RSP Permian, Inc. Form 4 February 14, 2017

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF **SECURITIES**

Expires: 2005 Estimated average burden hours per response... 0.5

OMB APPROVAL

3235-0287

January 31,

OMB

Number:

Form 4 or Form 5 obligations may continue. See Instruction 1(b).

Check this box

if no longer

subject to

Section 16.

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person * 5. Relationship of Reporting Person(s) to 2. Issuer Name and Ticker or Trading **GRAY STEVEN D** Issuer Symbol RSP Permian, Inc. [RSPP] (Check all applicable) (First) (Middle) (Last) 3. Date of Earliest Transaction (Month/Day/Year) _X__ Director 10% Owner X_ Officer (give title _ Other (specify 3141 HOOD STREET, SUITE 500 02/11/2017 below) Chief Executive Officer (Street) 4. If Amendment, Date Original 6. Individual or Joint/Group Filing(Check Filed(Month/Day/Year) Applicable Line) _X_ Form filed by One Reporting Person Form filed by More than One Reporting DALLAS, TX 75219 Person (C:tr.) (Ctota) (7:-

| (City) | (State) (A | Table | I - Non-Do | erivative S | ecuriti | es Acq | uired, Disposed o | of, or Beneficial | ly Owned |
|-----------------|---------------------|--------------------|------------|--------------|-----------|--------|-------------------|-------------------|--------------|
| 1.Title of | 2. Transaction Date | 2A. Deemed | 3. | 4. Securiti | ies Acq | uired | 5. Amount of | 6. Ownership | 7. Nature of |
| Security | (Month/Day/Year) | Execution Date, if | Transactio | on(A) or Dis | sposed of | of | Securities | Form: Direct | Indirect |
| (Instr. 3) | | any | Code | (D) | | | Beneficially | (D) or | Beneficial |
| | | (Month/Day/Year) | (Instr. 8) | (Instr. 3, 4 | and 5) |) | Owned | Indirect (I) | Ownership |
| | | | | | | | Following | (Instr. 4) | (Instr. 4) |
| | | | | | (4) | | Reported | | |
| | | | | | (A) | | Transaction(s) | | |
| | | | Code V | Amount | or (D) | Price | (Instr. 3 and 4) | | |
| Common Stock | 02/11/2017 | | F(1) | 11,906 | D | \$0 | 232,515 | D | |

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

Persons who respond to the collection of SEC 1474 information contained in this form are not (9-02)required to respond unless the form displays a currently valid OMB control number.

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

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| | 2. | 3. Transaction Date | | 4. | 5. | 6. Date Exerc | | 7. Titl | | 8. Price of | 9. Nu |
|--------------------------------------|---|---------------------|---|--------------------------------|--|---------------------|--------------------|------------------------------------|--|--------------------------------------|---|
| Derivative Security (Instr. 3) | Conversion or Exercise Price of Derivative Security | (Month/Day/Year) | Execution Date, if any (Month/Day/Year) | Transact Code (Instr. 8) | orNumber of Derivativ Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5) | : | | Amou Under Securi (Instr. | lying | Derivative Security (Instr. 5) | Deriv Secur Bene Own Follo Repo Trans (Instr |
| | | | | Code V | (A) (D) | Date Exercisable | Expiration Date | Title | Amount or Number of Shares | | |

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | | | | |
|--------------------------------|---------------|-----------|-----------|-------|--|--|--|
| . 9 | Director | 10% Owner | Officer | Other | | | |
| GRAY STEVEN D | | | Chief | | | | |
| 3141 HOOD STREET, SUITE 500 | X | | Executive | | | | |
| DALLAS, TX 75219 | | | Officer | | | | |

Signatures

/s/ James E. Mutrie, attorney-in-fact for Steven D. 02/14/2017 Gray

**Signature of Reporting Person Explanation of Responses:

- * If the form is filed by more than one reporting person, see Instruction 4(b)(v).
- ** Intentional misstatements or omissions of facts constitute Federal Criminal Violations. See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- (1) Withheld for the payment of tax liabilities in connection with the vesting of a restricted stock grant issued in accordance with Rule 16b-3. Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure. 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 number.

Date

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