

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

HOBBS OCD

JUL 23 2014

RECEIVED

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

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 CAZA OPERATING, LLC. 200 NORTH LORAIN SUITE 1550 MIDLAND, TEXAS 79701		⁴ OGRID Number 249099
		³ API Number 30-025-41980
⁶ Property Code 40096	⁵ Property Name GRAMMA "27" STATE	⁸ Well No. 3H

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
0	27	21S	34E		420'	SOUTH	2310'	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
B	27	21S	34E		330'	NORTH	1980'	EAST	LEA

9. Pool Information

¹⁰ Pool Name GRAMMA RIDGE-BONE SPRING NORTHEAST	¹¹ Pool Code 28435
---	----------------------------------

Additional Well Information

¹² Work Type N	¹³ Well Type O	¹⁴ Cable/Rotary ROTARY	¹⁵ Lease Type S	¹⁶ Ground Level Elevation 3688'
¹⁷ Multiple NO	¹⁸ Proposed Depth MD-14,800' TVD-10,375'	¹⁹ Formation BONE SPRING	²⁰ Contractor WHEN APPROVED	²¹ Spud Date WHEN APPROVED
²² Depth to Ground water 100'		²³ Distance from nearest fresh water well Approximately 1.75 miles Northeast		²⁴ Distance to nearest surface water None known

☒ 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
Surface	17 1/2"	13 3/8"	54.5#	1800'	1528 Sx.	Surface
1st Inter.	12 1/4"	9 5/8"	40#	5700'	1665 Sx.	Surface
2nd Inter.	8 3/4"	7"	29#	10,650'	776 Sx.	Est. 5000' FS

Casing/Cement Program: Additional Comments

* SEE ATTACHED SHEET FOT DETAIL AND 4 1/2" liner
--

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
DOUBLE RAM	5000PSI	3000 PSI	Schaffer or Cameron

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: *Joe T. Janica*
Printed name: Joe T. Janica

Title: Permit Eng.

E-mail Address: joejanica@valornet.com

Date: 07/23/14

Phone: 575-391-8503

OIL CONSERVATION DIVISION

Approved By:

