

Memorial Resource Development Corp.
Form SC 13D
June 27, 2014

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 13D

Under the Securities Exchange Act of 1934

Memorial Resource Development Corp.

(Name of Issuer)

Common stock, par value \$0.01 per share

(Title of Class of Securities)

58605Q 109

(CUSIP Number)

Kyle N. Roane

Memorial Resource Development Corp.

1301 McKinney, Suite 2100

Houston, Texas 77010

(713) 588-8300

(Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)

June 18, 2014

(Date of Event which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§ 240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box. "

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. *See* § 240.13d-7(b) for other parties to whom copies are to be sent.

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be filed for the purpose of Section 18 of the Securities Exchange Act of 1934 (Act) or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, *see* the Notes).

CUSIP Number 58605Q 109

1 Names of Reporting Persons

MRD Holdco LLC

2 Check the Appropriate Box if a Member of a Group (*See Instructions*)

(a) (b)

3 SEC Use Only

4 Source of Funds (*See Instructions*)

AF/OO(1)

5 Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)

6 Citizenship or Place of Organization

Delaware

7 Sole Voting Power:

Number of

Shares

100,945,677

Beneficially

8 Shared Voting Power:

Owned by

Each

42,334,323(2)

9 Sole Dispositive Power:

Reporting

Person

100,945,677

With

10 Shared Dispositive Power:

0

11 Aggregate Amount Beneficially Owned by Each Reporting Person

143,280,000

12 Check if the Aggregate Amount in Row (11) Excludes Certain Shares (*See Instructions*) "

13 Percent of Class Represented by Amount in Row (11)

74% (3)

14 Type of Reporting Person (*See Instructions*)

OO (Limited Liability Company)

- (1) See Item 3 for additional information.
- (2) As further described in Item 3, the Reporting Persons (as defined below) may be deemed to beneficially own the shares of Common Stock (as defined below) of the Issuer beneficially owned by the Other Persons (as defined below) pursuant to the Voting Agreement (as defined below).
- (3) See Item 5 for additional information.

CUSIP Number 58605Q 109

1 Names of Reporting Persons

Natural Gas Partners VIII, L.P.

2 Check the Appropriate Box if a Member of a Group (*See Instructions*)

(a) (b)

3 SEC Use Only

4 Source of Funds (*See Instructions*)

OO

5 Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)

6 Citizenship or Place of Organization

Delaware

7 Sole Voting Power:

Number of

Shares

0

Beneficially 8 Shared Voting Power:

Owned by

Each

143,280,000 (1)(2)

9 Sole Dispositive Power:

Reporting

Person

0

With

10 Shared Dispositive Power:

100,945,677(1)(2)

11 Aggregate Amount Beneficially Owned by Each Reporting Person

143,280,000 (1)(2)

12 Check if the Aggregate Amount in Row (11) Excludes Certain Shares (*See Instructions*) "

13 Percent of Class Represented by Amount in Row (11)

74% (1)(2)(3)

14 Type of Reporting Person (*See Instructions*)

PN

- (1) MRD Holdco LLC (MRD Holdco) is owned by Natural Gas Partners VIII, L.P. (NGP VIII), Natural Gas Partners IX, L.P. (NGP IX) and NGP IX Offshore Holdings, L.P. (NGP IX Offshore). NGP VIII owns an approximate 50.3% membership interest in MRD Holdco and, together with NGP IX and NGP IX Offshore, appoints all of the managers to the board of managers of MRD Holdco. NGP VIII may be deemed to share voting and dispositive power over the reported securities of MRD Holdco; thus, NGP VIII may also be deemed to be the beneficial owner of the reported securities of MRD Holdco. NGP VIII disclaims beneficial ownership of the reported securities of MRD Holdco in excess of its pecuniary interest in the securities.
- (2) As further described in Item 3, the Reporting Persons (as defined below) may be deemed to beneficially own the shares of Common Stock (as defined below) of the Issuer beneficially owned by the Other Persons (as defined below) pursuant to the Voting Agreement (as defined below).
- (3) See Item 5 for additional information.

CUSIP Number 58605Q 109

1 Names of Reporting Persons

Natural Gas Partners IX, L.P.

2 Check the Appropriate Box if a Member of a Group (*See Instructions*)

(a) (b)

3 SEC Use Only

4 Source of Funds (*See Instructions*)

OO

5 Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)

6 Citizenship or Place of Organization

Delaware

7 Sole Voting Power:

Number of

Shares

0

Beneficially

8 Shared Voting Power:

Owned by

Each

143,280,000 (1)(2)

9 Sole Dispositive Power:

Reporting

Person

0

With

10 Shared Dispositive Power:

100,945,677(1)(2)

11 Aggregate Amount Beneficially Owned by Each Reporting Person

143,280,000 (1)(2)

12 Check if the Aggregate Amount in Row (11) Excludes Certain Shares (*See Instructions*) "

13 Percent of Class Represented by Amount in Row (11)

74% (1)(2)(3)

