

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 Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

Form C-101

August 1, 2011

Permit 275935

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

1. Operator Name and Address Titus Oil & Gas Production, LLC 420 Throckmorton St, Ste 1150 Fort Worth, TX 76012		2. OGRID Number 373986
		3. API Number 30-015-46638
4. Property Code 327022	5. Property Name CHICKEN NOODLE STATE	6. Well No. 402H

7. Surface Location

UL - Lot N	Section 2	Township 26S	Range 25E	Lot Idn	Feet From 210	N/S Line S	Feet From 1365	E/W Line W	County Eddy
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8. Proposed Bottom Hole Location

UL - Lot C	Section 2	Township 26S	Range 25E	Lot Idn C	Feet From 10	N/S Line N	Feet From 2325	E/W Line W	County Eddy
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9. Pool Information

PURPLE SAGE;WOLFCAMP (GAS)	98220
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Additional Well Information

11. Work Type New Well	12. Well Type GAS	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3647
16. Multiple N	17. Proposed Depth 13503	18. Formation Wolfcamp	19. Contractor	20. 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
Surf	13.5	10.75	45.5	1625	400	0
Int1	9.875	7.625	29.7	7850	500	0
Prod	6.75	5.5	20	13503	900	6500

Casing/Cement Program: Additional Comments

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22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Annular	5000	2500	CAMERON
Double Ram	10000	5000	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 I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒ if applicable.	OIL CONSERVATION DIVISION	
Signature:		
Printed Name: Electronically filed by Ryan Delong	Approved By: Raymond Podany	
Title:	Title: Geologist	
Email Address: rdelong@titusoil.com	Approved Date: 1/24/2020	Expiration Date: 1/24/2022
Date: 1/14/2020	Phone: 817-852-6370	Conditions of Approval Attached

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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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code 98220	³ Pool Name PURPLE SAGE; WOLFCAMP
⁴ Property Code	⁵ Property Name CHICKEN NOODLE STATE	⁶ Well Number 402H
⁷ OGRID No. 373986	⁸ Operator Name TITUS OIL & GAS PRODUCTION, LLC	⁹ Elevation 3647'

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
N	2	26S	25E		210	SOUTH	1365	WEST	EDDY

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
C	2	26S	25E		10	NORTH	2325	WEST	EDDY

¹² Dedicated Acres 320.0	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.

	CORNER COORDINATES NAD 83, SPCS NM EAST A - X: 528437.39' / Y: 392488.12' B - X: 531092.45' / Y: 392512.94' C - X: 531087.04' / Y: 387187.70' D - X: 528437.71' / Y: 387214.15'	CORNER COORDINATES NAD 27, SPCS NM EAST A - X: 487254.51' / Y: 392431.84' B - X: 489909.55' / Y: 392456.62' C - X: 489904.05' / Y: 387141.48' D - X: 487254.75' / Y: 387157.95'	¹⁷ OPERATOR CERTIFICATION 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 unleased 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. Signature: <i>Ryan DeLong</i> Date: 12/16/2019 Printed Name: Ryan DeLong - Regulatory Manager E-mail Address: rdelong@titusoil.com
	BOTTOM HOLE LOCATION 10' FNL 2325' FWL, SECTION 2 NAD 83, SPCS NM EAST X: 530762.39' / Y: 392499.85' LAT: 32.07905715N / LON: 104.36747725W NAD 27, SPCS NM EAST X: 489579.49' / Y: 392443.54' LAT: 32.07893846N / LON: 104.36697733W		
	LAST TAKE POINT 100' FNL 2325' FWL, SECTION 2 NAD 83, SPCS NM EAST X: 530762.38' / Y: 392409.85' LAT: 32.07880973N / LON: 104.36747717W NAD 27, SPCS NM EAST X: 489579.48' / Y: 392353.53' LAT: 32.07869104N / LON: 104.36697725W		
	KICK OFF POINT/FIRST TAKE POINT 100' FSL 2320' FWL, SECTION 2 NAD 83, SPCS NM EAST X: 530757.70' / Y: 387299.75' LAT: 32.06476221N / LON: 104.36748707W NAD 27, SPCS NM EAST X: 489574.71' / Y: 387243.51' LAT: 32.06464326N / LON: 104.3669875W		
SURFACE HOLE LOCATION 210' FSL 1365' FWL, SECTION 2 NAD 83, SPCS NM EAST X: 529802.66' / Y: 387415.65' LAT: 32.06507993N / LON: 104.37057026W NAD 27, SPCS NM EAST X: 488619.68' / Y: 387359.42' LAT: 32.06496105N / LON: 104.37007059W			¹⁸ SURVEYOR CERTIFICATION 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. OCTOBER 2, 2019 Date of Survey Signature and Seal of Professional Surveyor: <i>Lloyd P. Short</i> Certificate Number: LLOYD P. SHORT 21653

