GASTAR EXPLORATION LTD Form SC 13D/A January 19, 2010

UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549 OMB APPROVAL

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SCHEDULE 13D

Under the Securities Exchange Act of 1934

(Amendment No. 4)*

Gastar Exploration Ltd.

(Name of Issuer)

Common Shares, no par value

(Title of Class of Securities)

367299104

(CUSIP Number)

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Paul S. Scrivano, Esq.
O'Melveny & Myers LLP
Times Square Tower
7 Times Square
New York, NY 10036
(212) 326-2000

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

January 14, 2010

(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 sections 240.13d-1(e), 240.13d-1(f) or 140.13d-1(g), check the following box. [X]

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See section 240.13d-7 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 the disclosures provided in a prior cover page.

The information required in 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).

Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control number.

		1.	Names of Reporting Persons	
		Palo A	Alto Investors, Inc.	
2. (a) (b)		Check the Appropriat	te Box if a Member of a Group (See I	
	3	3.	SEC Use Only	
	4.	Source of F	unds (See Instructions)	AF
5.	Check if	Disclosure of Legal Proce	eedings Is Required Pursuant to Items	2(d) or 2(e)
	6.	Citizenship or P	lace of Organization	California
Number of Shares Beneficially Owned by Each Reporting Person With	7. 8. 9. 10. Power	Sole Voting Power Shared Voting Power Sole Dispositive Power Shared Dispositive	0 4,674,744 0 4,674,744	
11.	Agg	regate Amount Beneficiall	y Owned by Each Reporting Person	4,674,744
12.		Check if the Aggregate	Amount in Row (11) Excludes Certai Instructions)	n Shares (See
	13.	Percent of Cl	ass Represented by Amount in Row ((11)9.3%
1	4.	Type of Reporting	Person (See Instructions)	CO, HC

		1.	Names of Reporting Persons	
		Palo A	Alto Investors, LLC	
2. (a) (b)		Check the Appropriate	te Box if a Member of a Group (See)	
	3	3.	SEC Use Only	
	4.	Source of F	unds (See Instructions)	AF
5.	Check if	f Disclosure of Legal Proce	eedings Is Required Pursuant to Items	s 2(d) or 2(e)
	6.	Citizenship or P	lace of Organization	California
Number of Shares Beneficially Owned by Each Reporting Person With	7. 8. 9. 10. Power	Sole Voting Power Shared Voting Power Sole Dispositive Power Shared Dispositive	0 4,674,744 0 4,674,744	
11.	Agg	regate Amount Beneficiall	y Owned by Each Reporting Person	4,674,744
12.		Check if the Aggregate	Amount in Row (11) Excludes Certa Instructions)	in Shares (See
	13.	Percent of Cl	ass Represented by Amount in Row	(11)9.3%
1	4.	Type of Reporting	Person (See Instructions)	IA, OO

		1.	Names of Reporting Persons	
		Willia	m Leland Edwards	
(a) (b)		Check the Appropriate	e Box if a Member of a Group (See)	
	3	. S	SEC Use Only	
	4.	Source of Fu	ands (See Instructions)	AF
5.	Check if	Disclosure of Legal Proce	edings Is Required Pursuant to Items	s 2(d) or 2(e)
	6.	Citizenship or Place	e of Organization	U.S.A
Number of Shares Beneficially Owned by Each Reporting Person With	7. 8. 9. 10. Power	Sole Voting Power Shared Voting Power Sole Dispositive Power Shared Dispositive	28,000 4,674,744 28,000 4,674,744	
11.	Aggr	regate Amount Beneficially	Owned by Each Reporting Person	4,702,744
12			Amount in Row (11) Excludes Certa ructions)	in Shares (See
	13.	Percent of Cla	ass Represented by Amount in Row	(11)9.4%
	14.	Type of Reporting	Person (See Instructions)	IN, HC

		1.	Names of Reporting Persons	
		Anthony	y Joonkyoo Yun, MD	
(a) (b)		Check the Appropriat	te Box if a Member of a Group (See Ins	tructions)
	3	3.	SEC Use Only	
	4.	Source of F	unds (See Instructions)	AF
5.	Check if	f Disclosure of Legal Proce	eedings Is Required Pursuant to Items 2	(d) or 2(e)
	6.	Citizenship or	Place of Organization	U.S.A.
Number of Shares Beneficially Owned by Each Reporting Person With	7. 8. 9. 10. Power	Sole Voting Power Shared Voting Power Sole Dispositive Power Shared Dispositive	0 4,674,744 0 4,674,744	
11.	Agg	regate Amount Beneficiall	y Owned by Each Reporting Person	4,674,744
12.		Check if the Aggregate	Amount in Row (11) Excludes Certain Instructions)	Shares (See
	13.	Percent of Cl	lass Represented by Amount in Row (11	1)9.3%
1	14.	Type of Reporting	Person (See Instructions)	IN, HC