Title: Petroleum Engineer

Approved Date: 07/24/14

Expiration Date: 07/24/16

Conditions of Approval Attached

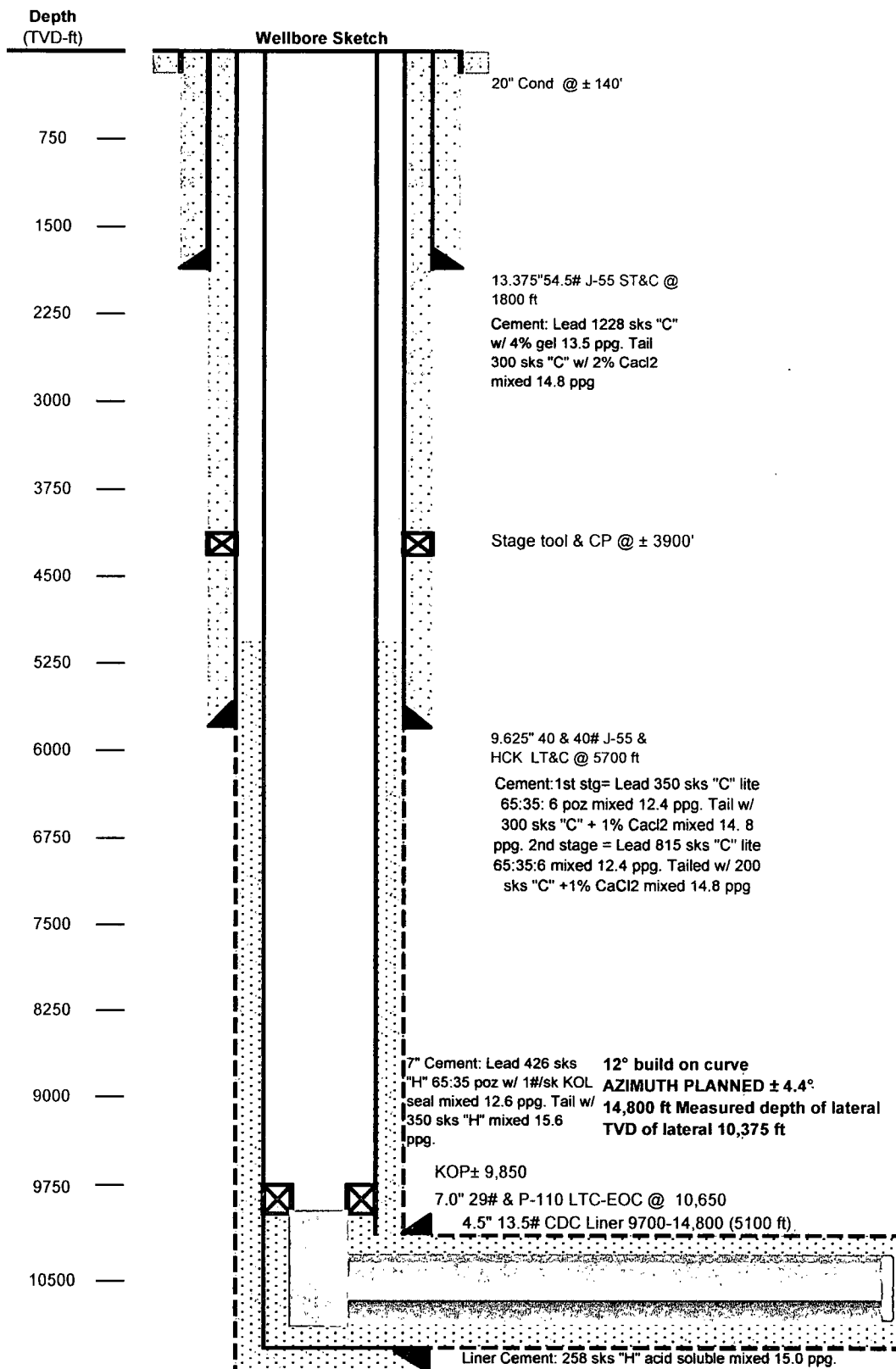
JUL 25 2014

W

1. Drill 26" hole to 120'. Set 120' of 20" conductor pipe and cement to surface with Redi-mix.
2. Drill 17½" hole to 1800'. Run and set 1800' of 13 3/8" -54.5# J-55 ST&C casing. Cement with 1228 Sx. of Class "C" cement + 4% Gel, + 2% CaCl, Yield 1.74, tail in with 300 Sx. of Class "C" cement + 2% CaCl, Yield 1.32. 100% Excess, circulate cement to surface.
3. Drill 12½" hole to 5700'. Run and set 5700' of 9 5/8" casing as follows: 1800' of 9 5/8" 40# HCK-55, LT&C; 3900' of 9 5/8" 40# J-55 LT&C casing. Cement in two stages 1st stage 5700-3900'. Cement with 350 Sx. of 35/65 Class "C" POZ + 5% Salt, + 6% Gel, Yield 2.09, tail in with 300 Sx. of Class "C" + 1% CaCl, Yield 1.32, 100% Excess in open hole. 2nd stage 3900'-surface, cement with 815 Sx. of 35/65 Class "C" POZ cement + 5% Salt, + 6% Gel, Yield 2.09, tail in with 200 Sx. of Class "C" cement + 1% CaCl, Yield 1.32 100% Excess, circulate cement to surface.
4. Drill 8 3/4" hole to 9800'. Run open hole logs, run Gyro for KO point, drill curve with 8 3/4" bit to a TVD of 10375", MD 10650". Run and set 10,650' of 7" 29# P-110 LT&C casing. Cement with 426 Sx. of Class "H" 35/65 POZ + additives, Yield 1.93, tail in with 350 Sx. of Class "H" cement + fluid loss control, + Defoamer, Yield 1.1850% Excess, estimate top of cement 5000', 700' in 9 5/8" casing.
5. Drill lateral hole with 6 1/8" to 14,800' MD. Run and set 5073' of 4½" 13.5# P-110 BT&C liner. Cement with 258 Sx. of Class "H" SoluCem. soluble cement + fluid loss control and defoamer. Yield 2.61.

Gramma 27 State # 3H-API # 30 025

Location: SW/SE Section 27_T21S_R34E_Lea County, New Mexico



14 stage perf-plug stimulation planned with 3,000,000 lbs ceramic

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 D DISTANCE BETWEEN STATION A AND STATION B