Distances/areas relative to NAD 83 Combined Scale Factor: 0.99973767 Convergence: -00°01'11.26999"

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GAS CAPTURE PLAN

Date: 1/24/2020

☒ Original

Operator & OGRID No.: [373986] Titus Oil & Gas Production, LLC

☐ Amended - Reason for
Amendment:

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
CHICKEN NOODLE STATE #402H	30-015-46638	N-2-26S-25E	0210S 1365W	2500	Flared	Gas will be flared for ~21 days on flowback before turning into TB. Time est depends on sales connect and well cleanup.

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Lucid Artesia Company and will be connected to Lucid Artesia Company Low Pressure gathering system located in Eddy County, New Mexico. It will require 5000' of pipeline to connect the facility to Low Pressure gathering system. Titus Oil & Gas Production, LLC provides (periodically) to Lucid Artesia Company a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Titus Oil & Gas Production, LLC and Lucid Artesia Company have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Lucid Artesia Company Processing Plant located in Sec. 13, Twn. 24S, Rng. 33E, Lea County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Lucid Artesia Company system at that time. Based on current information, it is Titus Oil & Gas Production, LLC's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
 - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
 - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

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Oil Conservation Division
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Form APD Comments

Permit 275935

PERMIT COMMENTS

Operator Name and Address: Titus Oil & Gas Production, LLC [373986] 420 Throckmorton St, Ste 1150 Fort Worth, TX 76012		API Number: 30-015-46638
		Well: CHICKEN NOODLE STATE #402H
Created By	Comment	Comment Date

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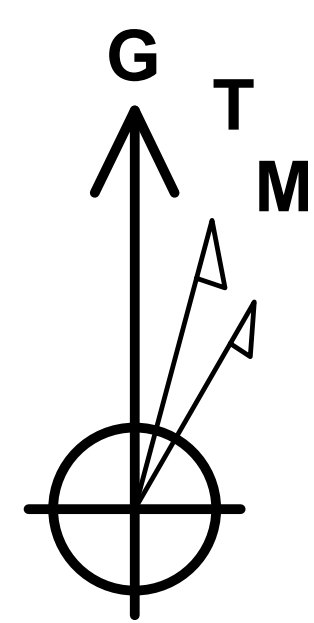
Form APD Conditions

Permit 275935

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: Titus Oil & Gas Production, LLC [373986] 420 Throckmorton St, Ste 1150 Fort Worth, TX 76012		API Number: 30-015-46638
		Well: CHICKEN NOODLE STATE #402H
OCD Reviewer	Condition	
rpodany	Will require a directional survey with the C-104	
rpodany	Cement is required to circulate on both surface and intermediate1 strings of casing	

Project: Eddy County, NM (NAD83 NME)
Site: Chicken Noodle State
Well: 402H
Wellbore: OH
Design: Plan 1 10-31-19
Rig: TBD



Azimuths to Grid North
True North: 0.02°
Magnetic North: 7.34°

Magnetic Field
Strength: 47709.1snT
Dip Angle: 59.62°
Date: 10/31/2019
Model: MVHD

