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SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

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FORM S-8

REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933

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VANGUARD NATURAL RESOURCES, LLC

(Exact name of Registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction  
of incorporation or organization)

**61-1521161**  
(I.R.S. Employer  
Identification Number)

**7700 San Felipe, Suite 485**  
**Houston, Texas 77063**  
(Address of principal executive offices, including zip code)

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**Vanguard Natural Resources, LLC Long-Term Incentive Plan**  
(Full title of the plan)

**Scott W. Smith**  
**Vanguard Natural Resources, LLC**  
**7700 San Felipe, Suite 485**  
**Houston, Texas 77063**  
(Name and address of agent for service)

**(832) 327-2255**  
(Telephone number, including area code, of agent for service)

*Copy to:*

**Douglas E. McWilliams**  
**Vinson & Elkins L.L.P.**  
**First City Tower**  
**1001 Fannin, Suite 2500**  
**Houston, Texas 77002-6760**

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**CALCULATION OF REGISTRATION FEE**

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<b>Title of securities to be registered</b>	<b>Amount to be registered (1)</b>	<b>Proposed maximum offering price per share (2)</b>	<b>Proposed maximum aggregate offering price (2)</b>	<b>Amount of registration fee</b>
Common Units representing limited liability company interests	1,000,000	\$15.84	\$15,840,000	\$622.51

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- (1) Pursuant to Rule 416(c) under the Securities Act of 1933, as amended (the "Securities Act"), this Registration Statement shall also cover any additional common units that become issuable under the Vanguard Natural Resources, LLC Long-Term Incentive Plan (the "Plan") by reason of any unit dividend, unit split, recapitalization or any other similar transaction effected without the receipt of consideration that results in an increase in the number of the registrant's outstanding shares of Common Units.
- (2) Estimated solely for purposes of calculating the registration fee pursuant to Rule 457(c) under the Securities Act based upon the average of the high and low prices reported on the NYSE Arca on July 21, 2007.
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## PART I

### INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

In accordance with Rule 428 under the Securities Act of 1933, as amended (the "Securities Act") and the instructional note to Part I of Form S-8, the information specified in Part I of Form S-8 has been omitted from the filing of this registration statement. The documents containing the information specified in Part I of Form S-8 will be sent or given to participating employees as specified by Rule 428(b)(1) of the Securities Act. Such documents and the documents incorporated by reference herein pursuant to Item 3 of Part II hereof, taken together, constitute a prospectus that meets the requirements of Section 10(a) of the Securities Act. Vanguard Natural Resources, LLC (the "Company") shall maintain a file of such documents in accordance with the provisions of Rule 428(a)(2) of the Securities Act. Upon request, the Company shall furnish to the Commission or its staff a copy of any or all of the documents included in the file.

## PART II

### INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

#### Item 3. Incorporation of Documents by Reference.

The following documents filed by the registrant with the Securities and Exchange Commission (the "Commission") are incorporated by reference in this registration statement:

- The Company's Annual Report on Form 10-K for the year ended December 31, 2007, filed on March 31, 2008;
- The Company amended Annual Report on Form 10-K/A for the year ended December 31, 2007, filed on May 12, 2008
- The Company's Quarterly Report on Form 10-Q for the three months ended March 31, 2008, filed on May 15, 2008;
- The current reports on Form 8-K as filed by the Company with the Commission on February 4, 2008, March 3, 2008, April 2, 2008, May 12, 2008; and July 21, 2008
- The current reports on Form 8-K/A as filed by the Company with the Commission on February 13, 2008 and April 14, 2008; and
- The description of the Company's common units contained in the Company's Registration Statement on Form 8-A (File No. 001-33756) as filed by the Company with the Commission on October 19, 2007, and any amendment or report filed for the purpose of updating that description.