		1.	Names of Reporting Pers	sons
		Palo Alto Sma	all Cap Master Fund, L.P.	
2. (a) (b)		Check the Appropriate	e Box if a Member of a Group (See Instructions)
\	3		SEC Use Only	
	·		obe ose omy	
	4.	Source of Fu	ands (See Instructions)	AF
5.	Check if	Disclosure of Legal Proce	edings Is Required Pursuant to I	Items 2(d) or 2(e)
6		Citizenship or Place	e of Organization	Cayman Islands
Number of Shares Beneficially Owned by Each Reporting Person With	7. 8. 9. 10. Power	Sole Voting Power Shared Voting Power Sole Dispositive Power Shared Dispositive	0 3,257,172 0 3,257,172	
11.	Aggı	regate Amount Beneficially	y Owned by Each Reporting Per	son 3,257,172
12.			Amount in Row (11) Excludes C Instructions)	Certain Shares (See
	13.	Percent of Cla	ass Represented by Amount in F	Row (11)6.5%
	14.	Type of Reporting	ng Person (See Instructions)	PN

		1.	Names of Reporting Persons	
		Palo Alto	Small Cap Fund, L.P.	
2 (a) (b)		Check the Appropriat	te Box if a Member of a Group (See	
	(3.	SEC Use Only	
	4.	Source of F	unds (See Instructions)	AF
5.	Check if	Disclosure of Legal Proce	eedings Is Required Pursuant to Items	s 2(d) or 2(e)
	6.	Citizenship or P	Place of Organization	Delaware
Number of Shares Beneficially Owned by Each Reporting Person With	7. 8. 9. 10. Power	Sole Voting Power Shared Voting Power Sole Dispositive Power Shared Dispositive	0 2,776,413 0 2,776,413	
11.	Agg	regate Amount Beneficiall	y Owned by Each Reporting Person	2,776,413
12.		Check if the Aggregate	Amount in Row (11) Excludes Certa Instructions)	in Shares (See
	13.	Percent of Cl	ass Represented by Amount in Row	(11)5.5%
	14.	Type of Reporti	ng Person (See Instructions)	PN

This Amendment No. 4 (this "Amendment No. 4") amends and supplements the Schedule 13D originally filed with the Securities and Exchange Commission on November 9, 2009, as amended by Amendment No. 1 on December 11, 2009, Amendment No. 2 on December 14, 2009, and Amendment No. 3 on January 14, 2010 (the "Amended Statement") (the Amended Statement, together with this Amendment No. 4, are collectively referred to herein as the "Statement"), by William Leland Edwards, Palo Alto Investors, LLC, Palo Alto Investors, Inc., Palo Alto Small Cap Master Fund, L.P., Palo Alto Small Cap Fund, L.P., and Anthony Joonkyoo Yun, MD (collectively, the "Filers"). Except as set forth in this Amendment No. 4, all information set forth in the Amended Statement remains unchanged and capitalized terms used but not defined in this Amendment No. 4 shall have the meanings ascribed to such terms in the Amended Statement.

Item 4. Purpose of Transaction

Item 4 of the Statement is hereby amended and supplemented by adding the following at the end thereof:

On January 14, 2010, the Filers issued a press release concerning the Issuer and the matters contemplated by the Agreement (the "Press Release"), a copy of which is attached as Exhibit C hereto.

References to and the descriptions of the Press Release as set forth above in this Item 4 are qualified in their entirety by reference to the copy of the Press Release included as Exhibit C to this Statement, and incorporated by reference in this Item 4 in their entirety where such references and descriptions appear.

Item 6. Contracts, Arrangement, Understandings or Relationships with Respect to Securities of the Issuer

Item 6 of the Statement is hereby amended and supplemented by adding the following at the end thereof:

The information set forth in Item 4 above regarding the Press Release is incorporated into this Item 6 by reference.