RKB @ 3673.50usft (TBD)

Ground: 3647.00

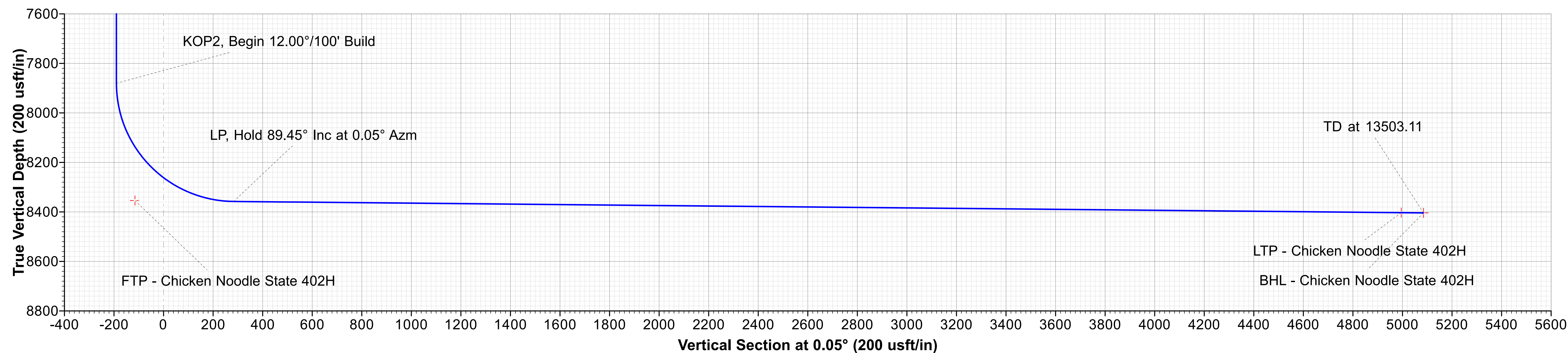
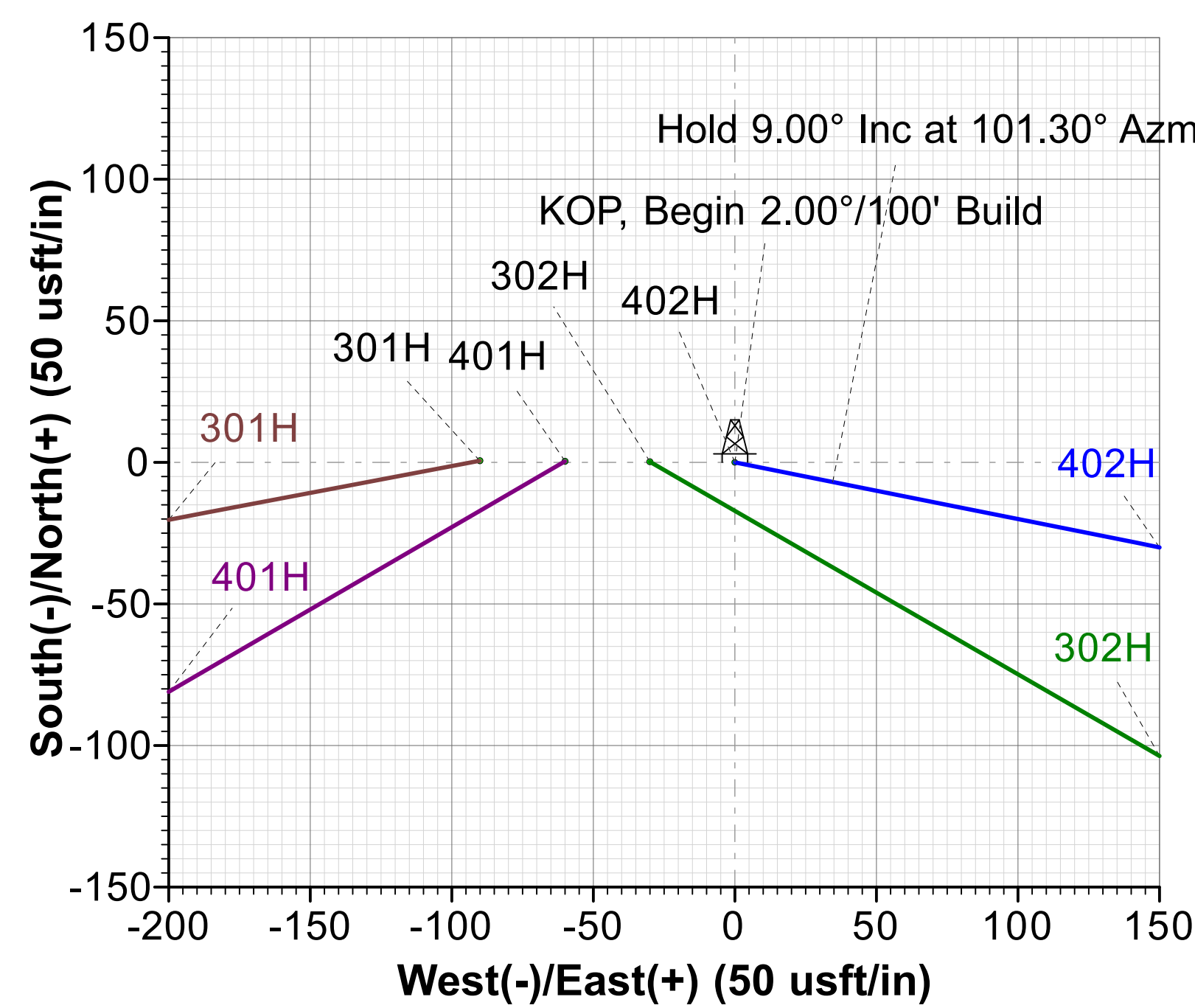