All documents we file pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act (excluding any information furnished pursuant to Item 2.02 or Item 7.01 on any current report on Form 8-K) subsequent to the effective date of this registration statement, and prior to the filing of a post-effective amendment to this registration statement indicating that all securities offered hereby have been sold or deregistering all securities then remaining unsold, will be deemed to be incorporated by reference herein and to be a part of this registration statement from the date of filing of those documents. Any statement contained in this registration statement or in any document incorporated or deemed to be incorporated by reference in this registration statement shall be deemed to be modified or superseded for purposes of this registration statement to the extent that a statement contained in any other subsequently filed document that also is or is deemed to be incorporated by reference in this registration statement modifies or supersedes that statement. Any statement so modified or superseded shall not be deemed to constitute a part of this registration statement, except as so modified or superseded.

**Item 4. Description of Securities.**

Not Applicable.

**Item 5. Interests of Named Experts and Counsel.**

Not Applicable.

**Item 6. Indemnification of Directors and Officers.**

Section 18-108 of the Delaware Limited Liability Company Act empowers a Delaware limited liability company to indemnify and hold harmless any member or director or other person from and against all claims and demands whatsoever. Section 7.7(a) of our Second Amended and Restated Limited Liability Company Agreement (the “LLC Agreement”) provides that to the fullest extent permitted by law as it currently exists and to such greater extent as applicable law hereafter may permit, but subject to the limitations expressly provided in the LLC Agreement, we shall indemnify any person who was or is a party or is threatened to be made a party to, or otherwise requires representation of counsel in connection with, any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (including an action by or in the right of the Company) by reason of the fact that such person (i) is or was our director or officer, or, while serving as our director or officer, is or was serving as a tax matters partner, or, (ii) is or was our member, partner, manager, director, officer, fiduciary or trustee or that of any of our subsidiaries or, (iii) at our request, served as a director, manager, officer, tax matters partner, fiduciary or trustee of any other person (each an “Indemnitee”) or by reason of any action alleged to have been taken or omitted in such capacity, against losses, expenses (including attorneys’ fees), judgments, fines, damages, penalties, interest, liabilities and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding, provided that the Indemnitee shall not be indemnified and held harmless if there has been a final and non-appealable judgment entered by a court of competent jurisdiction determining that, in respect of the matter for which the Indemnitee is seeking indemnification pursuant to Section 7.7(a) of the LLC Agreement, the Indemnitee acted in bad faith or engaged in fraud, willful misconduct or, in the case of a criminal matter, acted with knowledge that the Indemnitee’s conduct was unlawful.

Any indemnification pursuant to Section 7.7 of the LLC Agreement shall be made only out of our assets, and our members shall not be personally liable for such indemnification and shall have no obligation to contribute or loan any monies or property to us to enable us to effectuate such indemnification. Additionally, any indemnification pursuant to Section 7.7 of the LLC Agreement shall be in addition to any other rights to which an Indemnitee may be entitled under any agreement, pursuant to any vote of the holders of our outstanding limited liability company interests, excluding any limited liability company interests held by us or our subsidiaries and any limited liability company interests held by a group or person who holds more than 20% of any class of our limited liability company interests (other than Majeed S. Nami or his affiliates), as a matter of law or otherwise, both as to actions in the Indemnitee’s capacity as an Indemnitee and as to actions in any other capacity, and shall continue as to an Indemnitee who has ceased to serve in such capacity and shall inure to the benefit of the heirs, successors, assigns and administrators of the Indemnitee.

Section 7.7 further provides that expenses (including attorneys’ fees) incurred by an Indemnitee in defending any action, suit or proceeding referred to in Section 7.7(a) shall be paid by us, when and as incurred, in advance of the final disposition of such action, suit or proceeding and in advance of any determination that such Indemnitee is not entitled to be indemnified, upon receipt of an undertaking by or on behalf of such Indemnitee to repay such amount if it shall ultimately be determined by final judicial decision from which there is no further right to appeal that such person is not entitled to be indemnified by us as authorized in Section 7.7.