DISTANCE TABLE

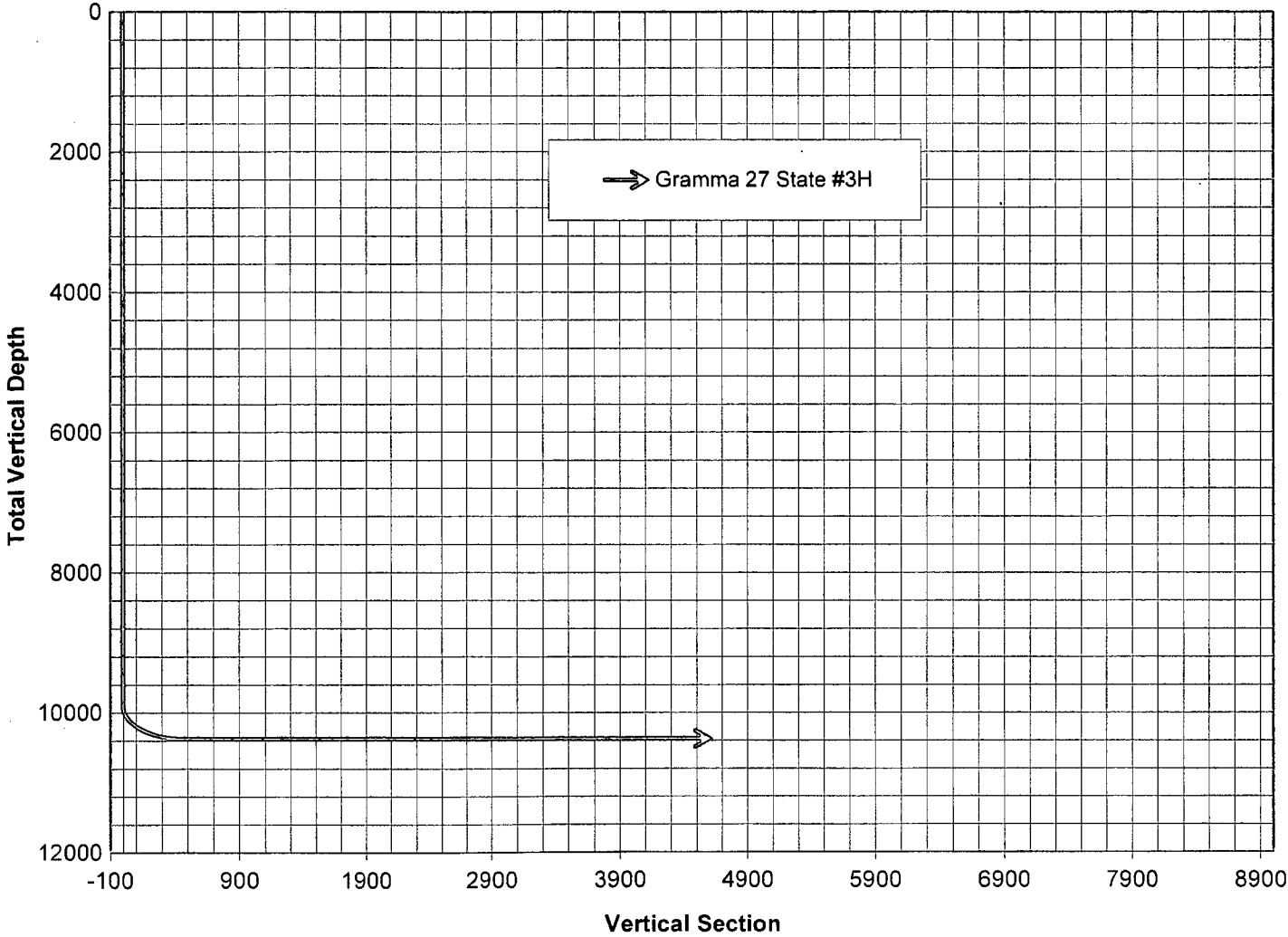
STATION A	STATION B
400.00	600.00
300.00	400.00
100.00	300.00
300.00	ft

