

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934

(Amendment No. 3)*

Ener-Core, Inc.

(Name of Issuer)

Common Stock, \$0.0001 par value

(Title of Class of Securities)

29272A206

(CUSIP Number)

December 31, 2016

(Date of event which requires filing of this statement)

Check the appropriate box to designate the rule pursuant to which this Schedule 13G is filed:

- Rule 13d-1(b)
- Rule 13d-1(c)
- Rule 13d-1(d)

(Page 1 of 10 Pages)

*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).

1	NAMES OF REPORTING PERSONS Empery Asset Master, Ltd.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Cayman Islands	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER
	6	SHARED VOTING POWER 93,188 shares of Common Stock 271,289 shares of Common Stock issuable upon conversion of Notes (See Item 4)* 320,840 shares of Common Stock issuable upon exercise of Warrants (See Item 4)*
	7	SOLE DISPOSITIVE POWER
	8	SHARED DISPOSITIVE POWER 93,188 shares of Common Stock 271,289 shares of Common Stock issuable upon conversion of Notes (See Item 4)* 320,840 shares of Common Stock issuable upon exercise of Warrants (See Item 4)*
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 93,188 shares of Common Stock 271,289 shares of Common Stock issuable upon conversion of Notes (See Item 4)* 320,840 shares of Common Stock issuable upon exercise of Warrants (See Item 4)*	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 9.99% (See Item 4)*	
12	TYPE OF REPORTING PERSON OO	

* As more fully described in Item 4, these reported securities are subject to a 9.99% blocker and the percentage set forth in row (11) gives effect to such blocker. However, as more fully described in Item 4, the securities reported in rows (6), (8) and (9) show the number of shares of Common Stock that would be issuable upon full conversion or exercise of such reported securities and do not give effect to such blocker. Therefore, the actual number of shares of Common Stock beneficially owned by such Reporting Person, after giving effect to such blocker, is less than the number of securities reported in rows (6), (8) and (9).

1	NAMES OF REPORTING PERSONS Empery Tax Efficient, LP	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER
	6	SHARED VOTING POWER 37,293 shares of Common Stock 212,438 shares of Common Stock issuable upon conversion of Notes (See Item 4)* 266,602 shares of Common Stock issuable upon exercise of Warrants (See Item 4)*
	7	SOLE DISPOSITIVE POWER
	8	SHARED DISPOSITIVE POWER 37,293 shares of Common Stock 212,438 shares of Common Stock issuable upon conversion of Notes (See Item 4)* 266,602 shares of Common Stock issuable upon exercise of Warrants (See Item 4)*
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 37,293 shares of Common Stock 212,438 shares of Common Stock issuable upon conversion of Notes (See Item 4)* 266,602 shares of Common Stock issuable upon exercise of Warrants (See Item 4)*	
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11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 9.99% (See Item 4)*	
12	TYPE OF REPORTING PERSON PN	

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1	NAMES OF REPORTING PERSONS Empery Tax Efficient II, LP	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER
	6	SHARED VOTING POWER 34,290 shares of Common Stock 307,831 shares of Common Stock issuable upon conversion of Notes (See Item 4)* 395,041 shares of Common Stock issuable upon exercise of Warrants (See Item 4)*
	7	SOLE DISPOSITIVE POWER
	8	SHARED DISPOSITIVE POWER 34,290 shares of Common Stock 307,831 shares of Common Stock issuable upon conversion of Notes (See Item 4)* 395,041 shares of Common Stock issuable upon exercise of Warrants (See Item 4)*
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 34,290 shares of Common Stock 307,831 shares of Common Stock issuable upon conversion of Notes (See Item 4)* 395,041 shares of Common Stock issuable upon exercise of Warrants (See Item 4)*	
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1	NAMES OF REPORTING PERSONS Empery Asset Management, LP	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER
	6	SHARED VOTING POWER 164,771 shares of Common Stock 791,558 shares of Common Stock issuable upon conversion of Notes (See Item 4)* 990,249 shares of Common Stock issuable upon exercise of Warrants (See Item 4)*
	7	SOLE DISPOSITIVE POWER
	8	SHARED DISPOSITIVE POWER 164,771 shares of Common Stock 791,558 shares of Common Stock issuable upon conversion of Notes (See Item 4)* 990,249 shares of Common Stock issuable upon exercise of Warrants (See Item 4)*
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12	TYPE OF REPORTING PERSON PN	

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1	NAMES OF REPORTING PERSONS Ryan M. Lane	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION United States	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER
	6	SHARED VOTING POWER 164,771 shares of Common Stock 791,558 shares of Common Stock issuable upon conversion of Notes (See Item 4)* 990,249 shares of Common Stock issuable upon exercise of Warrants (See Item 4)*
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12	TYPE OF REPORTING PERSON IN	

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1	NAMES OF REPORTING PERSONS Martin D. Hoe	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION United States	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER
	6	SHARED VOTING POWER 164,771 shares of Common Stock 791,558 shares of Common Stock issuable upon conversion of Notes (See Item 4)* 990,249 shares of Common Stock issuable upon exercise of Warrants (See Item 4)*
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This Amendment No. 2 (this "Amendment") amends the statement on Schedule 13G filed on August 25, 2014 (the "Original Schedule 13G," as amended by Amendment No. 1 to the Original Schedule 13G filed on January 12, 2015 and Amendment No. 2 to the Original Schedule 13G filed on January 19, 2016, the Original Schedule 13G, as amended, the "Schedule 13G"), with respect to shares of Common Stock, par value \$0.0001 (the "Common Stock"), of Ener-Core, Inc. (the "Company"). Capitalized terms used herein and not otherwise defined in this Amendment have the meanings set forth in the Schedule 13G. This Amendment amends and restates Items 2(a) and 4 in their entirety as set forth below.