14 Type of Reporting Person (*See Instructions*)

PN

- (1) MRD Holdco is owned by NGP VIII, NGP IX and NGP IX Offshore. NGP IX owns an approximate 47.2% membership interest in MRD Holdco and, together with NGP IX and NGP IX Offshore, appoints all of the managers to the board of managers of MRD Holdco. NGP IX may be deemed to share voting and dispositive power over the reported securities of MRD Holdco; thus, NGP IX may also be deemed to be the beneficial owner of the reported securities of MRD Holdco. NGP IX disclaims beneficial ownership of the reported securities of MRD Holdco in excess of its pecuniary interest in the securities.
- (2) As further described in Item 3, the Reporting Persons (as defined below) may be deemed to beneficially own the shares of Common Stock (as defined below) of the Issuer beneficially owned by the Other Persons (as defined below) pursuant to the Voting Agreement (as defined below).
- (3) See Item 5 for additional information.

CUSIP Number 58605Q 109

1 Names of Reporting Persons

NGP IX Offshore Holdings, L.P.

2 Check the Appropriate Box if a Member of a Group (*See Instructions*)

(a) (b)

3 SEC Use Only

4 Source of Funds (*See Instructions*)

OO

5 Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)

6 Citizenship or Place of Organization

Delaware

7 Sole Voting Power:

Number of

Shares

0

Beneficially

8 Shared Voting Power:

Owned by

Each

143,280,000 (1)(2)

9 Sole Dispositive Power:

Reporting

Person

0

With

10 Shared Dispositive Power:

100,945,677 (1)(2)

11 Aggregate Amount Beneficially Owned by Each Reporting Person

143,280,000 (1)(2)

12 Check if the Aggregate Amount in Row (11) Excludes Certain Shares (*See Instructions*) "

13 Percent of Class Represented by Amount in Row (11)

74% (1)(2)(3)

14 Type of Reporting Person (*See Instructions*)

PN

- (1) MRD Holdco is owned by NGP VIII, NGP IX and NGP IX Offshore. NGP IX Offshore owns an approximate 2.4% membership interest in MRD Holdco and, together with NGP VIII and NGP IX, appoints all of the managers to the board of managers of MRD Holdco. NGP IX Offshore may be deemed to share voting and dispositive power over the reported securities of MRD Holdco; thus, NGP IX Offshore may also be deemed to be the beneficial owner of the reported securities of MRD Holdco. NGP IX Offshore disclaims beneficial ownership of the reported securities of MRD Holdco in excess of its pecuniary interest in the securities.
- (2) As further described in Item 3, the Reporting Persons (as defined below) may be deemed to beneficially own the shares of Common Stock (as defined below) of the Issuer beneficially owned by the Other Persons (as defined below) pursuant to the Voting Agreement (as defined below).
- (3) See Item 5 for additional information.

CUSIP Number 58605Q 109

1 Names of Reporting Persons

GFW VIII, L.L.C.

2 Check the Appropriate Box if a Member of a Group (*See Instructions*)

(a) (b)

3 SEC Use Only

4 Source of Funds (*See Instructions*)

OO

5 Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)

6 Citizenship or Place of Organization

Delaware

7 Sole Voting Power:

Number of

Shares

0

Beneficially

8 Shared Voting Power:

Owned by

Each

143,280,000 (1)(2)

9 Sole Dispositive Power:

Reporting

Person

0

With

10 Shared Dispositive Power:

100,945,677 (1)(2)

11 Aggregate Amount Beneficially Owned by Each Reporting Person

143,280,000 (1)(2)

12 Check if the Aggregate Amount in Row (11) Excludes Certain Shares (*See Instructions*) "

13 Percent of Class Represented by Amount in Row (11)

74% (1)(2)(3)

14 Type of Reporting Person (*See Instructions*)

OO (Limited Liability Company)

- (1) MRD Holdco is owned by NGP VIII, NGP IX and NGP IX Offshore. NGP VIII, NGP IX and NGP IX Offshore collectively own an 100% membership interest in MRD Holdco and collectively appoint all of the managers to the board of managers of MRD Holdco. GFW VIII, L.L.C. (GFW VIII) is the sole general partner of G.F.W. Energy VIII, L.P. (GFW Energy VIII), which is the general partner of NGP VIII. Accordingly, GFW VIII may be deemed to share voting and dispositive power over the reported securities, and as a result may also be deemed to be the beneficial owner of these securities. GFW VIII disclaims beneficial ownership of the reported securities in excess of such entity's pecuniary interest in the securities.
- (2) As further described in Item 3, the Reporting Persons (as defined below) may be deemed to beneficially own the shares of Common Stock (as defined below) of the Issuer beneficially owned by the Other Persons (as defined below) pursuant to the Voting Agreement (as defined below).
- (3) See Item 5 for additional information.

CUSIP Number 58605Q 109

1 Names of Reporting Persons

G.F.W. Energy VIII, L.P.

