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**District IV**  
 1220 S. St. Francis Dr., Santa Fe, NM 87505  
 Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico

Form C-101  
 Revised July 18, 2013

**HOBBS OGD**  
**Energy Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 South St. Francis Dr.**  
**Santa Fe, NM 87505**

AMENDED REPORT

MAY 05 2014

RECEIVED

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

<sup>1</sup> Operator Name and Address VANGUARD PERMIAN LLC 5847 SAN FELIPE, SUITE 3000 HOUSTON, TEXAS 77057		<sup>2</sup> OGRID Number  258350
		<sup>3</sup> API Number 30-025-37399
<sup>4</sup> Property Code 301544	<sup>5</sup> Property Name COLE STATE	<sup>6</sup> Well No. 17

**7. Surface Location**

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
F	16	22S	37E		1650	NORTH	2310	WEST	LEA

**8. Proposed Bottom Hole Location**

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County

**9. Pool Information**

<sup>9</sup> Pool Name PENROSE SKELLY GRAYBURG SAN ANDRES	<sup>10</sup> Pool Code 50350
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**Additional Well Information**

<sup>11</sup> Work Type P	<sup>12</sup> Well Type OIL	<sup>13</sup> Cable/Rotary	<sup>14</sup> Lease Type	<sup>15</sup> Ground Level Elevation 3403 GL
<sup>16</sup> Multiple	<sup>17</sup> Proposed Depth 3830	<sup>18</sup> Formation Grayburg San Andres	<sup>19</sup> Contractor	<sup>20</sup> Spud Date
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

We will be using a closed-loop system in lieu of lined pits

**21. Proposed Casing and Cement Program**

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC

**Casing/Cement Program: Additional Comments**

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**22. Proposed Blowout Prevention Program**

Type	Working Pressure	Test Pressure	Manufacturer

<sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

I further certify that I have complied with 19.15.14.9 (A) NMAC  and/or 19.15.14.9 (C) NMAC , if applicable.

Signature:

Printed name: COLLEEN GERMANY

Title: AGENT

E-mail Address: cgermany@oilreportsinc.com

Date:

Phone: 575-393-2727

OIL CONSERVATION DIVISION

Approved By:

Title: *Pe ole* *ti moer*

Approved Date:

Expiration Date:

Conditions of Approval Attached

MAY 1

VANGUARD PERMIAN LLC

COLE STATE #17 F 16 T22S R37E 30-025-37399

Cole State #17 moving from the San Andres to the PS;Grayburg  
Procedure:

26. MIRU completion rig and test anchors.
27. Unseat pump and POOH w/ rods and pump.
28. ND WH and NU BOP. Kill well with 2% KCl water, if necessary. Release TAC and POOH w/ tubing.
29. PU, strap and TIH with 4-3/4" bit, 5-1/2" casing scrapper & 2-7/8" tubing. Clean out hole to ~4119' until clean returns, POOH and rack back 2-7/8" tubing.
30. MI wireline w/ packoff. RIH w/ CBP and GR/CCL & correlate to the Baker Hughes Gamma/Neu/Den Log dated 19-Oct-2005.
31. Set CBP @ ~3830'. Test CBP and casing to 1000 psi.
32. MU 3-1/8" slick casing guns set at 2 spf, 120° phasing (0.40" hole, 21" penetration).
33. Perforate as follows:
  - a. 3492' - 3496' (4', 2 spf, 8 shots)
  - b. 3536' - 3540' (4', 2 spf, 8 shots)
  - c. 3664' - 3668' (4', 2 spf, 8 shots)
  - d. 3802' - 3808' (4', 2 spf, 8 shots) for a total of 32 shots
34. RD wireline.
35. PU a 5-1/2" Arrowset packer and RBP to isolate and acidize each new perf interval separately. RIH with tubing to ~3820' and set RBP. Pull up and prepare to set packer. Test tubing going in the hole to 3500 psi.
36. MIRU pump truck (with 2000 gals acid) and test lines to 3500 psi.
  - a. Spot 50 gals of acid across perforations. Load tubing with 2 % KCl and set packer at 3770'.
  - b. Pump 450 gals 15% NEFE acid and flush to 3804'.
  - c. Record ISIP, 5 min, 10 min and 30 min.
37. Release 5-1/2" Arrowset packer and RIH to retrieve RBP. Pull up and set RBP at 3680'. Pull up and prepare to set packer.
38. RU pump truck (with 1500 gals acid) and test lines to 3500 psi.
  - a. Spot 50 gals of acid across perforations. Load tubing with 2 % KCl and set packer at 3650'.
  - b. Pump 450 gals 15% NEFE acid and flush to 3664'.
  - c. Record ISIP, 5 min, 10 min and 30 min.
39. Release 5-1/2" Arrowset packer and RIH to retrieve RBP. Pull up and set RBP at 3550'. Pull up and prepare to set packer.
40. RU pump truck (with 1000 gals acid) and test lines to 3500 psi.
  - a. Spot 50 gals of acid across perforations. Load tubing with 2 % KCl and set packer at 3520'.
  - b. Pump 450 gals 15% NEFE acid and flush to 3536'.
  - c. Record ISIP, 5 min, 10 min and 30 min.
41. Release 5-1/2" Arrowset packer and RIH to retrieve RBP. Pull up and set RBP at 3510'. Pull up and prepare to set packer.
42. RU pump truck (with 500 gals acid) and test lines to 3500 psi.
  - a. Spot 50 gals of acid across perforations. Load tubing with 2 % KCl and set packer at 3480'.
  - b. Pump 450 gals 15% NEFE acid and flush to 3492'.
  - c. Record ISIP, 5 min, 10 min and 30 min.
43. Release 5-1/2" Arrowset packer and RIH to retrieve RBP. RIH with RBP and set at 3820'. Pull up and set packer at 3460'.
44. RU swabber and swab well in to test acid job. Recover load and report fluid/gas entry, if possible. If well is on vacuum, continue to Step 20.
45. Release packer and RIH to retrieve RBP, POOH, lay out tubing to prepare for frac job.

