District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

RECEIVED

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

HOBBS OCD
MAY 05 2014
RECEIVED

Form C-101
Revised July 18, 2013

☐ AMENDED REPORT

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

1. Operator Name and Address	2. OGRID Number
VANGUARD PERMIAN LLC 5847 SAN FELIPE, SUITE 3000 HOUSTON, TEXAS 77057	258350
	3. API Number 30-025-37827

4. Property Code	5. Property Name	6. Well No.
301544	COLE STATE	18

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
A	16	22S	37E		330	NORTH	990	EAST	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

Pool Name	Pool Code
PENROSE SKELLY GRAYBURG ~~SAN ANDRES~~	50350

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
P	OIL			3403 GL
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
	3650	Grayburg ~~San Andres~~		

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

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) NMAC ☐, if applicable.** Signature: Colleen Germany	OIL CONSERVATION DIVISION Approved By:
Printed name: COLLEEN GERMANY Title: AGENT	Title: Petroleum Engineer Approved Date: 05/16/14 Expiration Date: 05/16/16
E-mail Address: cgermany@oilreportsinc.com	
Date: Phone: 575-393-2727	Conditions of Approval Attached

MAY 19 2014

Cole State #18
P. Skelly/Graygurg/San Andres - 30-025-37827
Lea County, New Mexico
PROPOSED COMPLETION - 4/2014

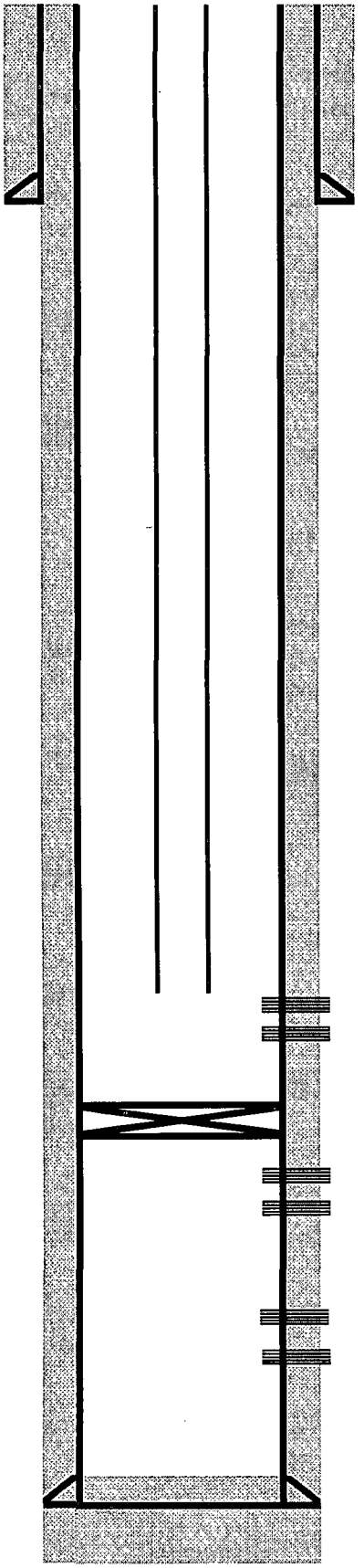
KB: 3413'
GL: 3403'

TOC @ surf
330 sxs

8 5/8"csg @ 862

TOC @ surface
1000 sxs

5 1/2"csg @ 4250



CASING PROGRAM

Depth	Size	Weight	Grade	I.D.	Collapse	Burst
862	8 5/8"	24#	K-55	8.097	1,370	2,950
4250	5 1/2"	17#	J-55	4.892	4,910	5,320

PRODUCTION TUBING

Depth	Size	Weight	Grade	Threads
4024.00	2 7/8"	6.5#	J-55	EUE

Penrose Skelly Perforations 18 holes:
3,470' - 3,476' (6', 120°, 12 holes) **PROPOSED**
3,512' - 3,515' (3', 120°, 6 holes) **PROPOSED**

CBP @ 3650'

Grayburg Perforations 24 holes: **Frac'd 7/2006**
3,684' - 3,688' (12 holes) **77,148# 16/30 sand**
3,768' - 3,772' (12 holes) **40,792# RC sand**

San Andres Perforations 141 holes: **Acidized in 6/2006**
3,815' - 3,872' (57 holes) **4000 gal 15 % NEFE acid**

3,916' - 4,000' (84 holes) **4500 gal 15% NEFE acid**

PBTD = 4,205' FC

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

VANGUARD PERMIAN LLC

COLE STATE #18

A 16 T22S R37E 30-025-37827

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 ~4200' until clean returns, POOH and rack back 2-7/8" tubing.
5. MI wireline w/ packoff. RIH w/ CBP and GR/CCL & correlate to the Halliburton Gamma/Neu/Den Log dated 3-Jul-2006.
6. Set CBP @ ~3650'. 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. 3470' - 3476' (6', 2 spf, 12 shots)
b. 3512' - 3515' (3', 2 spf, 6 shots) for a total of 18 shots

9. RD wireline.
10. PU a 5-1/2" Arrowset packer and RIH with tubing to ~3450' and prepare to set packer. Test tubing going in the hole to 3500 psi.
11. MIRU pump truck (with 2000 gals acid) and test lines to 3500 psi.

a. Spot 500 gals of acid across perforations. Load tubing with 2 % KCl and set packer at 3450'.
b. Pump 1000 gals 15% NEFE acid with 30 ball sealers.
c. Pump 500 gal then drop 30 balls over next 500 gals.
d. Pump last 500 gals and flush to 3515'.
e. 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. Release packer and POOH, lay out tubing to prepare for frac job.
14. RDMO completion rig.
15. Call out 3-500 bbl tanks & fill with 2% KCl water. Install frac valve in preparation for frac job down 5-1/2" casing.
16. RU frac Co. and test lines & pump as per frac schedule.
17. Monitor ISIP, 5 min, 10 min, 15 min. Flowback until well dies.
18. Rig down frac valve and release frac tanks.
19. MIRU completion rig.
20. PU a 4-3/4" bit and 2-7/8" tubing and RIH to confirm perfs are open, 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.