2 Check the Appropriate Box if a Member of a Group (*See Instructions*)

(a) (b)

3 SEC Use Only

4 Source of Funds (*See Instructions*)

OO

5 Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)

6 Citizenship or Place of Organization

Delaware

7 Sole Voting Power:

Number of

Shares

0

Beneficially

8 Shared Voting Power:

Owned by

Each

143,280,000 (1)(2)

9 Sole Dispositive Power:

Reporting

Person

0

With

10 Shared Dispositive Power:

100,945,677(1)(2)

11 Aggregate Amount Beneficially Owned by Each Reporting Person

143,280,000 (1)(2)

12 Check if the Aggregate Amount in Row (11) Excludes Certain Shares (*See Instructions*) "

13 Percent of Class Represented by Amount in Row (11)

74% (1)(2)(3)

14 Type of Reporting Person (*See Instructions*)

PN

- (1) MRD Holdco is owned by NGP VIII, NGP IX and NGP IX Offshore. NGP VIII, NGP IX and NGP IX Offshore collectively own an 100% membership interest in MRD Holdco and collectively appoint all of the managers to the board of managers of MRD Holdco. GFW Energy VIII is the general partner of NGP VIII. Accordingly, GFW Energy VIII may be deemed to share voting and dispositive power over the reported securities, and as a result may also be deemed to be the beneficial owner of these securities. GFW Energy VIII disclaims beneficial ownership of the reported securities in excess of such entity's pecuniary interest in the securities.
- (2) As further described in Item 3, the Reporting Persons (as defined below) may be deemed to beneficially own the shares of Common Stock (as defined below) of the Issuer beneficially owned by the Other Persons (as defined below) pursuant to the Voting Agreement (as defined below).
- (3) See Item 5 for additional information.

CUSIP Number 58605Q 109

1 Names of Reporting Persons

GFW IX, L.L.C.

2 Check the Appropriate Box if a Member of a Group (*See Instructions*)

(a) (b)

3 SEC Use Only

4 Source of Funds (*See Instructions*)

OO

5 Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)

6 Citizenship or Place of Organization

Delaware

7 Sole Voting Power:

Number of

Shares

0

Beneficially 8 Shared Voting Power:

Owned by

Each

143,280,000 (1)(2)

9 Sole Dispositive Power:

Reporting

Person

0

With

10 Shared Dispositive Power:

100,945,677(1)(2)

11 Aggregate Amount Beneficially Owned by Each Reporting Person

143,280,000 (1)(2)

12 Check if the Aggregate Amount in Row (11) Excludes Certain Shares (*See Instructions*) "

13 Percent of Class Represented by Amount in Row (11)

74% (1)(2)(3)

14 Type of Reporting Person (*See Instructions*)

OO (Limited Liability Company)

- (1) MRD Holdco is owned by NGP VIII, NGP IX and NGP IX Offshore. NGP VIII, NGP IX and NGP IX Offshore collectively own an 100% membership interest in MRD Holdco and collectively appoint all of the managers to the board of managers of MRD Holdco. GFW IX, L.L.C. (GFW IX) is the sole general partner of G.F.W. Energy IX, L.P. (GFW Energy IX), which is the general partner of NGP IX and NGP IX Offshore. Accordingly, GFW IX may be deemed to share voting and dispositive power over the reported securities, and as a result may also be deemed to be the beneficial owner of these securities. GFW IX disclaims beneficial ownership of the reported securities in excess of such entity's pecuniary interest in the securities.
- (2) As further described in Item 3, the Reporting Persons (as defined below) may be deemed to beneficially own the shares of Common Stock (as defined below) of the Issuer beneficially owned by the Other Persons (as defined below) pursuant to the Voting Agreement (as defined below).
- (3) See Item 5 for additional information.

CUSIP Number 58605Q 109

1 Names of Reporting Persons

G.F.W. Energy IX, L.P.

2 Check the Appropriate Box if a Member of a Group (*See Instructions*)

(a) (b)

3 SEC Use Only

4 Source of Funds (*See Instructions*)

OO

5 Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)

6 Citizenship or Place of Organization

Delaware

7 Sole Voting Power:

Number of

Shares

0

Beneficially

8 Shared Voting Power:

Owned by

Each

143,280,000 (1)(2)

9 Sole Dispositive Power:

Reporting

Person

0

With

10 Shared Dispositive Power:

100,945,677(1)(2)

11 Aggregate Amount Beneficially Owned by Each Reporting Person

143,280,000 (1)(2)

12 Check if the Aggregate Amount in Row (11) Excludes Certain Shares (*See Instructions*) "

13 Percent of Class Represented by Amount in Row (11)

74% (1)(2)(3)

14 Type of Reporting Person (*See Instructions*)

PN

- (1) MRD Holdco is owned by NGP VIII, NGP IX and NGP IX Offshore. NGP VIII, NGP IX and NGP IX Offshore collectively own an 100% membership interest in MRD Holdco and collectively appoint all of the managers to the board of managers of MRD Holdco. GFW Energy IX is the general partner of NGP IX and NGP IX Offshore. Accordingly, GFW Energy IX may be deemed to share voting and dispositive power over the reported securities, and as a result may also be deemed to be the beneficial owner of these securities. GFW Energy IX disclaims beneficial ownership of the reported securities in excess of such entity's pecuniary interest in the securities.
- (2) As further described in Item 3, the Reporting Persons (as defined below) may be deemed to beneficially own the shares of Common Stock (as defined below) of the Issuer beneficially owned by the Other Persons (as defined below) pursuant to the Voting Agreement (as defined below).
- (3) See Item 5 for additional information.