For purposes of the definition of Indemnitee, we shall be deemed to have requested a person to serve as fiduciary of an employee benefit plan whenever the performance by such person of his duties to us also imposes duties on, or otherwise involves services by, such person to the plan or participants or beneficiaries of the plan. Excise taxes assessed on an Indemnitee with respect to an employee benefit plan pursuant to applicable law shall constitute “fines” within the meaning of Section 7.7(a) of the LLC Agreement, and action taken or omitted by such person with respect to any employee benefit plan in the performance of such person’s duties for a purpose reasonably believed by him to be in the interest of the participants and beneficiaries of the plan shall be deemed to be for a purpose that is in, or not opposed to, the best interests of us.

Section 7.8 of the LLC Agreement provides that no Indemnitee shall be liable for monetary damages to us or our members or any other persons who have acquired any class or series of equity interests in us for losses sustained or liabilities incurred as a result of any act or omission of an Indemnitee unless there has been a final and non-appealable judgment entered by a court of competent jurisdiction determining that, in respect of the matter in question, the Indemnitee acted in bad faith or engaged in fraud, willful misconduct or, in the case of a criminal matter, acted with knowledge that the Indemnitee's conduct was criminal.

In addition, the LLC Agreement provides that we may purchase and maintain insurance, on behalf of our directors and officers, and such other persons as the board of directors shall determine, against any liability that may be asserted against or expense that may be incurred by such person in connection with our activities or such person's activities on our behalf, regardless of whether we would have the power to indemnify such person against such liability under the provisions of the LLC Agreement.

The Underwriting Agreement entered into by us in connection with our initial public offering provides for the indemnification by the underwriters in certain circumstances of the Company, our directors and officers, our current subsidiaries, and each of their officers and managers.

Reference is made to Item 9 for the Company's undertakings with respect to indemnification for liabilities arising under the Securities Act.

**Item 7. Exemptions from Registration Claimed.**

Not Applicable.

**Item 8. Exhibits.**

<u>No.</u>	<u>Description</u>
4.1	Second Amended and Restated Agreement of Limited Liability Company Agreement of Vanguard Natural Resources, LLC (including specimen unit certificate for Common Units) (incorporated by reference to Exhibit 3.1 to Form 8-K filed on November 2, 2007).
4.2	Vanguard Natural Resources, LLC Long-Term Incentive Plan (incorporated by reference to Exhibit 10.1 to Form 8-K filed on October 24, 2007).
5.1*	Opinion of Vinson & Elkins L.L.P.
23.1*	Consent of UHY LLP.
23.2*	Consent of UHY LLP.
23.3*	Netherland Sewell & Associates, Inc.
23.4*	Consent of Vinson & Elkins L.L.P. (contained in Exhibit 5.1 hereto).
24.1*	Powers of Attorney (included on the signature page to this Registration Statement).

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\* filed herewith.

## Item 9. Undertakings.

The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of a prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

*provided, however*, that paragraphs (1)(i) and (1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Houston, State of Texas, on the 22nd day of July, 2008.

Vanguard Natural Resources, LLC

By: /s/ Scott W. Smith

Scott W. Smith  
President and Chief Executive Officer

**KNOW ALL PERSONS BY THESE PRESENTS**, that each person whose signature appears below constitutes and appoints Scott W. Smith and Richard A. Robert and each of them severally as his or her true and lawful attorneys-in-fact, with power to act, with or without the other, to sign any and all amendments (including post-effective amendments) to this Registration Statement and any registration statement for the same offering filed pursuant to Rule 462 under the Securities Act, and to file the same with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact full power and authority to do and perform each and every act and anything appropriate or necessary to be done, as fully and for all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act, this Registration Statement has been signed by the following persons in the capacities and on the date indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Scott W. Smith</u> Scott W. Smith	President, Chief Executive Officer and Director (Principal Executive Officer)	July 22, 2008
<u>/s/ Richard A. Robert</u> Richard A. Robert	Executive Vice President and Chief Financial Officer (Principle Financial Officer and Principle Accounting Officer)	July 22, 2008
<u>/s/ W. Richard Anderson</u> W. Richard Anderson	Chairman	July 22, 2008
<u>/s/ Thomas M. Blake</u> Thomas M. Blake	Director	July 22, 2008
<u>/s/ John R. McGoldrick</u> John R. McGoldrick	Director	July 22, 2008
<u>/s/ Loren Singletary</u> Loren Singletary	Director	July 22, 2008
<u>/s/ Lasse Wagene</u> Lasse Wagene	Director	July 22, 2008