VANGUARD PERMIAN LLC

COLE STATE #17 F 16 T22S R37E 30-025-37399

46. RDMO completion rig.
47. Call out 5-500 bbl tanks & fill with 2% KCl water. Install frac valve in preparation for frac job down 5-1/2" casing.
48. RU frac Co. and test lines & pump as per frac schedule.
49. Monitor ISIP, 5 min, 10 min, 15 min. Flowback until well dies.
50. Rig down frac valve and release frac tanks.
51. MIRU completion rig.
52. PU a 4-3/4" bit and 2-7/8" tubing and RIH to confirm perfs are open, POOH.
53. RU and bail sand if necessary.
54. RIH w/ 5-1/2" TAC, SN and 2-7/8" tubing.
55. RIH w/ rods and pump.
56. RD & MO.
57. Turn well on to production and test.



**Cole State #17**  
**P. Skelly/Graygurg/San Andres - 30-025-37399**  
**Lea County, New Mexico**  
 PROPOSED COMPLETION - 4/2014

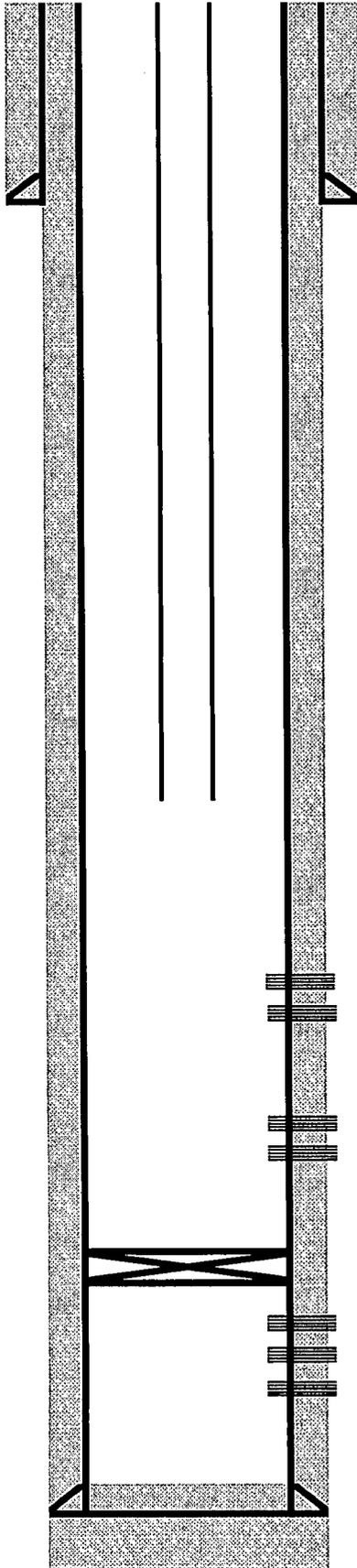
KB: 3413'  
 GL: 3403'

TOC @ surf  
 380 sxs

8 5/8" csg @ 1125'

TOC @ surface  
 850 sxs

5 1/2" csg @ 4220'



**CASING PROGRAM**

<u>Depth</u>	<u>Size</u>	<u>Weight</u>	<u>Grade</u>	<u>I.D.</u>	<u>Collapse</u>	<u>Burst</u>
1125'	8 5/8"	24#	K-55	8.097	1,370	2,950
4220'	5 1/2"	15.5#	K-55	4.950	4,040	4,810

**PRODUCTION TUBING**

<u>Depth</u>	<u>Size</u>	<u>Weight</u>	<u>Grade</u>	<u>Threads</u>
3972.00	2 7/8"	6.5#	J-55	EUE

Penrose Skelly Perforations 16 holes:  
 3,492' - 3,496' (8 holes)  
 3,536' - 3,540' (8 holes)

Grayburg Perforations 16 holes:  
 3,664' - 3,668' (8 holes)  
 3,804' - 3,808' (8 holes)

CBP @ 3,830'

San Andres Perforations 21 holes:  
 3,842' - 3,844' (6 holes)  
 3,886' - 3,889' (6 holes)  
 3,964' - 3,967' (9 holes)

PBTD = 4,205' FC

*Note: This schematic is not to scale. For display purposes only.*