CUSIP Number 58605Q 109

1 Names of Reporting Persons

NGP Energy Capital Management, L.L.C.

2 Check the Appropriate Box if a Member of a Group (*See Instructions*)

(a) (b)

3 SEC Use Only

4 Source of Funds (*See Instructions*)

OO

5 Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)

6 Citizenship or Place of Organization

Texas

7 Sole Voting Power:

Number of

Shares

0

Beneficially

8 Shared Voting Power:

Owned by

Each

143,280,000 (1)(2)

9 Sole Dispositive Power:

Reporting

Person

0

With

10 Shared Dispositive Power:

100,945,677(1)(2)

11 Aggregate Amount Beneficially Owned by Each Reporting Person

143,280,000 (1)(2)

12 Check if the Aggregate Amount in Row (11) Excludes Certain Shares (*See Instructions*) "

13 Percent of Class Represented by Amount in Row (11)

74% (1)(2)(3)

14 Type of Reporting Person (*See Instructions*)

OO (Limited Liability Company)

- (1) MRD Holdco is owned by NGP VIII, NGP IX and NGP IX Offshore. NGP VIII, NGP IX and NGP IX Offshore collectively own an 100% membership interest in MRD Holdco and collectively appoint all of the managers to the board of managers of MRD Holdco. GFW VIII has delegated full power and authority to manage NGP VIII, and GFW IX has delegated full power and authority to manage NGP IX and NGP IX Offshore, respectively, to NGP Energy Capital Management, L.L.C. (NGP ECM) and accordingly, NGP ECM may be deemed to share voting and dispositive power over these securities, and as result may be deemed to beneficially own these reported securities. NGP ECM disclaims beneficial ownership of the reported securities in excess of such entity's pecuniary interest in the securities.
- (2) As further described in Item 3, the Reporting Persons (as defined below) may be deemed to beneficially own the shares of Common Stock (as defined below) of the Issuer beneficially owned by the Other Persons (as defined below) pursuant to the Voting Agreement (as defined below).
- (3) See Item 5 for additional information.

(1) Item 1. Security and Issuer.

This Schedule 13D relates to shares of common stock, par value \$0.01 (Common Stock), of Memorial Resource Development Corp., a Delaware corporation (the Issuer). The principal executive offices of the Issuer are located at 1301 McKinney, Suite 2100, Houston, Texas 77010.

Item 2. Identity and Background.

(a) This Schedule 13D is filed jointly by each of the following persons:

- i. MRD Holdco LLC, a Delaware limited liability company (MRD Holdco);
- ii. Natural Gas Partners VIII, L.P., a Delaware limited partnership (NGP VIII);
- iii. Natural Gas Partners IX, L.P., a Delaware limited partnership (NGP IX);
- iv. NGP IX Offshore Holdings, L.P., a Delaware limited partnership (NGP IX Offshore);
- v. GFW VIII, L.L.C., a Delaware limited liability company (GFW VIII);
- vi. G.F.W. Energy VIII, L.P., a Delaware limited partnership (GFW Energy VIII);
- vii. G.F.W. Energy IX, L.P., a Delaware limited partnership (GFW Energy IX);
- viii. GFW IX, L.L.C., a Delaware limited liability company (GFW IX); and

ix. NGP Energy Capital Management, L.L.C., a Texas limited liability company (NGP ECM). MRD Holdco, NGP VIII, NGP IX, NGP IX Offshore, GFW VIII, GFW Energy VIII, GFW Energy IX, GFW IX and NGP ECM are collectively referred to as the Reporting Persons. The Reporting Persons have entered into a Joint Filing Agreement, dated the date hereof, a copy of which is filed with this Schedule 13D as Exhibit A (which is hereby incorporated by reference) pursuant to which the Reporting Persons have agreed to file this statement jointly in accordance with the provisions of Rule 13d-1(k)(1) under the Securities and Exchange Act of 1934, as amended (the Act). Information with respect to each Reporting Person is given solely by such Reporting Person, and no Reporting Person assumes responsibility for the accuracy or completeness of the information furnished by any other Reporting Person.

Certain information required by this Item 2 concerning the executive officers, directors and managers of the Reporting Persons is set forth on Schedule I, attached hereto, which is incorporated herein by reference.

