

SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

Form S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

Enterprise GP Holdings L.P.

(Exact Name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction of
Incorporation or Organization)

4922
(Primary Standard Industrial
Classification Code Number)

13-4297064
(I.R.S. Employer
Identification No.)

Enterprise GP Holdings L.P.
2727 North Loop West, Suite 101
Houston, Texas 77008-1044
(713) 426-4500

(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

Richard H. Bachmann
2727 North Loop West, Suite 101
Houston, Texas 77008-1044
(713) 426-4500

(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

Copies to:

Michael P. Finch
Vinson & Elkins L.L.P.
1001 Fannin, Suite 2300
Houston, Texas 77002
(713) 758-2222

Robert V. Jewell
Andrews Kurth LLP
600 Travis, Suite 4200
Houston, Texas 77002
(713) 220-4200

Approximate date of commencement of proposed sale to the public: **As soon as practicable after this registration statement becomes effective.**If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. 333-124320If this form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. If this form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box. **CALCULATION OF REGISTRATION FEE**

Title of Each Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Units representing limited partner interests	\$3,563,702(1)(2)	\$420(3)

(1) Includes units issuable upon exercise of the underwriters' over-allotment option.

(2) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o) of the Securities Act of 1933.

(3) The registrant previously registered an aggregate of \$394,506,250 of common stock on its Registration Statement on Form S-1 (File No. 333-124320), for which filing a fee of \$46,434 was paid.

**EXPLANATORY NOTE AND
INCORPORATION OF CERTAIN INFORMATION BY REFERENCE**

Enterprise GP Holdings L.P., a Delaware limited partnership (the "Registrant"), is filing this registration statement pursuant to Rule 462(b) promulgated under the Securities Act of 1933, as amended. This registration statement relates to the initial public offering of the Registrant's units representing limited partner interests contemplated by the Registration Statement on Form S-1 (File No. 333-124320), as amended (the "Prior Registration Statement"), which was originally filed by the Registrant with the Securities and Exchange Commission (the "Commission") on April 26, 2005 and declared effective by the Commission on August 23, 2005.

The contents of the Prior Registration Statement and all exhibits to the Prior Registration Statement are hereby incorporated by reference into this registration statement.

The required opinions and consents are listed on the Exhibit Index attached hereto and filed herewith.

The Registrant hereby certifies that it has instructed its bank to transmit to the Commission the filing by a wire transfer of \$420.00 from the Registrant's account to the Commission's account at Mellon Bank as soon as practicable but no later than the close of business on August 24, 2005. The Registrant further certifies that it will not revoke such instructions, will confirm receipt of such instructions by its bank during regular business hours on August 24, 2005, and that the Registrant has sufficient funds in its account to cover such amount.

**PART II
INFORMATION NOT REQUIRED IN PROSPECTUS**

Item 16. Exhibits and Financial Statement Schedules.

(a)
Exhibits:

Number	Description
5.1	Opinion of Vinson & Elkins L.L.P. as to the legality of the securities being registered
8.1	Opinion of Vinson & Elkins L.L.P. relating to tax matters
23.1	Consent of Deloitte & Touche LLP
23.2	Consent of PricewaterhouseCoopers LLP
23.3	Consent of Netherland, Sewell & Associates, Inc.
23.4	Consent of Vinson & Elkins L.L.P. (contained in Exhibit 5.1 and Exhibit 8.1 hereto)
24.1	Powers of Attorney (Filed as Exhibit 24.1 to Registration Statement on Form S-1 (File No. 333-124320) and incorporated by reference herein.)

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant has duly caused this Registration Statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Houston, State of Texas, on August 23, 2005.

ENTERPRISE GP HOLDINGS L.P.

By: EPE Holdings, LLC,
its General Partner

By: _____ /s/ RICHARD H. BACHMANN

Richard H. Bachmann
Executive Vice President and Chief Legal Officer

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement on Form S-1 has been signed below by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
/s/ MICHAEL A. CREEL* _____ Michael A. Creel	President, Chief Executive Officer and Director (principal executive officer)	August 23, 2005
/s/ W. RANDALL FOWLER* _____ W. Randall Fowler	Senior Vice President and Chief Financial Officer (principal financial officer)	August 23, 2005
/s/ MICHAEL J. KNESEK* _____ Michael J. Knesek	Senior Vice President, Controller and Principal Accounting Officer (principal accounting officer)	August 23, 2005
/s/ DAN L. DUNCAN* _____ Dan L. Duncan	Chairman of the Board and Director	August 23, 2005
/s/ CHARLES E. MCMAHEN _____ Charles E. McMahan	Director	August 23, 2005
_____ Edwin E. Smith	Director	August 23, 2005

*By: _____ /s/ RICHARD H. BACHMANN
Richard H. Bachmann
As Attorney-in-Fact

EXHIBIT INDEX

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[Vinson & Elkins L.L.P. Letterhead]

August 23, 2005

Enterprise GP Holdings L.P.
2727 North Loop West, Suite 101
Houston, TX 77008

Ladies and Gentlemen:

We have acted as counsel to Enterprise GP Holdings L.P., a Delaware limited partnership (the "Partnership"), in connection with the registration under the Securities Act of 1933, as amended (the "Securities Act"), of the offering and sale of up to an aggregate of 14,216,785 units representing limited partner interests in the Partnership (the "Units").

