RSP Permian, Inc. Form SC 13G February 10, 2016 SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 13G

(Rule 13d-102)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT TO §240.13D-1(b), (c) AND (d) AND AMENDMENTS THERETO FILED PURSUANT TO §240.13d-2

UNDER THE SECURITIES EXCHANGE ACT OF 1934

(Amendment No.)*

RSP Permian, Inc.

(Name of Issuer)

Common Stock

(Title of Class of Securities)

74978Q105

(CUSIP Number)

December 31, 2015

(Date of Event Which Requires Filing of this Statement)

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

x Rule 13d-1(b)

o Rule 13d-1(c)

o Rule 13d-1(d)

*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).

(Continued on following page(s))

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1.NAME OF REPORTING PERSONS

TIAA-CREF Investment Management, LLC

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) o

(b) o

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	5,066,905
6. SHARED VOTING POWER	0
7. SOLE DISPOSITIVE POWER	5,066,905

8. SHARED DISPOSITIVE POWER 0

AGGREGATE AMOUNT BENEFICIALLY 9. OWNED BY EACH REPORTING PERSON 5,066,905 CHECK BOX IF THE AGGREGATE 10. AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES 0

11.

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9

5.03%

TYPE OF 12. REPORTING PERSON

IA

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1.NAME OF REPORTING PERSONS

Teachers Advisors, Inc.

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) o

(b) o

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	2,646,949
6. SHARED VOTING POWER	0
7. SOLE DISPOSITIVE POWER	2,646,949

8. SHARED DISPOSITIVE POWER 0

AGGREGATE AMOUNT BENEFICIALLY 9. OWNED BY EACH REPORTING PERSON 2,646,949 CHECK BOX IF THE AGGREGATE 10. AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES 0 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9

2.63%

TYPE OF 12. REPORTING PERSON

IA

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Item 1(a). NAME OF ISSUER:

RSP Permian, Inc.

Item 1(b). ADDRESS OF ISSUER'S PRINCIPAL EXECUTIVE OFFICES:

3141 Hood Street Suite 500 Dallas, TX 75219

ItemsNAME, ADDRESS OF PRINCIPAL BUSINESS OFFICE, AND CITIZENSHIP OF PERSONS2(a)-2(c).FILING:

TIAA-CREF Investment Management, LLC ("Investment Management") 730 Third Avenue New York, NY 10017-3206 Citizenship: Delaware

Teachers Advisors, Inc. ("Advisors") 730 Third Avenue New York, NY 10017-3206 Citizenship: Delaware

Item 2(d). TITLE OF CLASS OF SECURITIES:

Common Stock

Item 2(e). CUSIP NUMBER:

749780105

Item 3. IF THIS STATEMENT IS FILED PURSUANT TO §240.13d-1(b), OR §240.13d-2(b) or (c), CHECK WHETHER THE PERSON FILING IS A:

Investment Management

(a) oBroker or dealer registered under Section 15 of the Exchange Act.

- (b) o Bank as defined in Section 3(a)(6) of the Exchange Act.
- (c) o Insurance Company as defined in Section 3(a)(19) of the Exchange Act.

(d)oInvestment Company registered under Section 8 of the Investment Company Act of 1940.

(e) x An investment adviser in accordance with Rule 13d-1(b)(1)(ii)(E).

(f) oAn employee benefit plan or endowment fund in accordance with Rule 13d-1(b)(1)(ii)(F).

(g)oA parent holding company or control person in accordance with Rule 13d-1(b)(1)(ii)(G).

(h)oA savings association as defined in Section 3(b) of the Federal Deposit Insurance Act.

(i) o A church plan that is excluded from the definition of an investment company under Section 3(c)(14) of the Investment Company Act of 1940.

(j) oGroup, in accordance with Rule 13d-1(b)(1)(ii)(J).