(b) The address of the principal business office of each of the Reporting Persons is as follows:

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MRD Holdco

1301 McKinney, Suite 2100, Houston, Texas 77010

NGP VIII, NGP IX, NGP IX Offshore,
GFW

VIII, GFW Energy VIII, GFW Energy
IX, GFW IX and NGP ECM

5221 N. O Connor Blvd., Suite 1100, Irving, Texas 75039

(c)

- i. Holdco's primary business activity is to hold equity interests in the Issuer and to manage the business and affairs of the Issuer.
- ii. NGP VIII, NGP IX and NGP IX Offshore (together, the *Funds*) are funds managed by NGP ECM whose primary business activity is investing in various companies, such as Holdco.
- iii. GFW Energy VIII's primary business activity is to hold general partner interests in NGP VIII.
- iv. GFW VIII's primary business activity is to hold general partner interests in GFW Energy VIII.
- v. GFW Energy IX's primary business activity is to hold general partner interests in NGP IX and NGP IX Offshore.
- vi. GFW IX's primary business activity is to hold general partner interests in GFW Energy IX.
- vii. NGP ECM's primary business activity is to manage various private investment firms, including NGP VIII, NGP IX and NGP IX Offshore.

(d) (e) None of the Reporting Persons nor, to the best of any Reporting Person's knowledge, their respective executive officers, managers or directors (the *Listed Persons*) listed on Schedule I hereto has, during the last five years, been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors) or been party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceedings was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

Item 3. Source and Amount of Funds or Other Consideration

In connection with the consummation of the Issuer's initial public offering (the *Offering*) of 49,220,000 shares of Common Stock on June 18, 2014, MRD Holdco entered into a Voting Agreement (the *Voting Agreement*) with the Issuer, WHR Incentive LLC (*WHR Incentive*) and certain former management members (the *WHR Stockholders*) of WildHorse Resources, LLC (*WHR*). Pursuant to the Voting Agreement, WHR Incentive and the WHR Stockholders agreed to vote all of their shares of Common Stock as directed by MRD Holdco. The Voting Agreement also provides MRD Holdco with the right to designate up to three nominees to the Issuer's board of directors, subject to the limitations and conditions set forth therein, including the ownership of a specified percentage of the outstanding shares of Common Stock. The Voting Agreement requires the stockholders party thereto to take all necessary actions, including voting their shares of Common Stock, to cause the election of the nominees designated by MRD Holdco. As a result, the parties thereto may be deemed to be members of a group for the purposes of Section 13(d)(3) of the Exchange Act (the *Group*) and MRD Holdco may be deemed to beneficially own the 42,334,323 shares of Common Stock of the Issuer collectively beneficially owned by WHR Incentive and the WHR Stockholders (together, the *Other Persons*).

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In connection with the consummation of the Offering, the Issuer consummated the following agreements and transactions, among others:

a Contribution Agreement (the MRD LLC Contribution Agreement) by and among Memorial Resource Development LLC, a Delaware limited liability company (MRD LLC), MRD Holdco, and the Issuer pursuant to which MRD LLC contributed a 100% membership interest in Black Diamond Minerals, LLC, a Delaware limited liability company, a 100% membership interest in Classic Hydrocarbons GP Co., L.L.C., a Texas limited liability company, a 99.5866% limited partner interest in Classic Hydrocarbons Holdings, L.P., a Texas limited partnership, a 99.886% membership interest in WHR, a 100% membership interest in MRD Operating, 100 shares (100% of the outstanding) of Memorial Resource Finance Corp., a Delaware corporation, a 100% membership interest in Memorial Production Partners GP LLC, a Delaware limited liability company, and a 100% membership interest in Beta Operating Company, LLC, a Delaware limited liability company, to the Issuer in exchange for 128,665,677 shares of the Company s common stock and contemporaneous with such exchange, MRD LLC distributed all of such shares to MRD Holdco; and

a Contribution Agreement (the WHR Contribution Agreement and, together with the MRD LLC Contribution Agreement, the Contribution Agreements) by and among the Issuer and the WHR Stockholders pursuant to which the WHR Stockholders contributed all of their right, title and interest to and in certain membership interests in WHR to the Issuer in exchange for 42,334,323 shares and \$30,000,000 in cash.

In connection with the consummation of the Offering, MRD Holdco entered into a Registration Rights Agreement (the Registration Rights Agreement) with the Issuer, Jay Graham and Anthony Bahr (and including their permitted transferees, the Holders).

Pursuant to the Registration Rights Agreement, at any time after 180 days after the closing of the Offering, subject to the limitations set forth therein, certain of the Holders have the right to require the Issuer by written notice to prepare and file a registration statement registering the offer and sale of a number of their shares. Generally, within five business days following the receipt of such request, the Issuer is required to provide notice of the request to all other Holders, who may participate in the registration. The Issuer is required to use all commercially reasonable efforts to maintain the effectiveness of any such registration statement until all shares covered by such registration statement have been sold. Subject to certain exceptions, the Issuer is not obligated to effect such a registration within 90 days after the closing of any underwritten offering of shares. The Issuer is also not obligated to effect any registration in which the anticipated aggregate offering price included in such offering is less than \$50 million.