## INDEX TO EXHIBITS

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\* filed herewith

## Vinson&amp;Elkins

July 22, 2008

Vanguard Natural Resources, LLC  
7700 San Felipe, Suite 485  
Houston, Texas 77063

Ladies and Gentlemen:

We have acted as counsel to Vanguard Natural Resources, LLC, a Delaware limited liability company (the "Company"), in connection with the registration under the Securities Act of 1933, as amended, of the offering and sale of up to 1,000,000 common units representing limited liability company interests in the Company (the "Common Units") issuable under the Vanguard Natural Resources, LLC Long-Term Incentive Plan (the "Plan").

As the basis for the opinion hereinafter expressed, we examined such statutes, including the Delaware Limited Liability Company Act (the "Delaware Act"), corporate records and documents, certificates of corporate and public officials, and other instruments and documents as we have deemed necessary or advisable for the purposes of this opinion, including the Registration Statement on Form S-8 filed in connection with the registration of the Common Units. In such examination, we have assumed the authenticity of all documents submitted to us as originals and the conformity with the original documents of all documents submitted to us as copies.

Based on the foregoing and on such legal considerations as we deem relevant, we are of the opinion that:

1. The Company has been duly formed and is validly existing as a limited liability company under the Delaware Act.
2. The Common Units, when issued and delivered on behalf of the Company in accordance with the Plan, will be duly authorized, validly issued, fully paid and non-assessable.

The foregoing opinion is limited to the laws of the United States of America, the Constitution of the State of Delaware and the Delaware Act, as interpreted by federal courts and the courts of the State of Delaware.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement. In giving this consent, we do not admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act and the rules and regulations thereunder.

Very truly yours,

/s/ Vinson & Elkins L.L.P.

Consent of UHY LLP

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 (Registration No. 333-XXXXXX) of Vanguard Natural Resources, LLC of our report dated March 31, 2008, except for effect of the restatement discussed in Note 13, as to which the date is May 12, 2008, with respect to the consolidated financial statements of Vanguard Natural Resources, LLC and Subsidiaries as of December 31, 2007 and for the year then ended, which are included in Form 10-K/A for the year ended December 31, 2007.

/s/ UHY LLP

Houston, Texas

July 22, 2008

Consent of UHY LLP

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 (Registration No. 333-XXXXXX) of Vanguard Natural Resources, LLC of our report dated April 20, 2007, with respect to the consolidated financial statements of Vanguard Natural Gas, LLC (formerly Nami Holding Company, LLC), and Subsidiaries as of December 31, 2006 and for the year then ended, which are included in Form 10-K/A for the year ended December 31, 2007.

/s/ UHY LLP

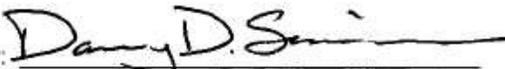
Houston, Texas

July 22, 2008

CONSENT OF INDEPENDENT PETROLEUM ENGINEERS AND GEOLOGISTS

We hereby consent to the references to our firm in this Registration Statement on Form S-8, filed by Vanguard Natural Resources, LLC, and to the use and incorporation by reference of its reserve reports as of December 31, 2005, December 31, 2006 and December 31, 2007, setting forth the interests of Vanguard Natural Resources, LLC and its subsidiaries (collectively, the "Company"), relating to the estimated quantities of the Company's proved reserves of oil and gas and present values thereof for the periods included therein.

**NETHERLAND, SEWELL & ASSOCIATES, INC.**

By:   
Danny D. Simmons, P.E.  
President and Chief Operating Officer

Houston, Texas  
July 21, 2008