

HOBBS OCD

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State of New Mexico

Form C-101  
Revised July 18, 2013

## Energy Minerals and Natural Resources

Oil Conservation Division

☐ AMENDED REPORT

1220 South St. Francis Dr.

Santa Fe, NM 87505

MAY 15 2014

RECEIVED

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

Operator Name and Address VANGUARD PERMIAN LLC 5847 SAN FELIPE, SUITE 3000 HOUSTON, TEXAS 77057		OGRID Number 258350
		API Number 30-025-23828
Property Code 013024	Property Name COLE STATE	Well No. 14

## 7. Surface Location

UL - Lot F	Section 16	Township 22S	Range 37E	Lot Idn	Feet from 2310	N/S Line NORTH	Feet From 1650	E/W Line WEST	County LEA
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## 8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
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## 9. Pool Information

Pool Name PENROSE SKELLY GRAYBURG SAN ANDRES	Pool Code 50350
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## Additional Well Information

Work Type P	Well Type OIL	Cable/Rotary	Lease Type STATE	Ground Level Elevation 3396 GL
Multiple	Proposed Depth 3780	Formation Grayburg San Andres	Contractor	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

23. 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 (B) AC ☐, if applicable.

Signature:

*Heard*

Printed name: GAYE EARD

Title: AGENT

E-mail Address: gheard@oilreportsinc.com

Date: 5-14-14

Phone: 575-393-2727

Approved By:

Title: Fournier

AGENT

Expiration Date:

Conditions of Approval Attached

OIL CONSERVATION DIVISION

VANGUARD PERMIAN LLC

COLE STATE #14

API #30-025-23828 Sec 16 T22S R37E

Procedure:

1. MIRU completion rig and test anchors.
2. Unseat pump and POOH w/ rods and pump.
3. ND WH and NU BOP. Kill well with 2% KCL water, if necessary. Release TAC and POOH w/ tubing.
4. PU, strap and TIH with 4-3/4" bit, 5-1/2" casing scrapper & 2-7/8" tubing. Clean out hole to ~4100' until clean returns, POOH and lay out 2-7/8" tubing production.
5. MI wireline w/ packoff. RIH w/ CBP and GR/CCL & correlate to the Western Atlas Gamma/Neutron Log dated 1-Dec-1995.
6. Set CBP @ ~3780'. Test CBP and casing to 1000 psi.
7. MU 3-1/8" slick casing guns set at 2 spf, 120° phasing (0.40" hole, 21" penetration).
8. Perforate as follows:
  - a. 3476' - 3480' (4', 2 spf, 8 shots)
  - b. 3526' - 3530' (4', 2 spf, 8 shots)
  - c. 3656' - 3662' (6', 2 spf, 12 shots) for a total of 28 shots
9. RD wireline.
10. PU a 5-1/2" Arrowset packer and 3-1/2" frac string. Test tubing going in the hole to 3500 psi.
11. MIRU 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 3425'.
  - b. Pump 450 gals 15% NEFE acid and flush to 3662'.
  - c. Record ISIP, 5 min, 10 min and 30 min.
12. 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 13.
13. RDMO completion rig.
14. Call out 3-500 bbl tanks & fill with 2% KCl water. Install frac valve in preparation for frac job down 3-1/2" tubing.
15. RU frac Co. and test lines & pump as per frac schedule.
16. Monitor ISIP, 5 min, 10 min, 15 min. Flowback until well dies.
17. Rig down frac valve and release frac tanks.
18. MIRU completion rig.
19. Kill well with water and release packer, POOH laying out 3-1/2" frac string.
20. PU a 4-3/4" bit and 2-7/8" tubing and RIH to confirm perfs are open and cleanout to CBP @ 3780', POOH.
21. RU and bail sand if necessary.
22. RIH w/ 5-1/2" TAC, SN and 2-7/8" tubing.
23. RIH w/ rods and pump.
24. RD & MO.
25. Turn well on to production and test.



**Cole State #14**  
**P. Skelly/Graygurg/San Andres - 30-025-23828**  
**Lea County, New Mexico**  
 PROPOSED COMPLETION - 4/2014

KB: 3407'  
 GL: 3406'

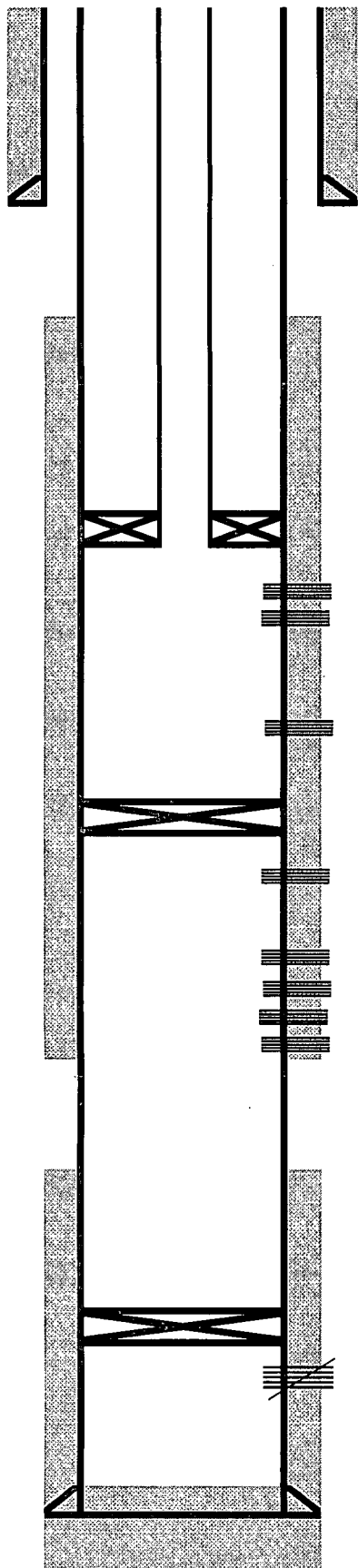
TOC @ surf  
 400 sxs

8 5/8" csg @ 1156'

TOC @ 2210'  
 1140 sxs

DV Tool @ 3905'

5 1/2" csg @ 7402'



**CASING PROGRAM**

<u>Depth</u>	<u>Size</u>	<u>Weight</u>	<u>Grade</u>	<u>I.D.</u>	<u>Collapse</u>	<u>Burst</u>
1156'	8 5/8"	24#	K-55	8.097	1,370	2,950
7402'	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>
4040.00	2 7/8"	6.5#	J-55	EUE

**3-1/2" Frac String with Packer @ 3425'**

Penrose Skelly Perforations 16 holes:

3,476' - 3,480' (8 holes)

3,526' - 3,530' (8 holes)

Grayburg Perforations 12 holes:

3,656' - 3,662' (12 holes)

**CBP @ 3780'**

San Andres Perforations 15 holes in 1995: Acidize

3,806' - 3,838' (15 holes)

San Andres Perforations 12 holes in 2004: Acidize and frac

3,865' - 3,869' (3 holes)

3,905' - 3,909' (3 holes)

3,969' - 3,971' (3 holes)

3,988' - 3,990' (3 holes)

**CIBP @ 7109'**

Silurian Perforations: Squeezed in 1981 with 500 sxs cmt

7,127' - 7,336'

PBTD = 7,109' FC

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