In addition, pursuant to the Registration Rights Agreement, certain of the Holders have the right to require the Issuer, subject to certain limitations set forth therein, to effect a distribution of any or all of their shares by means of an underwritten offering. Further, subject to certain exceptions, if at any time the Issuer proposes to register an offering of common stock or conduct an underwritten offering, whether or not for its account, then the Issuer must notify the Holders of such proposal at least five business days before the anticipated filing date or commencement of the underwritten offering, as applicable, to allow them to include a specified number of their shares in that registration statement or underwritten offering, as applicable.

These registration rights are subject to certain conditions and limitations, including the right of the underwriters to limit the number of shares to be included in a registration or offering and the Issuer's right to delay or withdraw a registration statement under certain circumstances. The Issuer will generally pay all registration expenses in connection with its obligations under the Registration Rights Agreement, regardless of whether a registration statement is filed or becomes effective.

The obligations to register shares under the Registration Rights Agreement will terminate when no registrable securities remain outstanding. Registrable securities under the Registration Rights Agreement means all shares that were owned by the Holders as of June 18, 2014 other than shares (i) sold pursuant to an effective registration statement under the Securities Act of 1933, as amended (the Securities Act), (ii) sold in a transaction pursuant to Rule 144 under the Securities Act, or (iii) that have ceased to be outstanding.

The descriptions of the Voting Agreement, the Contribution Agreements and the Registration Rights Agreement set forth in this Item 3 do not purport to be complete and are qualified in their entirety by reference to the full text of the Voting Agreement, the MRD LLC Contribution Agreement, the WHR Contribution Agreement and the Registration Rights Agreement, which have been filed as Exhibit B, Exhibit C, Exhibit D and Exhibit E, respectively, and are incorporated herein by reference.

Item 4. Purpose of Transaction.

The information set forth in or incorporated by reference in Item 2, Item 3 and Item 5 of this Schedule 13D is incorporated by reference in its entirety into this Item 4.

The Reporting Persons acquired the shares of Common Stock reported herein solely for investment purposes. The Reporting Persons may make additional purchases of shares of Common Stock either in the open market or in private transactions depending on the Reporting Person's business, prospects and financial condition, the market for the shares of Common Stock, general economic conditions, stock market conditions and other future developments.

The following describes plans or proposals that the Reporting Persons may have with respect to the matters set forth in Item 4(a)-(j) of Schedule 13D:

- (a) The Issuer may grant incentive stock options, stock options, stock appreciation rights, restricted stock, restricted stock units, bonus stock, performance awards, incentive awards, and other cash or stock-based awards to employees and directors of the Issuer and its affiliates pursuant to a long term incentive plan adopted by the Issuer. The Issuer may acquire shares of Common Stock to issue pursuant to such long term incentive plan on the open market, directly from the Issuer from other reporting persons, or otherwise.
- (b) None.
- (c) None.
- (d) None.
- (e) MRD Holdco may cause the Issuer to change its dividend policy or its capitalization, through the issuance of debt or equity securities, from time to time in the future.
- (f) None.
- (g) None.
- (h) None.
- (i) None.
- (j) Except as described in this Item 4, the Reporting Persons do not have, as of the date of this Schedule 13D, any plans or proposals that relate to or would result in any of the actions or events specified in clauses (a) through (i) of Item 4 of Schedule 13D. The Reporting Persons may change their plans or proposals in the future. In determining from time to time whether to sell the shares of Common Stock reported as beneficially owned in this Schedule 13D (and in what amounts) or to retain such securities, the Reporting Persons will take into consideration such factors as they deem relevant, including the business and prospects of the Issuer, anticipated future developments concerning the Issuer, existing and anticipated market conditions from time to time, general economic conditions, regulatory matters, and other opportunities available to the Reporting Persons. The Reporting Persons reserve the right to acquire additional securities of the Issuer in the open market, in privately negotiated transactions (which may be with the Issuer or with third parties) or otherwise, to dispose of all or a portion of their holdings of securities of the Issuer or to change their intention with respect to any or all of the matters

referred to in this Item 4.

Item 5. Interest in Securities of the Issuer.

The information contained in rows 7, 8, 9, 10, 11 and 13 on the cover page of this Schedule 13D and the information set forth or incorporated by reference in Items 2, 3, 4 and 6 are hereby incorporated by reference.

(a) - (b) The aggregate number and percentage of shares of Common Stock beneficially owned by the Reporting Persons (on the basis of a total of 192,500,000 shares of Common Stock issued and outstanding as of the closing of the Offering) are as follows:

(i) MRD Holdco is the sole record owner of, and has the sole power to vote and dispose of 100,945,677 (52.1%) shares of Common Stock (the Direct Shares). Pursuant to Rule 13d-3 of the Act and as a result of the Voting Agreement, MRD Holdco may also be deemed to beneficially own 42,334,323 (21.9%) shares of Common Stock (the Indirect Shares) owned by the Other Persons. MRD Holdco may be deemed to have shared voting power over the Indirect Shares. In total, MRD Holdco may be deemed to beneficially own 143,280,000 (74%) shares of Common Stock