TABLE OF SURVEY STATIONS

Calculator =

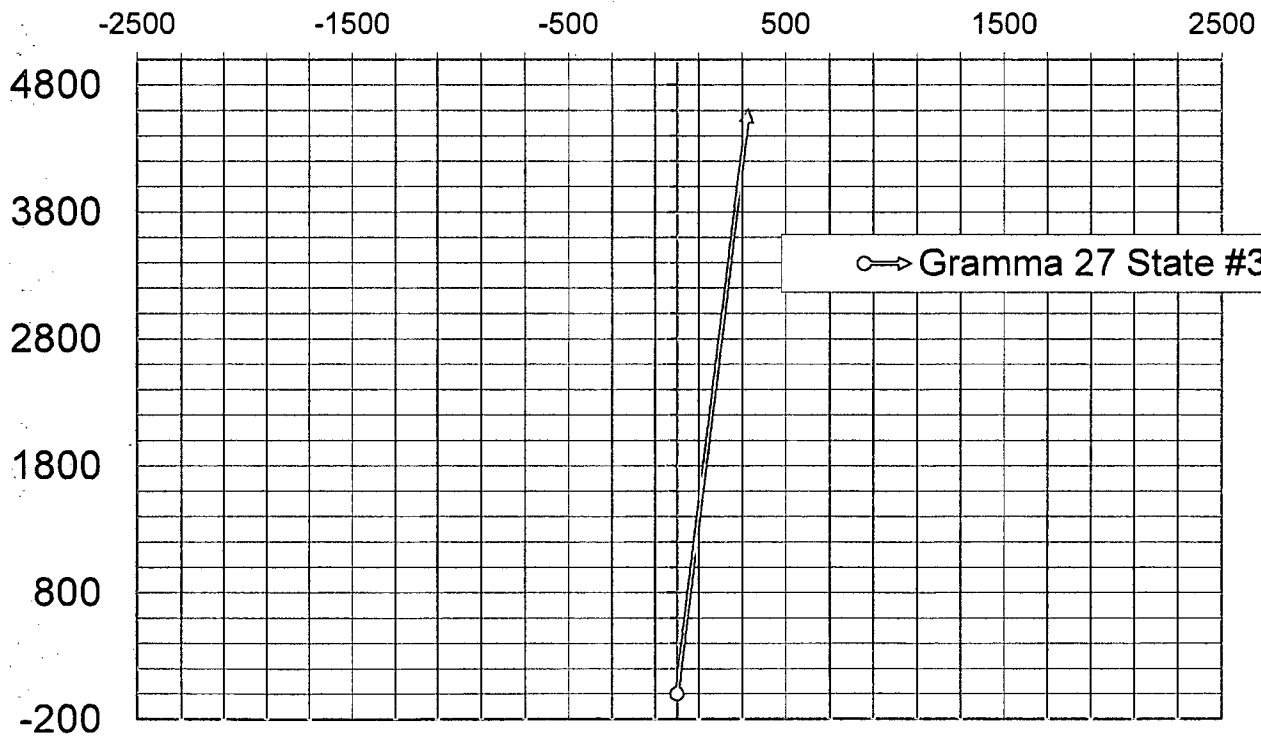
STA #	ΔMD ft	INCL deg	AZIM deg	MD ft	TVD ft	N+/S- ft	E+/W- ft	DLS deg/100FT
1	TIE POINT =>	0	4.085	9898.00	9898.00	0.00	0.00	-
2	100	12	4.085	9998.00	9997.27	10.41	0.74	12.00
3	100	24	4.085	10098.00	10092.20	41.17	2.94	12.00
4	100	36	4.085	10198.00	10178.65	90.96	6.50	12.00
5	100	48	4.085	10298.00	10252.83	157.58	11.25	12.00
6	100	60	4.085	10398.00	10311.50	238.13	17.01	12.00
7	100	72	4.085	10498.00	10352.10	329.08	23.50	12.00
8	100	84	4.085	10598.00	10372.85	426.47	30.46	12.00
9	50	90	4.085	10648.00	10375.46	476.25	34.01	12.00
10	100	90	4.085	10748.00	10375.46	576.00	41.14	0.00
11	100	90	4.085	10848.00	10375.46	675.74	48.26	0.00
12	100	90	4.085	10948.00	10375.46	775.49	55.38	0.00
13	100	90	4.085	11048.00	10375.46	875.24	62.51	0.00
14	100	90	4.085	11148.00	10375.46	974.98	69.63	0.00
15	100	90	4.085	11248.00	10375.46	1074.73	76.75	0.00
16	100	90	4.085	11348.00	10375.46	1174.47	83.88	0.00
17	100	90	4.085	11448.00	10375.46	1274.22	91.00	0.00
18	100	90	4.085	11548.00	10375.46	1373.97	98.13	0.00
19	100	90	4.085	11648.00	10375.46	1473.71	105.25	0.00
20	100	90	4.085	11748.00	10375.46	1573.46	112.37	0.00
21	100	90	4.085	11848.00	10375.46	1673.20	119.50	0.00
22	100	90	4.085	11948.00	10375.46	1772.95	126.62	0.00
23	100	90	4.085	12048.00	10375.46	1872.70	133.74	0.00
24	100	90	4.085	12148.00	10375.46	1972.44	140.87	0.00
25	100	90	4.085	12248.00	10375.46	2072.19	147.99	0.00
26	100	90	4.085	12348.00	10375.46	2171.93	155.11	0.00
27	100	90	4.085	12448.00	10375.46	2271.68	162.24	0.00
28	100	90	4.085	12548.00	10375.46	2371.42	169.36	0.00
29	100	90	4.085	12648.00	10375.46	2471.17	176.49	0.00
30	100	90	4.085	12748.00	10375.46	2570.92	183.61	0.00
31	100	90	4.085	12848.00	10375.46	2670.66	190.73	0.00
32	100	90	4.085	12948.00	10375.46	2770.41	197.86	0.00
33	100	90	4.085	13048.00	10375.46	2870.15	204.98	0.00
34	100	90	4.085	13148.00	10375.46	2969.90	212.10	0.00
35	100	90	4.085	13248.00	10375.46	3069.65	219.23	0.00
36	100	90	4.085	13348.00	10375.46	3169.39	226.35	0.00
37	100	90	4.085	13448.00	10375.46	3269.14	233.47	0.00
38	100	90	4.085	13548.00	10375.46	3368.88	240.60	0.00
39	100	90	4.085	13648.00	10375.46	3468.63	247.72	0.00
40	100	90	4.085	13748.00	10375.46	3568.38	254.85	0.00
41	100	90	4.085	13848.00	10375.46	3668.12	261.97	0.00
42	100	90	4.085	13948.00	10375.46	3767.87	269.09	0.00
43	100	90	4.085	14048.00	10375.46	3867.61	276.22	0.00
44	100	90	4.085	14148.00	10375.46	3967.36	283.34	0.00
45	100	90	4.085	14248.00	10375.46	4067.11	290.46	0.00
46	100	90	4.085	14348.00	10375.46	4166.85	297.59	0.00
47	100	90	4.085	14448.00	10375.46	4266.60	304.71	0.00
48	100	90	4.085	14548.00	10375.46	4366.34	311.83	0.00
49	100	90	4.085	14648.00	10375.46	4466.09	318.96	0.00
50	100	90	4.085	14748.00	10375.46	4565.84	326.08	0.00
51	54	90	4.085	14802.00	10375.46	4619.70	329.93	0.00