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Advisors

- (a) oBroker or dealer registered under Section 15 of the Exchange Act.
- (b)oBank as defined in Section 3(a)(6) of the Exchange Act.
- (c) o Insurance Company as defined in Section 3(a)(19) of the Exchange Act.
- (d)oInvestment Company registered under Section 8 of the Investment Company Act of 1940.
- (e) x An investment adviser in accordance with Rule 13d-1(b)(1)(ii)(E).
- (f) oAn employee benefit plan or endowment fund in accordance with Rule 13d-1(b)(1)(ii)(F).
- (g) oA parent holding company or control person in accordance with Rule 13d-1(b)(1)(ii)(G).
- (h)oA savings association as defined in Section 3(b) of the Federal Deposit Insurance Act.
- (i) $o^{A \text{ church plan that is excluded from the definition of an investment company under Section 3(c)(14) of the Investment Company Act of 1940.$
- (j) oGroup, in accordance with Rule 13d-1(b)(1)(ii)(J).

If this statement is filed pursuant to Rule 13d-1(c), check this box. o

Item 4. OWNERSHIP

Provide the following information regarding the aggregate number and percentage of the class of securities of the issuer identified in Item 1:

(a) Aggregate amount beneficially owned: 7,713,854 (See Exhibit A attached)

(b)Percent of class: 7.652%

(c) Number of shares as to which the person has:

Investment Management Advisors

Sole Voting Power: 5,066,905 2,646,949

Shared Voting Power:	0	0
Sole Dispositive Power:	5,066,905	2,646,949
Shared Dispositive Power	0	0

Item 5. OWNERSHIP OF FIVE PERCENT OR LESS OF A CLASS.

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than 5 percent of the class of securities, check the following o.

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Item 6. OWNERSHIP OF MORE THAN FIVE PERCENT ON BEHALF OF ANOTHER PERSON.

See Exhibit A attached

Item 7. IDENTIFICATION AND CLASSIFICATION OF THE SUBSIDIARY WHICH ACQUIRED THE SECURITY BEING REPORTED ON BY THE PARENT HOLDING COMPANY OR CONTROL PERSON.

Not Applicable

Item 8. IDENTIFICATION AND CLASSIFICATION OF MEMBERS OF THE GROUP.

Not Applicable

Item 9. NOTICE OF DISSOLUTION OF GROUP.

Not Applicable

Item **CERTIFICATIONS.** 10.

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect, other than activities solely in connection with nomination under §240.14a-11

SIGNATURE.

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

Date: February 10, 2016

TIAA-CREF INVESTMENT MANAGEMENT, LLC

By:/s/ Richard S. Biegen Richard Biegen, Managing Director, Senior Compliance Officer TEACHERS ADVISORS, INC.

By:/s/ Richard S. Biegen Richard Biegen, Managing Director, Senior Compliance Officer CUSIP No. 74978Q105 13GPage 7 of 7

EXHIBIT A

ITEM 6. OWNERSHIP.

TIAA-CREF Investment Management, LLC ("Investment Management") is the investment adviser to the College Retirement Equities Fund ("CREF"), a registered investment company, and may be deemed to be a beneficial owner of 5,066,905 shares of Issuer's common stock owned by CREF. Teachers Advisors, Inc. ("Advisors") is the investment adviser to three registered investment companies, TIAA-CREF Funds ("Funds"), TIAA-CREF Life Funds ("Life Funds"), and TIAA Separate Account VA-1 ("VA-1"), as well as one or more separately managed accounts of Advisors (collectively, the "Separate Accounts"), and may be deemed to be a beneficial owner of 2,646,949 shares of Issuer's common stock owned separately by the Funds, Life Funds, VA-1, and the Separate Accounts. Investment Management and Advisors are reporting their combined holdings for the purpose of administrative convenience. These shares were acquired in the ordinary course of business, and not with the purpose or effect of changing or influencing control of the Issuer. Each of Investment Management and Advisors expressly disclaims beneficial ownership of the other's securities holdings and each disclaims that it is a member of a "group" with the other.