sets forth the net quantities of proved reserves and proved developed reserves during the periods indicated. This information includes the oil and gas segment's royalty and net working interest share of the reserves in oil and gas properties. Net proved oil and gas reserves for the year ended December 31, 2011 and 2012 were prepared by the Company's reserve engineers and audited by DeGolyer and MacNaughton (D&M) or Ryder Scott utilizing data compiled by us. Over 99% of our estimated proved reserves as of December 31, 2010 were prepared by D&M, Ryder Scott, or Wright & Co. There are many uncertainties inherent in estimating proved reserve quantities, and projecting future production rates and timing of future development costs. In addition, reserve estimates of new discoveries are more imprecise than those of properties with a production history. Accordingly, these estimates are subject to change as additional information becomes available. All reserves are located in the United States.

Proved reserves are the estimated quantities of crude oil, condensate, and natural gas that geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known oil and gas reservoirs under existing economic and operating conditions at the end of the respective years. Proved developed reserves are those reserves expected to be recovered through existing wells with existing equipment and operating methods. The Company estimates proved reserves using average pricing for the previous 12 months.

Proved undeveloped reserves include drilling locations that are more than one offset location away from productive wells and are reasonably certain of containing proved reserves and which are scheduled to be drilled within five years under the Company's development plans. The Company's development plans for drilling scheduled over the next five years are subject to many uncertainties and



**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(16) Supplemental Information on Oil and Gas Producing Activities (Unaudited) (Continued)**

variables, including availability of capital; future oil and gas prices; and cash flows from operations, future drilling costs, demand for natural gas, and other economic factors.

	Natural gas (Bcf)	NGLS (MMBbl)	Oil and condensate (MMBbl)	Equivalents (Bcfe)
<b>Proved developed and undeveloped reserves:</b>				
December 31, 2009	1,130	—	1	1,141
Revisions	38	35	1	253
Extensions, discoveries and other additions	1,248	69	8	1,712
Production	(45)	—	—(a)	(47)
Purchase of reserves	172	—	—	172
December 31, 2010	<u>2,543</u>	<u>104</u>	<u>10</u>	<u>3,231</u>

	Natural gas (Bcf)	NGLS (MMBbl)	Oil and condensate (MMBbl)	Equivalents (Bcfe)
Revisions	(223)	(28)	7	(352)
Extensions, discoveries and other additions	1,644	87	—(a)	2,162
Production	(84)	(1)	—(a)	(89)
Purchase of reserves	52	2	—	66
Sale of reserves in place	(1)	—	—	(1)
December 31, 2011	<u>3,931</u>	<u>164</u>	<u>17</u>	<u>5,017</u>
Revisions	198	4	—(a)	222
Extensions, discoveries and other additions	1,242	115	3	1,951
Production	(87)	—(a)	—(a)	(87)
Sale of reserves in place	(1,590)	(80)	(17)	(2,174)
December 31, 2012	<u>3,694</u>	<u>203</u>	<u>3</u>	<u>4,929</u>

	Natural gas (Bcf)	NGLS (MMBbl)	Oil and condensate (MMBbl)	Equivalents (Bcfe)
<b>Proved developed reserves:</b>				
December 31, 2010	400	9	1	457
December 31, 2011	718	19	2	844
December 31, 2012	828	36	1	1,047
<b>Proved undeveloped reserves:</b>				
December 31, 2010	2,143	95	10	2,774
December 31, 2011	3,213	145	15	4,173
December 31, 2012	2,866	167	2	3,882

(a) Less than 1.0

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(16) Supplemental Information on Oil and Gas Producing Activities (Unaudited) (Continued)**

Significant items included in the categories of proved developed and undeveloped reserve changes for the years 2010, 2011, and 2012 in the above table include the following:

- 2010—Of the 1,712 Bcfe of extensions and discoveries in 2010, 249 Bcfe related to the Arkoma Basin in Oklahoma, 1,130 Bcfe related to the Piceance Basin in Colorado, 301 Bcfe related to the Appalachian Basin in Pennsylvania and West Virginia, and 32 Bcfe related to other areas. The increase in extensions and discoveries is the result of increased activity in the Appalachian Basin and the future realization of the value of our NGLs in the Piceance Basin because of a processing agreement that became effective on January 1, 2011.
- 2011—Of the 2,162 Bcfe of extensions and discoveries in 2011, 93 Bcfe related to the Arkoma Basin in Oklahoma, 61 Bcfe related to the Piceance Basin in Colorado, 1,995 Bcfe related to the Appalachian Basin in Pennsylvania and West Virginia, and 12 Bcfe related to other areas. Extensions and discoveries are primarily the result of increased development activity in the Appalachian Basin and the future realization of the value of our Appalachian NGLs as a result of the execution of a long-term processing agreement expected to occur in the third quarter of 2012 when the processing plant is completed.
- 2012—Extensions, discoveries, and other additions during 2012 of 1,951 Bcfe were added through the drillbit in the Marcellus and Utica Shales, including the addition of 709 Bcfe attributable to NGLs and oil. Downward price revisions resulted in a reduction of proved reserves of 102 Bcfe. Performance revisions increased proved reserves by 324 Bcfe. Sales of proved reserves of 2,174 Bcfe are the result of the sale of our Arkoma and Piceance Basin properties.

The following table sets forth the standardized measure of the discounted future net cash flows attributable to our proved reserves. Future cash inflows were computed by applying historical 12-month unweighted first day of the month average prices. Future prices actually received may materially differ from current prices or the prices used in the standardized measure.

Future production and development costs represent the estimated future expenditures (based on current costs) to be incurred in developing and producing the proved reserves, assuming continuation of existing economic conditions. Future income tax expenses were computed by applying statutory income tax rates to the difference between pretax net cash flows relating to our proved reserves and the tax basis of proved oil and gas properties. In addition, the effects of statutory depletion in excess of tax basis, available net operating loss carryforwards, and alternative minimum tax credits were used in

**ANTERO RESOURCES LLC AND SUBSIDIARIES**

Notes to Consolidated Financial Statements (Continued)

December 31, 2010, 2011, and 2012

**(16) Supplemental Information on Oil and Gas Producing Activities (Unaudited) (Continued)**

computing future income tax expense. The resulting annual net cash inflows were then discounted using a 10% annual rate.

	Year ended December 31		
	2010	2011	2012
	(In millions)		
Future cash inflows	\$ 13,114	20,046	12,151
Future production costs	(3,088)	(3,491)	(1,660)
Future development costs	(4,036)	(5,085)	(3,270)
Future net cash flows before income tax	5,990	11,470	7,221
Future income tax expense	(1,438)	(3,287)	(1,603)
Future net cash flows	4,552	8,183	5,618
10% annual discount for estimated timing of cash flows	(3,455)	(5,713)	(4,017)
Standardized measure of discounted future net cash flows	<u>\$ 1,097</u>	<u>2,470</u>	<u>1,601</u>

The 12-month weighted average prices used to estimate the Company's total equivalent reserves were as follows:

	Arkoma	Piceance	Appalachia
	(Per Mcfe)		
December 31, 2010	\$ 4.18	3.93	4.51
December 31, 2011	3.90	3.84	4.16
December 31, 2012	NA	NA	2.78

**(e) Changes in Standardized Measure of Discounted Future Net Cash Flow**

	Year ended December 31		
	2010	2011	2012
	(In millions)		
Sales of oil and gas, net of productions costs	\$ (126)	(255)	(147)
Net changes in prices and production costs	382	215	(1,631)
Development costs incurred during the period	81	247	296
Net changes in future development costs	(61)	(106)	(92)
Extensions, discoveries and other additions	695	1,684	813
Acquisitions	92	51	—
Divestitures	—	—	(1,277)
Revisions of previous quantity estimates	113	(182)	88
Accretion of discount	29	147	322
Net change in income taxes	(359)	(605)	653
Other changes	16	177	106
Net increase (decrease)	862	1,373	(869)
Beginning of year	235	1,097	2,470
End of year	<u>\$ 1,097</u>	<u>2,470</u>	<u>1,601</u>

