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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

RECEIVED WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-35931		² Pool Code 61950		³ Pool Name Vacuum; Cisco	
⁴ Property Code 31317		⁵ Property Name Gash 31 State			⁶ Well Number 2
⁷ OGRID No. 217817		⁸ Operator Name ConocoPhillips Company			⁹ Elevation 4096'

¹⁰ Surface Location

UL or lot no. K	Section 31	Township 17S	Range 34E	Lot Idn	Feet from the 1980	North/South line South	Feet from the 1500	East/West line West	County Lea
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. K	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres 40		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

				¹⁷ OPERATOR CERTIFICATION <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or released mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i>	
				Signature <u>Rhonda Rogers</u> Date <u>04/16/2014</u>	
				Printed Name <u>Rhonda Rogers</u> E-mail Address <u>rogerrs@conocophillips.com</u>	
				¹⁸ SURVEYOR CERTIFICATION <i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</i>	
				Date of Survey Signature and Seal of Professional Surveyor:	
				Certificate Number	

MAY 12 2014

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WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-35931		² Pool Code 62340		³ Pool Name Vacuum; Wolfcamp	
⁴ Property Code 31317		⁵ Property Name Gach 31 State			⁶ Well Number 2
⁷ OGRID No. 217817		⁸ Operator Name ConocoPhillips Company			⁹ Elevation 4096'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	31	17S	34E		1980	South	1500	West	Lea

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K									

¹² Dedicated Acres 80	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

	<p>¹⁷ OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Rhonda Rogers</i> 05/01/2014 Signature Date</p> <p>Rhonda Rogers Printed Name</p> <p>rogersr@conocophillips.com E-mail Address</p>
	<p>¹⁸ SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p>
	<p>Date of Survey</p> <p>Signature and Seal of Professional Surveyor:</p>
	<p>Certificate Number</p>



Gach 31 State-2

Plug back/Recompletion Procedure

API#30-025-35931

located 1980 FSL & 1400 FWL

section 31-17S-34E in Lea, NM

The subject workover consists of abandoning the existing Morrow completion and recompleting to the Cisco. The Cisco will be selectively perforated within the gross interval: 11,322-11,820 (-7203/-7701), acid-frac treated in 2 stages and placed on pump. If the Cisco completion production tests at non-commercial rates, the Gach 31 State-2 will be completed in the Wolfcamp from the gross interval: 10,304-11,172 (-6185/-7053) & acid-frac treated.

WELL CATEGORY, BOP CLASS AND EXCEPTIONS

Well Category One:

H2S: 0 ppm (Gas Analysis: 11.04.02)

Well Rate: 50 MCFPD

<u>H2S</u>	<u>ROE- ft.</u>
100 ppm	0
500 ppm	0

BOPE Class One: Hydraulic BOP recommended.

PROCEDURE

1. MI & RU service unit.
Pump 15 bbl 2% KCl down 2-7/8" tbg (tbg column: 2590 ft; 1135#)
NOTE:
Recorded SI BHP (143 hrs): 879# (06.09.08)
Estimated current BHP: 655# (5% annual pressure depletion)
ND well. NU hydril BOP (last well service: 07.2008).
2. Release PKR @ 13,020. Scan 2-7/8", 6.5#, N-80 tbg out of hole
Note: 2-7/8" x 5-1/2" annulus may be empty:

ABANDON MORROW

3. RU wire-line unit.
 - a) RIH w/ gauge ring (5-1/2", 17#) to 13,125 (perforation interval: 13,156-13,170
 - b) RIH w/ WL-set CIBP (5-1/2", 17#). Set CIBP @ 13,100 (collars: 13,077 & 13,125)
 - c) Load well w/ 2% KCl (5-1/2", 17# capacity to CIBP: 304 bbl)
 - d) Test csg & CIBP @ 1000# surface pressure (BHP @ CIBP: 6740#)
 - e) RIH w/ bailer. Cap CIBP w/ 30 ft. (3 sx) Class H neat cmt.
 - f) RIH w/ WL-set CIBP-2 (5-1/2", 17#). Set CIBP-2 @ 11,900. (collars: 11,875 & 11,920)