Gamma 27 State Prospect



Horizontal Plane Footage +East/-West

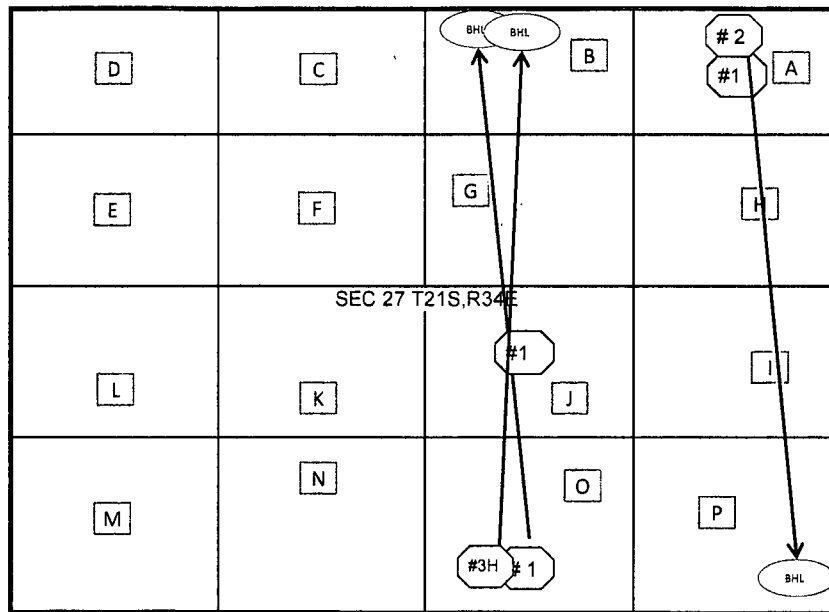
Footage + North/- South



Grammar 27 State #3H

Gamma 27 State # 3H_ Bone Springs Horizontal

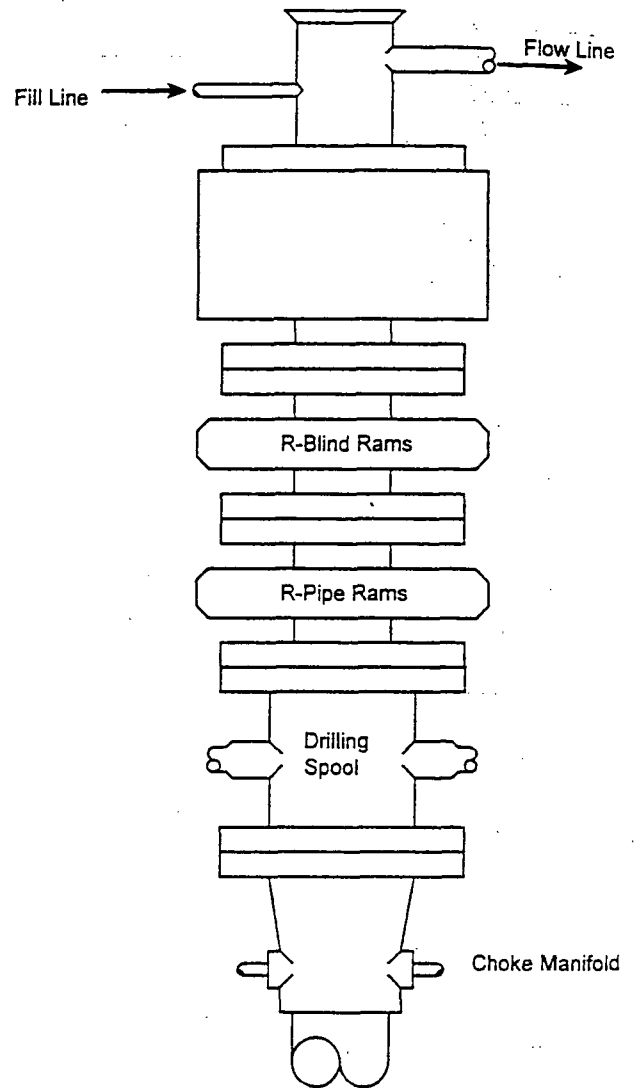
Sec 27, T-21-S, R-34-E, Lea County, New Mexico