Item 7. Material to Be Filed as Exhibits

Item 7 of the Statement is hereby amended and supplemented by adding the following Exhibit:

Exhibit C Press Release issued by the Filers dated January 14, 2010

SIGNATURES

After reasonable inquiry and to the best of my knowledge, I certify that the information set forth in this statement is true, complete and correct.

Dated: January 15, 2010

PALO ALTO INVESTORS, INC. PALO ALTO INVESTORS, LLC

By: /s/ Mark By: /s/ Mark

Shamia Shamia

Mark Shamia, Chief Operating Officer

Mark Shamia, Chief Operating Officer

PALO ALTO SMALL CAP MASTER FUND, PALO ALTO SMALL CAP FUND, L.P.

L.P. By: Palo Alto Investors, LLC, General

By: Palo Alto Investors, LLC, General Partner

Partner By: Palo Alto Investors, Manager

By: Palo Alto Investors, Manager By: /s/ Mark

By: /s/ Mark Shamia

Shamia Mark Shamia, Chief Operating Officer

Mark Shamia, Chief Operating Officer

/s/ Anthony Joonkyoo Yun /s/ William Leland Edwards
Anthony Joonkyoo Yun, MD William Leland Edwards

EXHIBIT INDEX

Exhibit A	Exhibit Name Agreement Regarding Joint Filing of Statement on Schedule 13D or 13G
В	Agreement, dated as of January 12, 2010, between Gastar Exploration Ltd. and Palo Alto Investors, LLC and certain of its affiliates listed on the signature pages thereto
С	Press Release issued by the Filers dated January 14, 2010

EXHIBIT C

PRESS RELEASE

FOR IMMEDIATE RELEASE:

Media Contact: Mary Beth Kissane Walek & Associates Office: 212 590-0536 Cell: 646 244-4488 mbkissane@walek.com

Palo Alto Investors Comments on Board Changes at Gastar Exploration, Ltd.

Palo Alto, Calif. (January 14, 2010) – Palo Alto Investors, LLC, today expressed support for the changes recently announced by the Board of Directors of Gastar Exploration, Ltd. ("Gastar" or the "Company"). The Company announced, pursuant to an agreement with Palo Alto, that it would separate the roles of Chairman and Chief Executive Officer, that John Rooney has been appointed as Chairman of the Board and that the Board was immediately appointing a new independent Director, Randolph C. Coley, who would also join the Company's corporate governance, nominating, and audit committees. The Company further announced that an additional independent Director would be nominated for election at the Company's 2010 Annual Meeting of Shareholders.

Palo Alto announced in a November 2009 Schedule 13-D filing with the U.S. Securities and Exchange Commission its intention to discuss with Gastar's Board certain potential changes to the Company's governance, strategy and management. Palo Alto is pleased with the actions the Company has now taken and applauds the Board for its quick and decisive action on behalf of all shareholders.

"We have always felt strongly about the need for an independent Board with a mandated separation between the Chairman and the Chief Executive roles," commented David Anderson, Palo Alto's head of Energy Research. "The Board also clearly recognizes the value of that structure and has acted accordingly, while also moving to strengthen the Board with two new independent Directors. We are very pleased with the appointment of Randy Coley, who we believe brings terrific insight and experience in overall corporate governance, as well as tremendous legal and financial acumen."

Mr. Anderson further commented on the potential for Gastar: "We believe the Company has tremendous upside in its core assets in East Texas and the Marcellus shale play. With the changes being implemented by the Board, we believe the Company is well positioned to enhance value for all shareholders."

Palo Alto Investors has been more active over the last two years in seeking positive Board and governance changes at companies in its portfolio. Mr. Anderson explained Palo Alto's recent activism: "Our firm is known to be a value-added investor and a solid financial partner for companies in the energy industry. We seek to invest for the long term in great growth companies and have high expectations for corporate governance and the protection of shareholder interests. In today's markets, strong independent Boards are essential to any company's ability to manage growth for the benefit of shareholders."

About Palo Alto Investors

Since its inception in 1989, Palo Alto Investors, LLC ("PAI") has focused exclusively on overlooked, misunderstood and undervalued segments of the equity markets that have significant potential for positive returns. PAI is committed to providing world class money management services to high net worth and institutional investors. The firm offers diversified Micro Cap and Small Cap Funds, as well as Healthcare, Energy and Technology sector Funds. Located in Palo Alto, Calif., PAI employs 17 professionals and manages more than \$1.3 billion in assets. The firm is independently owned with significant Partner ownership interest.

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