(ii) NGP VIII, NGP IX, NGP IX Offshore, GFW VIII, GFW Energy VIII, GFW Energy IX, GFW IX and NGP ECM do not directly own any shares of Common Stock. NGP VIII, NGP IX and NGP IX Offshore own an approximate 50.3%, 47.2% and 2.4% interest, respectively, in MRD Holdco. By virtue of owning MRD Holdco, each of NGP VIII, NGP IX and NGP IX Offshore may be deemed to (i) beneficially own those shares beneficially owned by MRD Holdco, representing 143,280,000 (74%) shares of Common Stock, (ii) possess shared voting and dispositive powers with respect to the Direct Shares, and (iii) possess shared voting powers with respect to the Indirect Shares. By virtue of their respective control over NGP VIII, NGP IX and NGP IX Offshore, GFW VIII, GFW Energy VIII, GFW Energy IX, GFW IX and NGP ECM may be deemed to beneficially own those shares beneficially owned by MRD Holdco, representing 143,280,000 (74%) shares of Common Stock.

The Reporting Persons disclaim beneficial ownership of the reported securities except to the extent of their pecuniary interests therein, and this report shall not be deemed an admission that the reporting persons are the beneficial owner of the reported securities for purposes of Section 16 or for any other purpose.

Together, the Other Persons beneficially own 42,334,323 (21.9%) shares of Common Stock. Each such Other Person has the sole power to vote and dispose of the shares of Common Stock for which it is the record owner.

(c) There have been no reportable transactions with respect to the shares of Common Stock within the last 60 days by the Reporting Persons or, to the Reporting Persons' knowledge, the Other Persons, except for the acquisition of beneficial ownership of the shares of Common Stock being reported on this Schedule 13D.

(d) The Reporting Persons have the right to receive distributions from, and the proceeds from the sale of, the respective shares of Common Stock reported by such persons on the cover pages of this Schedule 13D and in this Item 5. See Schedule A for the information applicable to the Listed Persons. Except for the foregoing, no other person is known by the Reporting Persons to have the right to receive or the power to direct the receipt of distributions from, or the proceeds from the sale of, shares of Common Stock beneficially owned by the Reporting Persons or, to the Reporting Persons' knowledge, the Listed Persons.

(e) Not applicable.

Item 6. Contracts, Arrangements, Understandings or Relationships With Respect to Securities of the Issuer.

The information set forth or incorporated in Item 3 is hereby incorporated herein by reference.

MRD Holdco, the Other Persons and the Issuer's directors and executive officers have entered into lock-up agreements (the Lock-Up Agreements) with respect to their shares of Common Stock, pursuant to which they are subject to certain resale restrictions for a period of 180 days following June 12, 2014, the date of this prospectus relating to the Offering.

The description of the Lock-Up Agreements set forth in this Item 6 does not purport to be complete and is qualified in its entirety by reference to the full text of the form of Lock-Up Agreement, which has been filed as Exhibit E, and is incorporated herein by reference.

To the Reporting Persons' knowledge, there are no other contracts, arrangements, understandings or relationships (legal or otherwise) among the persons named in Item 2 and between such persons and any person with respect to any securities of the Issuer.

Item 7. Material to be filed as Exhibits.

- Exhibit A Joint Filing Agreement among the Reporting Persons, dated June 27, 2014 (filed herewith)
- Exhibit B Voting Agreement among Memorial Resource Development Corp., MRD Holdco LLC and certain former management members of WildHorse Resources, LLC (attached as Exhibit 10.2 to the Issuer's Current Report on Form 8-K (File No. 001-36490) filed with the Commission on June 24, 2014 and incorporated herein in its entirety by reference)
- Exhibit C Contribution Agreement by and among Memorial Resource Development Corp., Memorial Resource Development LLC and MRD Holdco LLC (attached as Exhibit 10.5 to the Issuer's Current Report on Form 8-K (File No. 001-36490) filed with the Commission on June 24, 2014 and incorporated herein in its entirety by reference)
- Exhibit D Contribution Agreement by and among Memorial Resource Development Corp. and the former management members of WildHorse Resources, LLC (attached as Exhibit 10.6 to the Issuer's Current Report on Form 8-K (File No. 001-36490) filed with the Commission on June 24, 2014 and incorporated herein in its entirety by reference)
- Exhibit E Registration Rights Agreement dated as of June 18, 2014 between Memorial Resource Development Corp. and certain stockholders (attached as Exhibit 10.4 to the Issuer's Current Report on Form 8-K (File No. 001-36490) filed with the Commission on June 24, 2014 and incorporated herein in its entirety by reference)

Exhibit F Form of Lock-Up Agreement (attached as Exhibit A to Exhibit 1.1 to the Issuer's Current Report on Form 8-K (File No. 001-36490) filed with the Commission on June 16, 2014 and incorporated herein in its entirety by reference)

SIGNATURES

After reasonable inquiry and to the best of each of the undersigned's knowledge and belief, each of the undersigned hereby certifies that the information set forth in this statement is true, complete and correct.

Dated: June 27, 2014

MRD HOLDCO LLC

/s/ Kyle N. Roane

Name: Kyle N. Roane

Title: Vice President, General Counsel &
Corporate Secretary

NATURAL GAS PARTNERS VIII, L.P.