Well Name	Surface Location	Depth and Strata	Current Prod Zone	Bottom Hole Location	
Gamma 27 State # 3H	330 FSL & 2310 FEL	TVD = 10,375 2nd Bone	3rd Bone Test	330 FNL & 1980 FEL	Caza Proposed 2nd Bone Springs
Gamma 27 State # 2H	330 FNL & 500 FEL	TVD = 11,200 3rd Bone	3rd Bone Test	330 FNL & 660 FEL	Caza Proposed 3rd Bone Springs
Gamma 27 State #1H	330 FSL & 1980 FEL	TD = 11,200 3rd Bone	3rd Bone Test	355 FNL & 2289 FEL	Caza Drilled.
State B 9611 # 1	660 FNL & 660 FEL	TD = 4100' Yates	Plugged	Vertical	Wilson Oil Co
State B 9511 # 1	1980 FSL & 1980 FEL	TD = 3676' Yates	Plugged	Vertical	Wilson Oil Co
GRW # 1	1980 FNL & 1650 FEL	TD = 13,400 Morrow	Plugged	Vertical	POGO Production Co
Gamma "B" 8817 JVP-1	660 FSL & 1980 FWL	TD = 13,306 Morrow	Plugged	Vertical	BTA Producers
Gamma "B" 8817 JVP-2	1980 FSL & 860 FEL	TD = 13,280 Mrw. Del Tst. 8284-8320. plugged 1994	Plugged	Vertical	BTA Producers.
GRN 27 State Com # 1	1330 FNL & 1650 FEL	Proposed TD = 13400 Morrow	Permitted NOT DRILL	Vertical	Devon Energy. Not Drilled