CISCO COMPLETION

4. RU SLB perforating services

- a) NU lubricator. Open BOP. Test @ 500# (EMW @ 11,820: 9.2#; 07.2002: drilled w/ 8.4#)
- b) Perforate Cisco intervals: 3 spf @ 60 degree phasing w/

SLB (or equivalent): 3-3/8" PowerJet, 38.6 gm, EHD: 0.47", Pen.: 46.4"

Top	Btm	Ft.	SPF	Shots
11322	11349	27	3	81
11755	11770	15	3	45
11787	11820	33	3	99

- c) Close BOP. ND lubricator. RD perforating services.

5. PU & RIH w/ PKR, RBP w/ ball-catcher (basket) and 3-1/2", 9.3#, N-80 tbg

Test tbg below slips @ 8,500 psi (Internal Yield @ 100%: 10,160 psi)
Set RBP @ 11,850 (perforation: 11,820; collars: 11,828 & 11,875; CIBP-2: 11,900)
Position un-seated PKR @ 11,820.

6. RU acid services.

CISCO (11,755-11,820): Acidize w/ 6,050 gal (144 bbl) 15% NE Fe HCl:

- a) Pump 9 bbl (380 gal) 15% NE Fe HCl.
- b) Displace w/ 99 bbl 2% KCl
- c) SD & allow well to equalize (acid column: 11,370-11,820)
- d) Set PKR @ 11,430 (collars: 11,410 & 11,455; acid column: 11,433-11,820)

Test surface lines @: 8,500 psi

Set pump trips @: 8,000 psi.

Install spring-operated relief valve on csg-tbg annulus. Pre-set @ 800#.

Load 3-1/2" x 5-1/2" annulus. Note annular fill volume. Place 500# on csg.

- e) Breakdown perforations w/ 2% KCl
- f) Pump 27 bbl 15% NE Fe HCl
- g) Pump 108 bbl 15% NE Fe HCl w/ 2:1.1 sg bio-balls per bbl (216 bs)
- h) Displace w/ 140 bbl 2% KCl (capacity to btm perforation: 108.5 bbl)
- i) Record: P(max), P(min), AIR, ISIP, SITP(5 min), SITP(10 min) & SITP(15 min)

Anticipated AIR: 10 BPM @ 6,000#

CISCO (11,322-11,349): Acidize w/ 3,500 gal (83 bbl) 15% NE Fe HCL:

Release PKR. RIH & release RBP.

Set RBP @ 11,430 (below lowermost perforation: 11,349; csg collars: 11,410 & 11,455)

Set PKR @ 11,420. Test RBP @ 6,000 psi (BHP @ RBP: 11,006#; grad.: 0.96 psi/ft).

(Est. bottom-hole treating pressure: 9,400 psi; frac grad.: 0.825 psi/ft.)

Release PKR.

Position un-seated PKR @ 11,349.

- a) Pump 12 bbl (500 gal) 15% NE Fe HCl.

- b) Displace w/ 93.5 bbl 2% KCl
- c) SD & allow well to equalize (acid column: 10,749-11,349)
- d) Set PKR @ 10,830 (collars: 10,806 & 10,853; acid column: 10,832-11,820)

Test surface lines @: 8,500 psi

Set pump trips @: 8,000 psi

Install spring-operated relief valve on csg-tbg annulus. Pre-set @ 800#.

Load 3-1/2" x 5-1/2" annulus. Note annular fill volume. Place 500# on csg.

- e) Breakdown perforations w/ 2% KCl
- f) Pump 11 bbl 15% NE Fe HCl
- g) Pump 60 bbl 15% NE Fe HCl w/ 2:1.1 sg bio-balls per bbl (120 bs)
- h) Displace w/ 135 bbl 2% KCl (capacity to btm perforation: 106 bbl)
- i) Record: P(max), P(min), AIR, ISIP, SITP(5 min), SITP(10 min) & SITP(15 min)

Anticipated AIR: 10 BPM @ 5,800#

RD acid services

- 7. Flow back well until dead.
- 8. Release PKR. RIH & release RBP. POOH & LD 3-1/2, 9.3#, N-80, PKR & RBP.