By: G.F.W. Energy VIII, L.P., its general
partner

By: GFW VIII, L.L.C., its general partner

/s/ Kenneth A. Hersh

Name: Kenneth A. Hersh

Title: Authorized Member

G.F.W. ENERGY VIII, L.P.

By: GFW VIII, L.L.C., its general partner

/s/ Kenneth A. Hersh

Name: Kenneth A. Hersh

Title: Authorized Member

GFW VIII, L.L.C.

/s/ Kenneth A. Hersh

Name: Kenneth A. Hersh

Title: Authorized Member

NGP IX OFFSHORE HOLDINGS, L.P.

By: G.F.W. Energy IX, L.P., its general partner

By: GFW IX, L.L.C., its general partner

/s/ Kenneth A. Hersh

Name: Kenneth A. Hersh

Title: Authorized Member

NATURAL GAS PARTNERS IX, L.P.

By: G.F.W. Energy IX, L.P., its general partner

By: GFW IX, L.L.C., its general partner

/s/ Kenneth A. Hersh

Name: Kenneth A. Hersh

Title Authorized Member

G.F.W. ENERGY IX, L.P.

By: GFW IX, L.L.C., its general partner

/s/ Kenneth A. Hersh

Name: Kenneth A. Hersh

Title Authorized Member

GFW IX, L.L.C.

/s/ Kenneth A. Hersh

Name: Kenneth A. Hersh

Title Authorized Member

**NGP ENERGY CAPITAL
MANAGEMENT, L.L.C.**

/s/ Kenneth A. Hersh

Name: Kenneth A. Hersh

Title Chief Executive Officer

SCHEDULE I

The name and business address of each of the executive officers, managers and directors of each of the Reporting Persons are set forth below. The present principal occupation or employment of each of the executive officer, managers and directors of each of the Reporting Persons are also set forth below (outside of similar positions held with respect to other entities directly or indirectly managed or advised by the Issuer or MRD Holdco).

MRD Holdco LLC**Present Principal**

| Name | Occupation or Employment | Business Address | Citizenship |
|--------------------|---|-------------------------|--------------------|
| John A. Weinzierl | Chief Executive Officer and Manager | (1) | United States |
| William J. Scarff | President | (1) | United States |
| Andrew J. Cozby | Vice President, Finance | (1) | United States |
| Larry R. Forney | Vice President, Operations | (1) | United States |
| Kyle N. Roane | Vice President, General Counsel and Corporate Secretary | (1) | United States |
| Gregory M. Robbins | Vice President, Corporate Development | (1) | United States |
| Patrick T. Nguyen | Chief Accounting Officer | (1) | United States |
| Jason M. Childress | Assistant Secretary | (1) | United States |
| Kenneth A. Hersh | Manager | (1) | United States |
| Scott A. Gieselman | Manager | (1) | United States |
| Tony R. Weber | Manager | (1) | United States |

Natural Gas Partners VIII, L.P.**Present Principal**

| Name | Occupation or Employment | Business Address | Citizenship |
|-------------|---------------------------------|-------------------------|--------------------|
| N/A | | | |

Natural Gas Partners IX, L.P.**Present Principal**

| Name | Occupation or Employment | Business Address | Citizenship |
|-------------|---------------------------------|-------------------------|--------------------|
| N/A | | | |

NGP IX Offshore Holdings, L.P.**Present Principal**

| Name | Occupation or Employment | Business Address | Citizenship |
|-------------|---------------------------------|-------------------------|--------------------|
| | | | |

N/A

G.F.W. Energy VIII, L.P.

Present Principal

| Name | Occupation or Employment | Business Address | Citizenship |
|-------------|---------------------------------|-------------------------|--------------------|
| N/A | | | |

GFW VIII, L.L.C.

Present Principal

| Name | Occupation or Employment | Business Address | Citizenship |
|-------------|---------------------------------|-------------------------|--------------------|
| N/A | | | |

G.F.W. Energy IX, L.P.

Present Principal

| Name | Occupation or Employment | Business Address | Citizenship |
|-------------|---------------------------------|-------------------------|--------------------|
| N/A | | | |

GFW IX, L.L.C.

Present Principal

| Name | Occupation or Employment | Business Address | Citizenship |
|-------------|---------------------------------|-------------------------|--------------------|
| N/A | | | |

NGP Energy Capital Management, L.L.C.

Present Principal

| Name | Occupation or Employment | Business Address | Citizenship |
|------------------|--|-------------------------|--------------------|
| Kenneth A. Hersh | Chief Executive Officer and Manager | (2) | United States |
| Tony R. Weber | Chief Operating Officer and Manager | (2) | United States |
| Jill W. Lampert | Chief Financial & Administrative Officer | (2) | United States |
| David R. Albin | Manager | (2) | United States |

(1) 1301 McKinney, Suite 2100, Houston, Texas 77010.

(2) 5221 N. O Connor Boulevard, Suite 1100, Irving, Texas 75039.