

Submit 1 Copy To Appropriate District Office
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV - (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-103
Revised August 1, 2011

WELL API NO. 30 025 41096	
5. Indicate Type of Lease STATE ☒ FEE ☐	
6. State Oil & Gas Lease No. VO 8263	
7. Lease Name or Unit Agreement Name Gateway 2 State	
8. Well Number # 2	
9. OGRID Number 249099	
10. Pool name or Wildcat Scharb Wolfcamp - Wildcat Bone Springs	
4. Well Location Unit Letter D : 525 feet from the North line and 660 feet from the West line Section 2 Township 19 S Range 35 E NMPM County Lea	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3849 GR	

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☒
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐

OTHER: ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Caza Operating, LLC request permission to alter the previously approved APD for the subject well. Caza Proposes to drill 8-3/4" pilot hole to 10,300'. We will Run a Gyro survey & log the well to surface at this point. A horizontal target will be selected in the Bone Springs formation and the well will be plugged back with cement. A oriented open hole whipstock will be run and the well will be drilled horizontally to a terminus point $\pm$ 330 FSL & 660 FWL in Section 2. We will then run 5-1/2" 17lb P-110 production casing to the Total Depth. Casing will be cemented with Class "H" cement with TOC 3400' FS. Attached is the simple directional plan, revised production casing plan & revised cement for the long string.

Spud Date: 4-30-2013

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Richard L. Wright TITLE Operations Manager DATE 7-3-2013

Type or print name Richard Wright E-mail address: rwright@cazapetro.com PHONE: 432 682 7424

For State Use Only

APPROVED BY: [Signature] TITLE Petroleum Engineer DATE OCT 22 2013

Conditions of Approval (if any):



Gateway 2 State #2 “Cement Program” NW/NW_Section 2, T19S, R35E, Lea County, New Mexico.

Below is the well cement requirements for the Gateway 2 State #1.

1. **Surface hole depth = 1825 ft. TOC @surface w/ 50% W/O**
Surface hole = 17.5 inch
Surface casing = 13.375" 54.5# J-55 STC
Float Collar 1 jts up.
Hardware needed = 12 spring centralizers_(6) first 6 jts_6 every 5th jt to surface
1 Guide shoe "Tx Pattern"
1 Insert float valve (1 jt Up)
1 thread lock compound
1 collar stop

Engineering Data “Surface”:

1825 ft 17.5 inch hole x 13.375" csg = .6946 cu ft/ft X 1825 X 1.5 excess = 1902 cu ft

40 ft 13.375" 54.5 # casing volume= .8679 X 40 ft = 35 cu ft

Total Cement volume required = 1937 cu ft.

Lead slurry (1605'- Surf) = 1673 cu ft "C" w/ 4% Gel, 2% CaCl₂, 13.5 ppg yield
1.74 cu ft/sk = **(962 sks)** **Compressive strength documented @ + 500 psi in 12 hrs.**

Tail Slurry (1825'-1605')= 264 cu ft Class "C" w/ 2% CaCl₂ 14.8 ppg yield 1.32 cu ft / sk = **(200 sks)**

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2. **Intermediate hole depth=3950 ft. TOC @Surface w/ 50% W/O**
Intermediate hole = 12.25 inch
Intermediate Casing = 9.625" 40#J-55 &40# HCK LTC
Float Collar 1 jts up.
Hardware needed = 12 spring centralizers (6) 1st 6 jts + 6 space equally to lap
1 Guide Shoe
1 float collar (1 jt up)
1 thread lock compound



Engineering Data "Intermediate":

2125 ft 12.25 inch open hole x 9.625 csg = .3132 cu ft/ft X 2125 X 1.5 excess = 998 cu ft

1825 ft 9.625 x 13.375" casing = .3626 cu ft/ft X 1825 = 662 cu ft

40 ft 9.625" 40 # casing volume = .4257 X 40 ft = 17 cu ft

Total Cement volume required = 1677 cu ft.

Lead (3299-Surf) = 1413 cu ft 35:65 poz "C" w/ 5% salt & 6% gel 12.4 ppg yield
2.09 cu ft/sk = **(676 sks)**

Tail Slurry (3825'-3299') = 264 cu ft Class "C" w/ 1% CaCl₂ 14.8 ppg yield 1.32 cu ft / sk = **(200 sks)**

3. **Production Intermediate Hole depth= 13,475 ft. TOC @ 3400 ft w/ 35% W/O**
Production Hole = 8.75 inch to TD 13,475 MD

Production Hole Casing = 5.5" 17# P-110 LTC

Hardware Needed = 18 spring Centralizers

24 rigid Centralizers

Sleeves TBD

Rapid Start Initiator sub

Float Collar (1 jt up)

Float Shoe

TOC calculated to 3400 ft w/ 50% Washout

Engineering Data "Production":

500 ft 9-5/8" 40# X 5.5" Csg = 500 X .2607 cu ft / ft = **130.35 cu ft.**

9525 ft 8.75 inch open hole x 5.5" 17# casing = 9525 X .2526 x 1.35 excess = **3248 cu ft**

135 ft 5.5" 17# casing volume = .1305 X 135 ft = **17.6 cu ft**

Total Cement volume required = 3396 cu ft.