DOWNHOLE EQUIP for PRODUCTION

- 9. Downhole equip for production. Estimated production capacity: 150 BFPD

2-7/8", 6.5#, N-80 tbg:

TAC positioned: 11,250 (collars: 11,228 & 11,275; upr perforation: 11,322)

SN positioned: 11,875 (lwr perforation: 11,820)

- 10. RD well service.
- 11. Surface equip for production.
- 12. Place well on test.

IF CISCO TESTS @ NON-COMMERCIAL RATES: proceed w/ Wolfcamp Recompletion

WOLFCAMP COMPLETION

- 13. MI & RU service unit.
Pump 100 bbl 2% KCl down annulus (2-7/8" x 5-1/2", 17# column: 6,571 ft.; 2878#)
- 14. POOH w/ rods & pump. ND well. NU BOP & hydril .
- 15. POOH w/ 2-7/8", 6.5#, N-80 production tbg.
- 16. PU & RIH w/ CIBP (5-1/2", 17#) & 2-7/8" tbg.
Set CIBP @ 11,250 (within 100 ft. above perforation: 11,322; collars: 11,228 & 11,275)
(NOTE: IF CISCO TESTS @ COMMERCIAL RATES, RIH w/ RBP instead of CIBP)
Circulate well w/ 2% KCl (well capacity to 11,250 w/ tbg: 236 bbl)
Test 5-1/2", 17# csg & CIBP (or RBP) @ 1000#.
- 17. RU SLB perforating services
 - a) NU lubricator. Test @ 500# (EMW @ 11,172: 9.3#; 07.2002: drilled w/ 8.4#)

b) Perforate Wolfcamp intervals: 3 spf @ 60 degree phasing w/

SLB (or equivalent): 3-3/8" PowerJet, 38.6 gm, EHD: 0.47", Pen.: 46.4"

Top	Btm	Ft.	SPF	Shots
10304	10314	10	3	30
10376	10380	4	3	12
10488	10518	30	3	90
10552	10555	3	3	9
11142	11172	30	3	90

c) Close BOP. ND lubricator. RD perforating services.

18. PU & RIH w/ RBP w/ ball-catcher (basket), PKR & 3-1/2", 9.3#, N-80 tbg

Test tbg below slips @ 8,500 psi (Internal Yield @ 100%: 10,160 psi)

Set RBP @ 11,210 (collars: 11,183 & 11,228)

Set PKR 11,200.

Test RBP @ 11,210 to 5750# (BHP @ 11,210: 10,660#; grad.: 0.95 psi/ft)

(Est. bottom-hole treating pressure: 9,200 psi; frac grad.: 0.80-0.85 psi/ft.)

Release PKR & re-position un-seated PKR @ 11,172.

19. RU acid services.

WOLFCAMP (11,142-11,172): Acidize w/ 3,780 gal (90 bbl) 15% NE Fe HCl

a) Pump 12 bbl (500 gal) 15% NE Fe HCl.

b) Displace w/ 92 bbl 2% KCl

c) SD & allow well to equalize (acid column: 10,572-11,172)

d) Set PKR @ 10,640 (collars: 10,619 & 10,664; acid column: 10,656-11,172)

Test surface lines @ 8,000 psi

Set pump trips @ 7,500 psi.

Install spring-operated relief valve on csg-tbg annulus. Pre-set @ 800#.