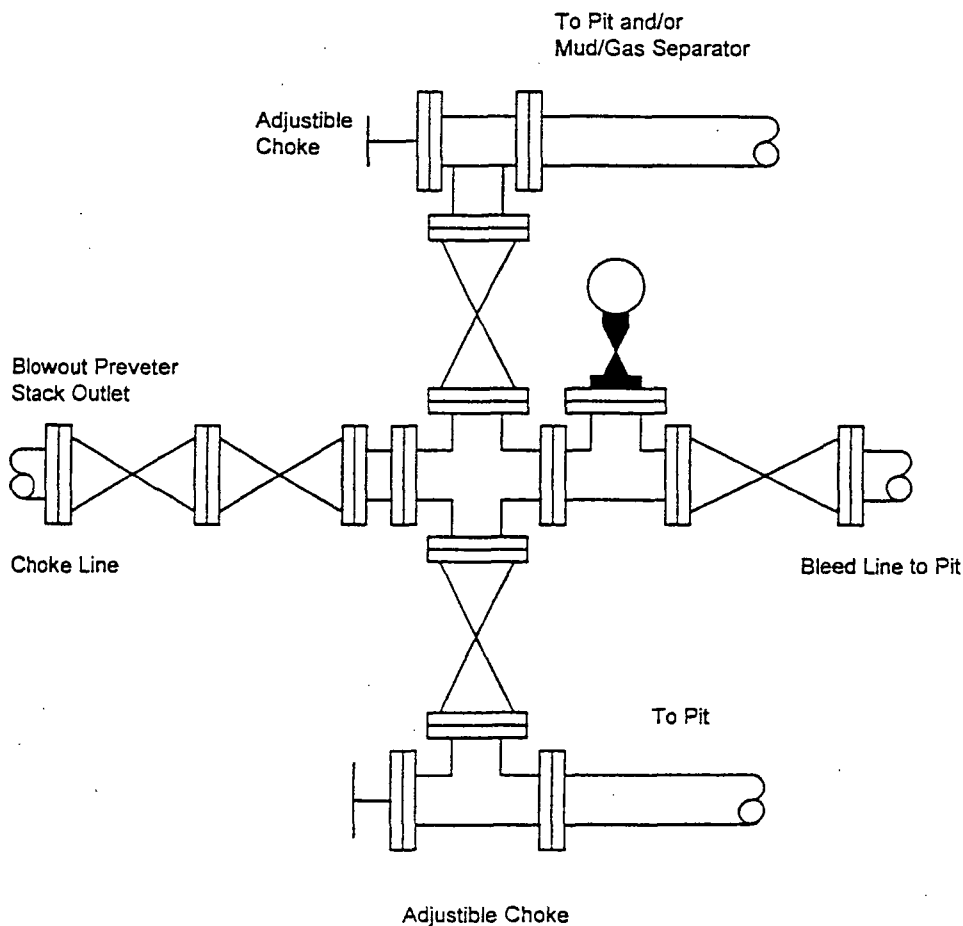
BLOWOUT PREVENTER SYSTEM

5000 PSI

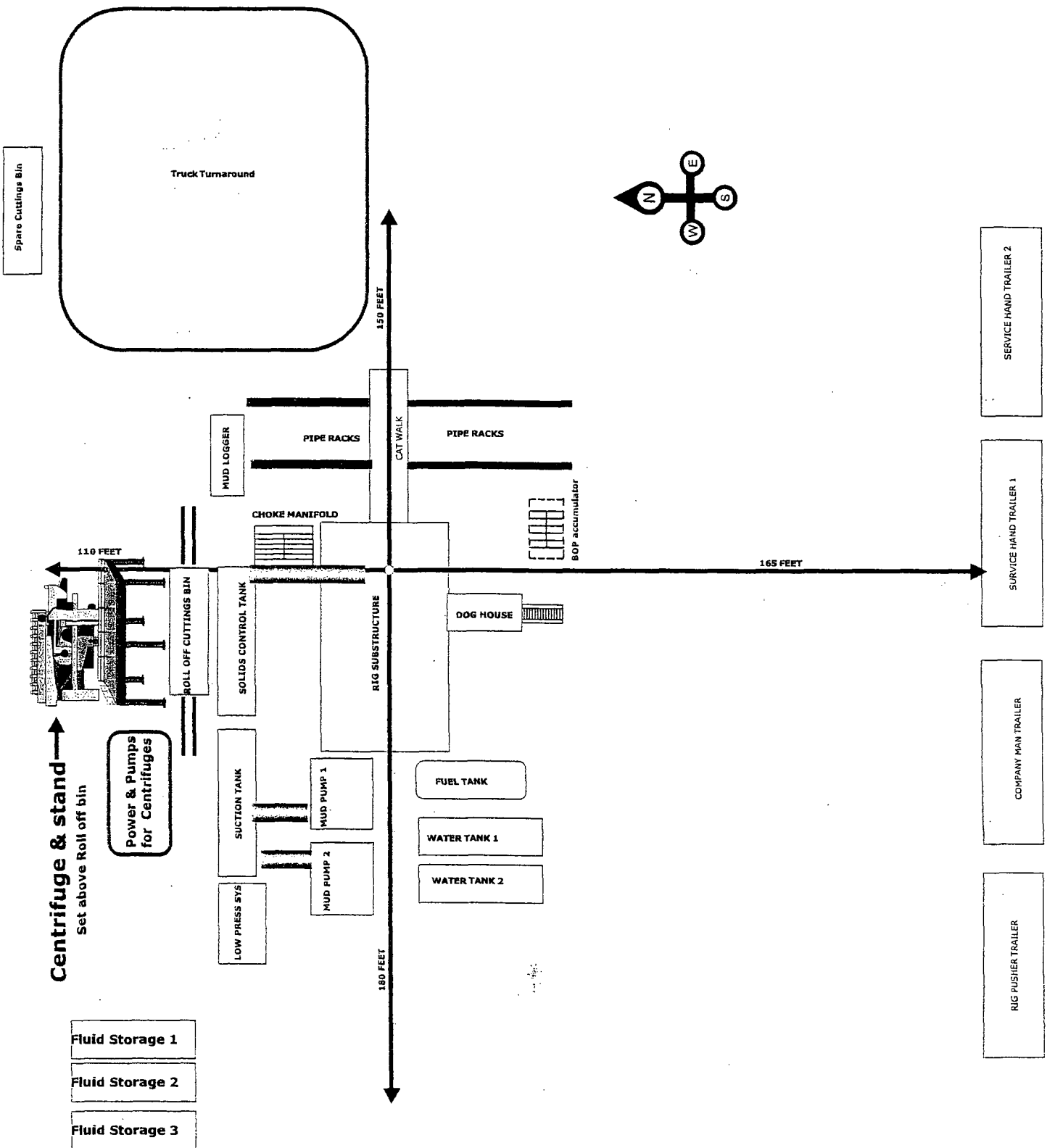


Type 1500 SERIES
5000 psi WP

Choke Manifold Assembly for 5M WP System



Closed Loop Oil Well



Note: The Rig and Closed System Company for this well have not been selected thus the set up shown is simply generic.