Lead Slurry (8000-3400') = 1529 cu ft 50/50 Poz/"H" mixed @ 14.1 ppg w/yield

1.3 cu ft/sk 5 lb/sk gilsonite + 1/8 lb/sk cello Flake + 1/4% Econolite = **(1176 sks)**

Tail Slurry (13,475'-8,000') = 1867 cu ft solu chem "H" mixed 15.0 ppg w/ yield of
2.63 cu ft/sk = **710 sks**

Volumes to be adjusted after vertical log review and mud logger lag review post drilling.

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LONG's METHOD OF SURVEY COMPUTATION

OBLIQUE CIRCULAR ARC INTERPOLATION

6000	MD OF INTERPOLATION DEPTH,(feet)
#N/A	TVD COORDINATE OF THE DEPTH (feet)
#N/A	N/S COORDINATE OF DEPTH (feet)
#N/A	E/W COORDINATE OF DEPTH (feet)

3.0 DISTANCE BETWEEN STATION A AND STATION B.

DISTANCE TABLE

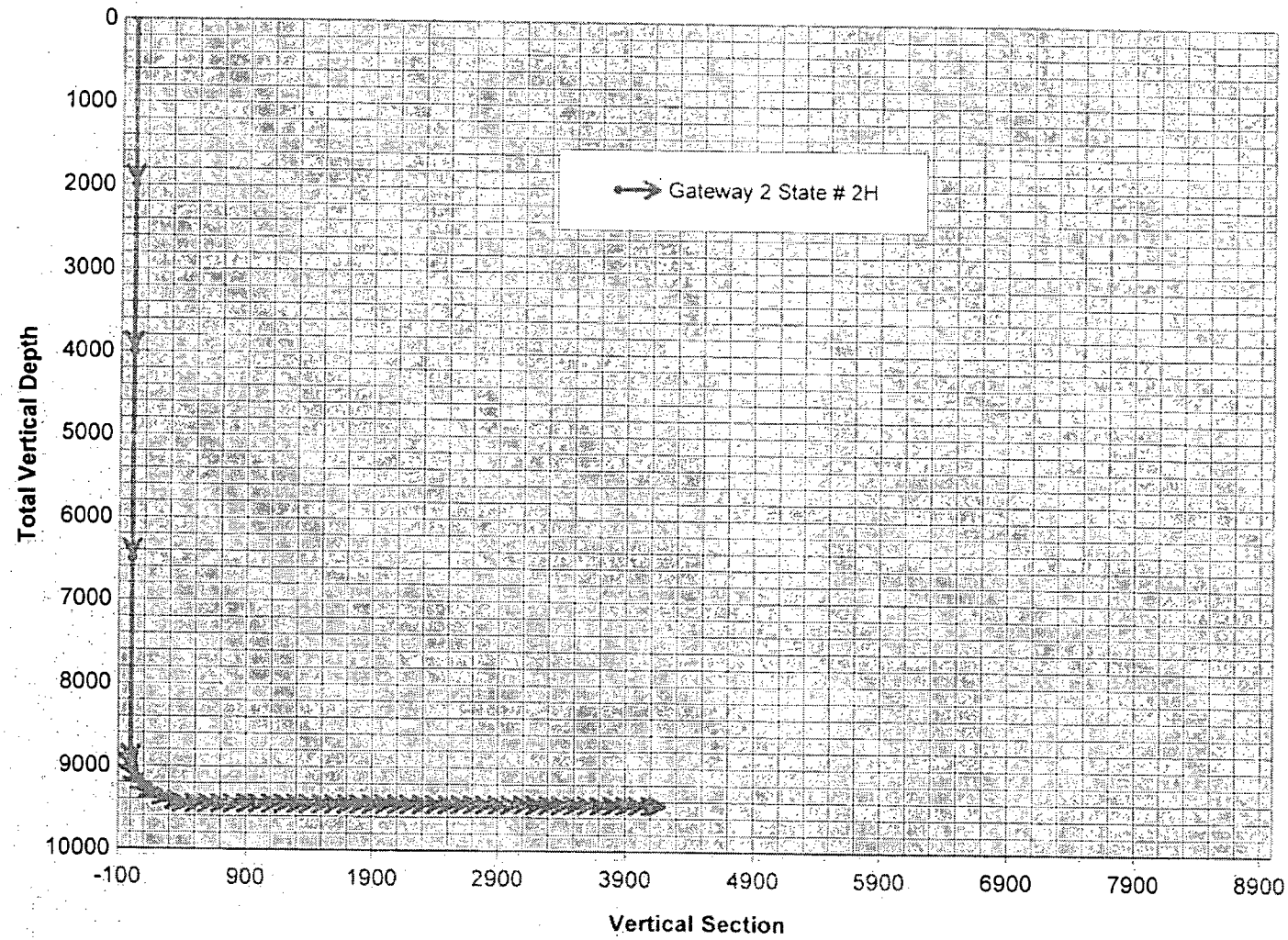
STATION A	STATION B
400.00	600.00
300.00	400.00
100.00	300.00
300.00	ft