As the basis for the opinion hereinafter expressed, we examined such statutes, including the Delaware Revised Uniform Limited Partnership Act (the "Delaware Act"), corporate records and documents, certificates of corporate and public officials, and other instruments and documents as we deemed necessary or advisable for the purposes of this opinion. In such examination, we 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 Partnership has been duly formed and is validly existing as a limited partnership under the Delaware Act.

2. The Units, when issued and delivered on behalf of the Partnership against payment therefor as described in the Partnership's Registration Statement on Form S-1 (Commission File No. 333-124320), as amended at the effective date thereof and, together with the registration statement filed with respect to such registration statement under Rule 462(b) under the Securities Act, (the "Registration Statement"), will be duly authorized, validly issued, fully paid and nonassessable.

We hereby consent to the reference to us under the heading "Validity of the Units" in the prospectus forming a part of the Registration Statement and to the filing of this opinion as an exhibit to the Registration Statement, but we do not thereby admit that we are within the class of persons whose consent is required under the provisions of the Securities Act or the rules and regulations of the Securities and Exchange Commission issued thereunder.

The opinion expressed herein is limited exclusively to the federal laws of the United States of America and the Revised Uniform Limited Partnership Act of the State of Delaware and the Constitution of the State of Delaware, each as interpreted by the courts of the State of Delaware, and we are expressing no opinion as to the effect of the laws of any other jurisdiction.

Very truly yours,

/s/ VINSON & ELKINS L.L.P.

VINSON & ELKINS L.L.P.

[Vinson & Elkins L.L.P. Letterhead]

August 23, 2005

Enterprise GP Holdings L.P.
2727 North Loop West, Suite 101
Houston, TX 77008

RE: ENTERPRISE GP HOLDINGS L.P. REGISTRATION STATEMENT ON FORM S-1

Ladies and Gentlemen:

We have acted as counsel for Enterprise GP Holdings L.P. (the "Partnership"), a Delaware limited partnership, with respect to certain legal matters in connection with the offer and sale of units representing limited partner interests in the Partnership. We have also participated in the preparation of a Registration Statement on Form S-1 (No. 333-124320), as amended at the effective date thereof and, together with the registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, (the "Registration Statement") to which this opinion is an exhibit.

In connection therewith, we prepared the discussion (the "Discussion") set forth under the caption "Material Tax Consequences" in the Registration Statement.

All statements of legal conclusions contained in the Discussion, unless otherwise noted, are our opinion with respect to the matters set forth therein as of the effective date of the Registration Statement. In addition, we are of the opinion that the Discussion with respect to those matters as to which no legal conclusions are provided is an accurate discussion of such federal income tax matters (except for the representations and statements of fact of the Partnership and its general partner, included in the Discussion, as to which we express no opinion).

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement and to the use of our name in the Registration Statement. This consent does not constitute an admission that we are "experts" within the meaning of such term as used in the Securities Act or the rules and regulations of the Securities and Exchange Commission issued thereunder.

Very truly yours,

/s/ VINSON & ELKINS L.L.P.

VINSON & ELKINS L.L.P.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the reference to our firm and incorporation by reference in this Registration Statement filed under Rule 462(b) of (i) our report dated April 25, 2005, relating to the consolidated financial statements and financial statement schedule of Enterprise Products GP, LLC, (ii) our report dated June 15, 2005, with respect to the balance sheet of Enterprise GP Holdings, L.P., and (iii) our report dated June 15, 2005, with respect to the balance sheet of EPE Holdings, LLC, appearing and incorporated by reference in Amendment No. 5 to the Registration Statement (Form S-1 No. 333-124320) and the related Prospectus of Enterprise GP Holdings L.P. filed with the Securities and Exchange Commission, and to the reference to us under the headings "Experts" in such Prospectus.

/s/ DELOITTE & TOUCHE LLP

Houston, Texas
August 23, 2005

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-1 of Enterprise GP Holdings L.P. of (i) our report dated April 15, 2004 relating to the combined financial statements of El Paso Hydrocarbons, L.P. and El Paso NGL Marketing Company, L.P., (ii) our report dated March 12, 2004 relating to the consolidated financial statements of GulfTerra Energy Partners, L.P. and (iii) our report dated March 17, 2004 relating to the financial statements of Poseidon Oil Pipeline Company, L.L.C., all appearing in Enterprise GP Holdings L.P.'s Amendment No. 5 to Registration Statement on Form S-1. We also consent to the reference to us under the heading "Experts" such Registration Statement.

/s/ PRICEWATERHOUSECOOPERS LLP

Houston, Texas
August 23, 2005

CONSENT OF INDEPENDENT PETROLEUM ENGINEERS AND GEOLOGISTS

We hereby consent to the incorporation by reference in the Registration Statement on Form S-1 of Enterprise GP Holdings L.P. filed under Rule 462(b) of our reserve report dated as of December 31, 2001, included in the Registration Statement (Form S-1 No. 333-124320) and the related Prospectus of Enterprise GP Holdings L.P. filed with the Securities and Exchange Commission. We also consent to the reference to us under the heading of "Experts" in this Registration Statement.

NETHERLAND, SEWELL & ASSOCIATES, INC.

By: /s/ G. Lance Binder

G. Lance Binder
Executive Vice President

Dallas, Texas
August 23, 2005