Closed Loop Drilling System

Operations and Maintenance Plan

Closed Loop equipment will be inspected and monitored closely on a daily basis by each drilling rig Tour and by those hired specifically to operate the equipment. Any leak or release detected will be repaired immediately and the proper NMOCD official will be notified within the 48 hr requirement. A large release will require Caza Operating, LLC representatives to contact BLM immediately at the Carlsbad office "575 234 5972" Hobbs "575 393 3612" as well as the NMOCD @ 575 393 6161 as stated by NMOCD rule 116.

Closure Plan

During and after drilling operations, liquids (which apply), all drill cuttings and drilling fluids will be hauled and disposed of at the R-360 disposal (permit number NM 01-0006) located about 30 miles East of Carlsbad, New Mexico. An alternate approved disposal site has been selected Parabo disposal "Sundance " which is 4 miles East of Eunice (permit number NM 01-0003). The Second site would be used in the event of economics or physical problems with R-360 disposal.

DISTRICT I --- CHECKLIST FOR INTENTS TO DRILL

APD is for N ☒ P ☐ E ☐ A ☐ D ☐WELL TYPE: O ☒ G ☐ I ☐ S ☐ OTHER ☐Operator Caza Operating LLC OGRID # 249099Well Name & # Gramma 27 Sub # 3H Surface Type (F) (S) (P)Location: UL D, Sect 27, Township 21 s, RNG 34 e, Sub-surface Type (F) (S) (P)1: BHL @: UL B, Sect 27, Township 21 s, RNG 34 e, H ☒ DD ☐2: BHL @: UL , Sect , Township s, RNG e, H ☐ DD ☐A. Date C101 rec'd 7/23/14 C101 reviewed 7/23/14

B. 1. Check mark, Information is OK on Forms:

OGRID ☒ BONDING ☒ PROP CODE ☒ WELL # ☒ SIGNATURE ☒2. Inactive Well list as of: 7/23/14 # wells 29, # Inactive wells 0

a. District Grant APD but see number of inactive wells:

No letter required ☒; Sent Letter to Operator , to Santa Fe 3. Additional Bonding as of: 7/23/14

a. District Denial because operator needs addition bonding:

No Letter required ☒; Sent Letter to Operator , To Santa Fe

b. District Denial because of Inactive well list and Financial Assurance:

No Letter required ☒; Sent Letter to Operator , To Santa Fe C102 YES ☒ NO ☐ Signature MATCHING TO C101 ☒ OP. NAME LOCATION Pool Gramma Ridge BS Northern Code 28435a. Dedicated acreage 100, What Units OSCBb. SUR. Location Standard ☒: Non-Standard Location c. Well shares acres: Yes ☒ No ☐ # of wells 1 plus this well # 31. 2nd Operator in same acreage, Yes ☐ No ☒ WELL(S) SHARING: WELL(S) BY 2nd OPER: Agreement Letter , Disagreement letter 2. Intent to Directional Drill Yes ☒ No ☐Dedicated acreage 100, What Units OSCBBottomhole Location Standard ☒ Non-Standard Bottomhole 3. Downhole Commingle: Yes ☐ No ☒a. Pool #2 , Code , Acres Pool #3 , Code , Acres Pool #4 , Code , Acres 4. POTASH Area Yes ☐ No ☒C. Blowout Preventer Yes ☒ No ☐D. H2S Yes ☐ No ☒E. C144 Pit Registration Yes ☐ No ☒ CLOSED-LOOP STATEMENT ☒

F. Does APD require Santa Fe Approval:

1. Non-Standard Location: Yes ☐ No ☒ NSL # 2. Non-Standard Proration: Yes ☐ No ☒ NSP # 3. Simultaneous Dedication: Yes ☐ No ☒ SD # Number of wells Plus # 4. Injection order Yes ☐ No ☒ PMX # or WFX # 5. SWD order Yes ☐ NO ☒ SWD # 6. DHC from SF ; DHC-HOB ; Holding 7. OCD Approval Date 7/23/14API #30-0 25-419808. Reviewers