TABLE OF SURVEY STATIONS

Calculator =

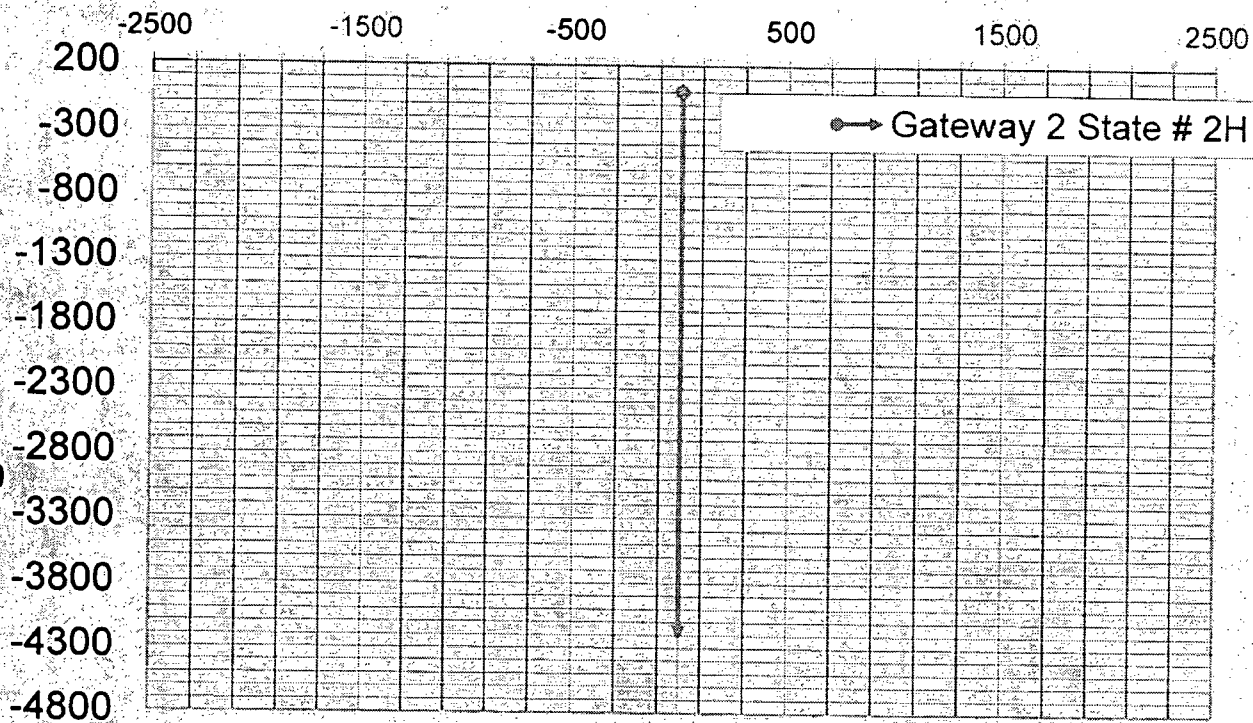
STA #	AMD ft	INCL deg	AZIM deg	MD ft	TVD ft	N/S ft	E/W ft	DLS deg/100FT
1	TIE POINT =>	0	180	8973.00	8973.00	0.00	0.00	-
2	100	12	180	9073.00	9072.27	-10.43	0.00	12.00
3	100	24	180	9173.00	9167.20	-41.28	0.00	12.00
4	100	36	180	9273.00	9253.65	-91.19	0.00	12.00
5	100	48	180	9373.00	9327.83	-157.98	0.00	12.00
6	100	60	180	9473.00	9386.50	-238.73	0.00	12.00
7	100	72	180	9573.00	9427.10	-329.92	0.00	12.00
8	100	84	180	9673.00	9447.85	-427.56	0.00	12.00
9	50	90	180	9723.00	9450.46	-477.46	0.00	12.00
10	100	90	180	9823.00	9450.46	-577.46	0.00	0.00
11	100	90	180	9923.00	9450.46	-677.46	0.00	0.00
12	100	90	180	10023.00	9450.46	-777.46	0.00	0.00
13	100	90	180	10123.00	9450.46	-877.46	0.00	0.00
14	100	90	180	10223.00	9450.46	-977.46	0.00	0.00
15	100	90	180	10323.00	9450.46	-1077.46	0.00	0.00
16	100	90	180	10423.00	9450.46	-1177.46	0.00	0.00
17	100	90	180	10523.00	9450.46	-1277.46	0.00	0.00
18	100	90	180	10623.00	9450.46	-1377.46	0.00	0.00
19	100	90	180	10723.00	9450.46	-1477.46	0.00	0.00
20	100	90	180	10823.00	9450.46	-1577.46	0.00	0.00
21	100	90	180	10923.00	9450.46	-1677.46	0.00	0.00
22	100	90	180	11023.00	9450.46	-1777.46	0.00	0.00
23	100	90	180	11123.00	9450.46	-1877.46	0.00	0.00
24	100	90	180	11223.00	9450.46	-1977.46	0.00	0.00
25	100	90	180	11323.00	9450.46	-2077.46	0.00	0.00
26	100	90	180	11423.00	9450.46	-2177.46	0.00	0.00
27	100	90	180	11523.00	9450.46	-2277.46	0.00	0.00
28	100	90	180	11623.00	9450.46	-2377.46	0.00	0.00
29	100	90	180	11723.00	9450.46	-2477.46	0.00	0.00
30	100	90	180	11823.00	9450.46	-2577.46	0.00	0.00
31	100	90	180	11923.00	9450.46	-2677.46	0.00	0.00
32	100	90	180	12023.00	9450.46	-2777.46	0.00	0.00
33	100	90	180	12123.00	9450.46	-2877.46	0.00	0.00
34	100	90	180	12223.00	9450.46	-2977.46	0.00	0.00
35	100	90	180	12323.00	9450.46	-3077.46	0.00	0.00
36	100	90	180	12423.00	9450.46	-3177.46	0.00	0.00
37	100	90	180	12523.00	9450.46	-3277.46	0.00	0.00
38	100	90	180	12623.00	9450.46	-3377.46	0.00	0.00
39	100	90	180	12723.00	9450.46	-3477.46	0.00	0.00
40	100	90	180	12823.00	9450.46	-3577.46	0.00	0.00
41	100	90	180	12923.00	9450.46	-3677.46	0.00	0.00
42	100	90	180	13023.00	9450.46	-3777.46	0.00	0.00
43	100	90	180	13123.00	9450.46	-3877.46	0.00	0.00
44	100	90	180	13223.00	9450.46	-3977.46	0.00	0.00
45	100	90	180	13323.00	9450.46	-4077.46	0.00	0.00
46	100	90	180	13423.00	9450.46	-4177.46	0.00	0.00
47	52	90	180	13475.00	9450.46	-4229.46	0.00	0.00
48								
49								
50								
51								
52								