Load 3-1/2" x 5-1/2" annulus. Note annular fill volume. Place 500# on csg.

e) Breakdown perforations w/ 2% KCl

f) Pump 13 bbl 15% NE Fe HCl

g) Pump 65 bbl 15% NE Fe HCl w/ 2:1.1 sg bio-balls per bbl (130 bs)

h) Displace w/ 135 bbl 2% KCl (capacity to btm perforation: 105 bbl)

i) Record: P(max), P(min), AIR, ISIP, SITP(5 min), SITP(10 min) & SITP(15 min)

Anticipated AIR: 10 BPM @ 5700#

WOLFCAMP (10,488-10,555): Acidize w/ 4,200 gal (100 bbl) 15% NE Fe HCl

Release PKR. RIH & retrieve RBP. Set RBP @ 10,640

Set PKR @ 10,630. Test RBP @ 5500# (fluid column @ RBP: 10,160#; grad.: 0.95 psi/ft)

Release PKR. Position un-seated PKR @ 10,555

a) Pump 12 bbl (500 gal) 15% NE Fe HCl.

b) Displace w/ 81.3 (3,415 gal) bbl 2% KCl

c) SD & allow well to equalize

d) Set PKR @ 10,415 (collars: 10,391 & 10,436)

Test surface lines @ 8,000 psi

Set pump trips @ 7,500 psi.
Install spring-operated relief valve on csg-tbg annulus. Pre-set @ 800#.
Load 3-1/2" x 5-1/2" annulus. Note annular fill volume. Place 500# on csg.

- e) Breakdown perforations w/ 2% KCl
- f) Pump 13 bbl 15% NE Fe HCl
- g) Pump 75 bbl 15% NE Fe HCl w/ 2:1.1 sg bio-balls per bbl (150 bs)
- h) Displace w/ 125 bbl 2% KCl (capacity to btm perforation: 94 bbl)
- i) Record: P(max), P(min), AIR, ISIP, SITP(5 min), SITP(10 min) & SITP(15 min)

Anticipated AIR: 10 BPM @ 5500#

WOLFCAMP (10,304-10,380): Acidize w/ 2,000 gal (48 bbl) 15% NE Fe HCl

Release PKR. RIH & retrieve RBP. Set RBP @ 10,415
Set PKR @ 10,405. Test RBP @ 5400# (fluid column @ RBP: 9,962#; grad.: 0.95 psi/ft)
Release PKR. Position un-seated PKR @ 10,380

- a) Pump 12 bbl (500 gal) 15% NE Fe HCl.
- b) Displace w/ 85 (3,575 gal) bbl 2% KCl
- c) SD & allow well to equalize (acid column: 9,780-10,380)
- d) Set PKR @ 9,810 (collars: 9,786 & 9,832; acid column: 9864-10,380)

Test surface lines @ 8,000 psi
Set pump trips @ 7,500 psi.
Install spring-operated relief valve on csg-tbg annulus. Pre-set @ 800#.
Load 3-1/2" x 5-1/2" annulus. Note annular fill volume. Place 500# on csg.

- e) Breakdown perforations w/ 2% KCl
- f) Pump 6 bbl 15% NE Fe HCl
- g) Pump 30 bbl 15% NE Fe HCl w/ 2:1.1 sg bio-balls per bbl (60 bs)
- h) Displace w/ 130 bbl 2% KCl (capacity to btm perforation: 99 bbl)
- i) Record: P(max), P(min), AIR, ISIP, SITP(5 min), SITP(10 min) & SITP(15 min)

Anticipated AIR: 10 BPM @ 5300#

20. Flow back well until dead.

21. Release PKR. RIH & release RBP. POOH & LD 3-1/2, 9.3#, N-80, PKR & RBP.

EQUIP for PRODUCTION

22. Downhole equip for production. Estimated production capacity: 150 BFPD
2-7/8", 6.5#, N-80 tbg:
TAC positioned: 10,230 (collars: 10,252 & 10,298; upr perforation: 10,304)
SN positioned: 11,225 (lwr perforation: 11,172)

23. RD well service.

24. Surface equip for production.

25. Place well on test.

NOTE: Following separate production tests of the Wolfcamp & Cisco completions, efforts may be made to downhole & surface commingle the production from the Gach 31 State-2.