Item 2(a). NAME OF PERSON FILING:

This statement is filed by the entities and persons listed below, who are collectively referred to herein as "Reporting Persons," with respect to the shares of Common Stock (as defined in Item 2(d) below) of the Company:

Empery Funds

(i) Empery Asset Master Ltd., to which the Investment Manager (as defined below) serves as investment manager, with respect to the shares of Common Stock held by, and underlying the Reported Notes and Reported Warrants (each as defined in Item 4 below) held by, it (the "EAM Fund").

(ii) Empery Tax Efficient, LP, to which the Investment Manager (as defined below) serves as investment manager, with respect to the shares of Common Stock held by, and underlying the Reported Notes and Reported Warrants (each as defined in Item 4 below) held by, it (the "ETE Fund").

(iii) Empery Tax Efficient II, LP, to which the Investment Manager (as defined below) serves as investment manager, with respect to the shares of Common Stock held by, and underlying the Reported Notes and Reported Warrants (each as defined in Item 4 below) held by, it (the "ETE II Fund").

Investment Manager

(iv) Empery Asset Management, LP (the "Investment Manager"), with respect to the shares of Common Stock held by, and underlying the Reported Notes and Reported Warrants (as defined below) held by, EAM, ETE and ETE II, the funds to which the Investment Manager serves as investment manager (the "Empery Funds").

Reporting Individuals

(v) Mr. Ryan M. Lane ("Mr. Lane"), with respect to the shares of Common Stock held by, and underlying the Reported Notes and Reported Warrants held by, the Empery Funds.

(vi) Mr. Martin D. Hoe ("Mr. Hoe"), with respect to the shares of Common Stock held by, and underlying the Reported Notes and Reported Warrants held by, the Empery Funds.

The Investment Manager serves as the investment manager to each of the Empery Funds. Each of Mr. Lane and Mr. Hoe (the "Reporting Individuals") is a Managing Member of Empery AM GP, LLC (the "General Partner"), the general partner of the Investment Manager.

Item 4. OWNERSHIP.

The information as of the date of the event which requires filing of this statement required by Items 4(a) – (c) is set forth in Rows 5 – 11 of the cover page for each Reporting Person hereto and is incorporated herein by reference for each such Reporting Person. The percentage set forth in Row 11 of the cover page for each Reporting Person is based on 3,785,216 shares of Common Stock issued and outstanding as of September 30, 2016, as represented in the Company's Prospectus Supplement filed with the Securities and Exchange Commission on December 27, 2016 pursuant to on Rule 424(b)(3), and assumes the conversion of the Company's reported notes (the "Reported Notes") and the exercise of the Company's reported warrants (the "Reported Warrants") each subject to the Blockers (as defined below).

Pursuant to the terms of the Reported Notes and Reported Warrants, the Reporting Persons cannot convert all of the Reported Notes or exercise all of the Reported Warrants if the Reporting Persons would beneficially own, after any such conversion or exercise, more than 9.99% of the outstanding shares of Common Stock (the "Blockers"), and the percentage set forth in Row 11 of the cover page for each Reporting Person gives effect to the Blockers. Consequently, as of the date of the event which requires the filing of this statement, the Reporting Persons were not able to convert all of the Reported Notes or exercise all of Reported Warrants due to the Blockers.

The Investment Manager, which serves as the investment manager to the Empery Funds, may be deemed to be the beneficial owner of all shares of Common Stock held by, and underlying the Reported Notes and Reported Warrants (each subject to the Blockers) held by, the Empery Funds. Each of the Reporting Individuals, as Managing Members of the General Partner of the Investment Manager with the power to exercise investment discretion, may be deemed to be the beneficial owner of all shares of Common Stock held by, and underlying the Reported Notes and Reported Warrants (each subject to the Blockers) held by, the Empery Funds. The foregoing should not be construed in and of itself as an admission by any Reporting Person as to beneficial ownership of shares of Common Stock owned by another Reporting Person. Each of the Reporting Individuals hereby disclaims any beneficial ownership of any such shares of Common Stock.

SIGNATURES

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

DATED: January 24, 2017

EMPERY ASSET MASTER, LTD.
By: EMPERY ASSET MANAGEMENT, LP
By: EMPERY AM GP, LLC, its General Partner

By: /s/ Ryan M. Lane
Name: Ryan M. Lane
Title: Managing Member

EMPERY TAX EFFICIENT, LP
By: EMPERY ASSET MANAGEMENT, LP
By: EMPERY AM GP, LLC, its General Partner

By: /s/ Ryan M. Lane
Name: Ryan M. Lane
Title: Managing Member

EMPERY TAX EFFICIENT II, LP
By: EMPERY ASSET MANAGEMENT, LP
By: EMPERY AM GP, LLC, its General Partner

By: /s/ Ryan M. Lane
Name: Ryan M. Lane
Title: Managing Member

EMPERY ASSET MANAGEMENT, LP
By: EMPERY AM GP, LLC, its General Partner

By: /s/ Ryan M. Lane
Name: Ryan M. Lane
Title: Managing Member

/s/ Ryan M. Lane
Ryan M. Lane

/s/ Martin D. Hoe
Martin D. Hoe