Gateway Prospect



Horizontal Plane Footage +East/-West

Footage + North/- South



Well name:

Gateway 2 State # 2

Operator: **Caza Operating, LLC**

String type: **Production Casing: Frac**

Design parameters:

Collapse

Mud weight: 10.00 ppg

Internal fluid density: 3.000 ppg

Minimum design factors:

Collapse:

DF 1.200

Burst:

DF 1.12

Environment:

H2S considered?

Surface temperature:

Bottom hole temp:

Temperature gradient:

Minimum section length:

Minimum Drift:

Cement top:

No

75.00 °F

136 °F

0.65 °F/100ft

1,500 ft

4,750 in

3,400 ft

Burst

Max anticipated surface pressure:

7,086.74 psi

Internal gradient:

0.13 psi/ft

Calculated BHP

8,335.52 psi

Gas gravity:

0.60

No backup mud specified.

Tension:

8 Rd STC: 1.80 (J)

8 Rd LTC: 1.80 (J)

Buttress: 1.80 (J)

Premium: 1.50 (J)

Body yield: 1.60 (B)

Directional well information:

Kick-off point

Departure at shoe:

Maximum dogleg:

Inclination at shoe:

8950 ft

4252 ft

12 °/100ft

90 °

Tension is based on buoyed weight.

Neutral pt: 8,007.48 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)
1	13475	5.5	17.00	P-110	LT&C	9439	13475	4.767

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (klps)	Tension Strength (klps)	Tension Design Factor
1	3432	7480	2.179	8336	10640	1.28	136.1	445	3.27 J

Date: July 3, 2013

Midland, Texas

Wright

Remarks:

Collapse is based on a vertical depth of 9439 ft, a mud weight of 10 ppg. An internal gradient of .156 psi/ft was used for collapse from TD to 0 ft. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a tensile load which is added to the axial load.

Engineering responsibility for use of this design will be that of the purchaser.