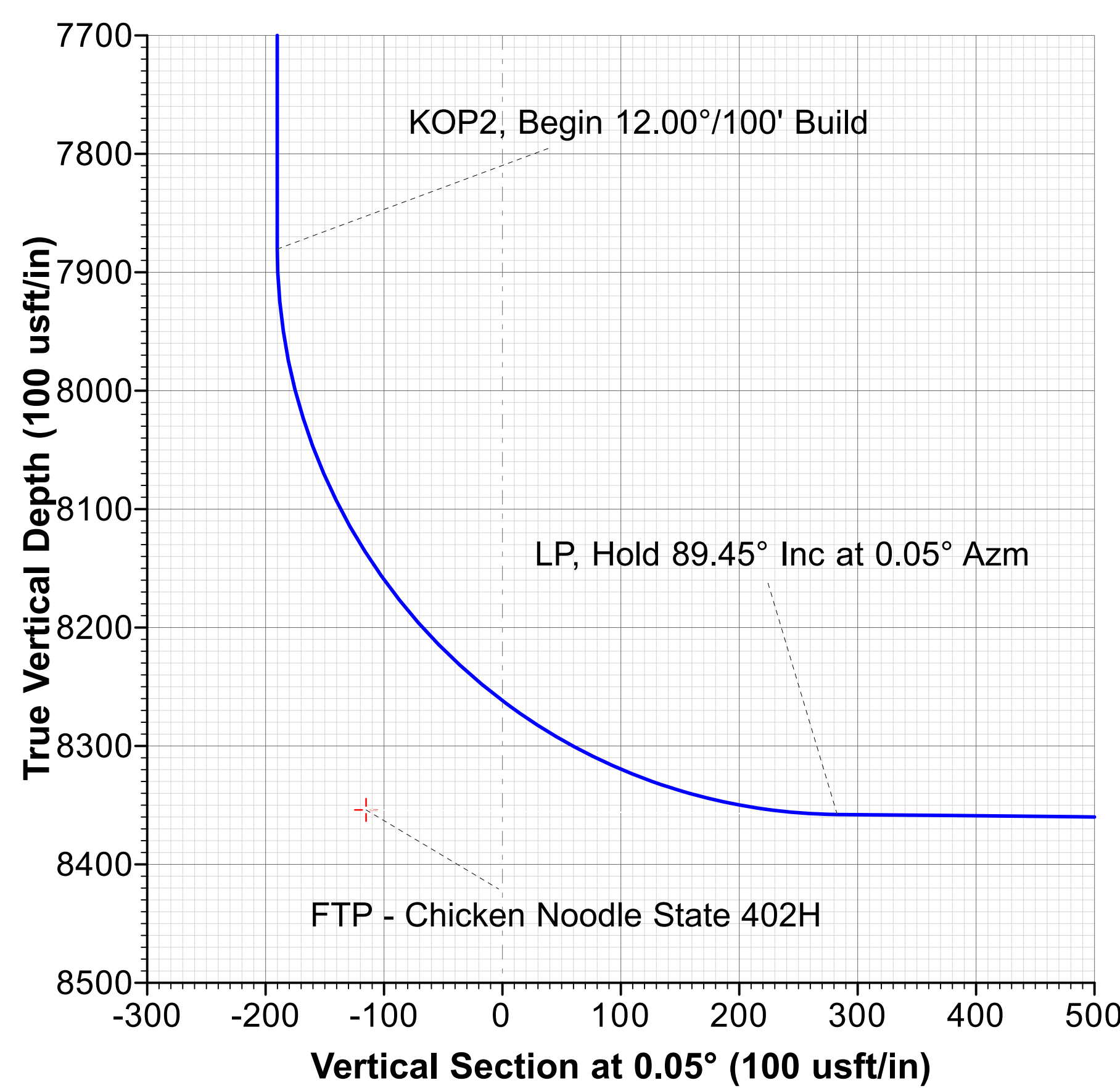
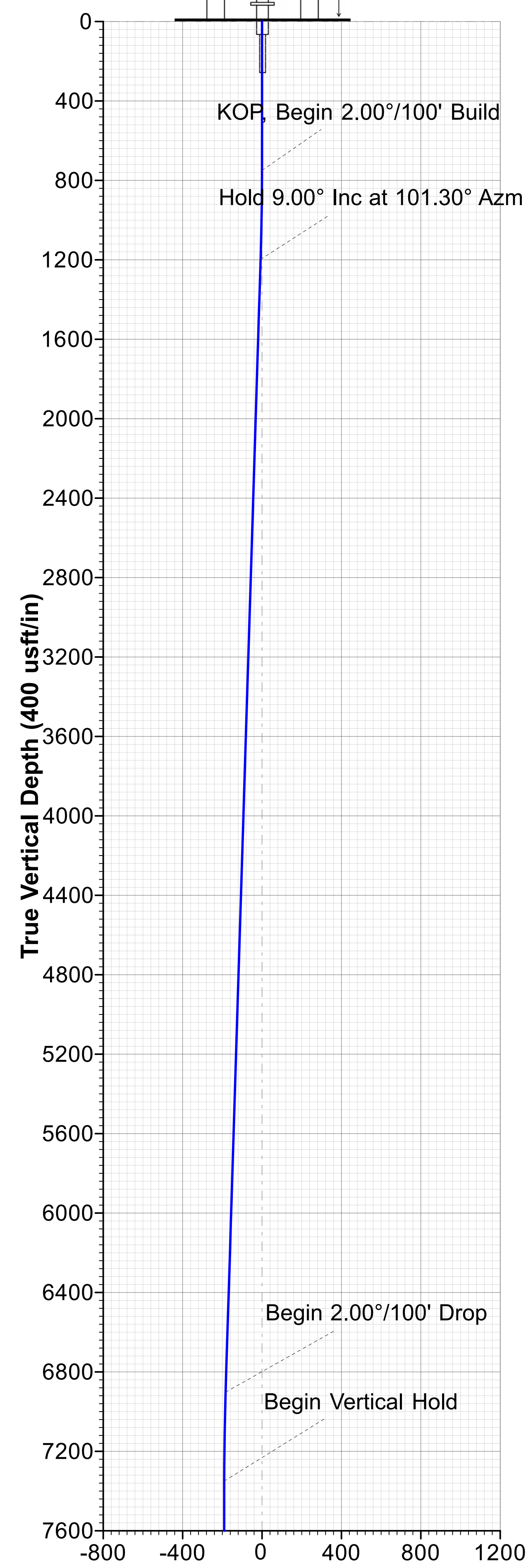
WELL DETAILS						
			3647.00			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	387415.65	529802.66	32° 3' 54.287814 N	104° 22' 14.052936 W	

DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude
FTP - Chicken Noodle State 402H	8354.00	-115.90	955.04	387299.75	530757.70	32° 3' 53.143957 N
LTP - Chicken Noodle State 402H	8403.14	4994.20	959.72	392409.85	530762.38	32° 4' 43.715063 N
BHL - Chicken Noodle State 402H	8404.00	5084.20	959.73	392499.85	530762.39	32° 4' 44.605729 N

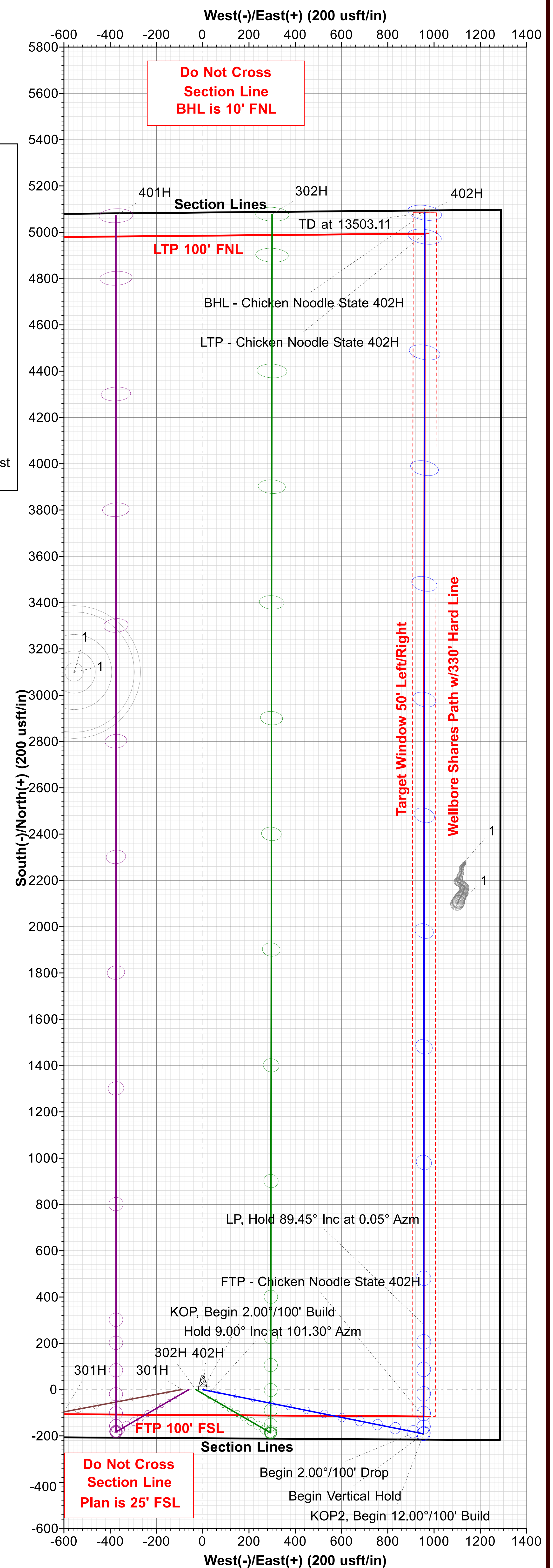
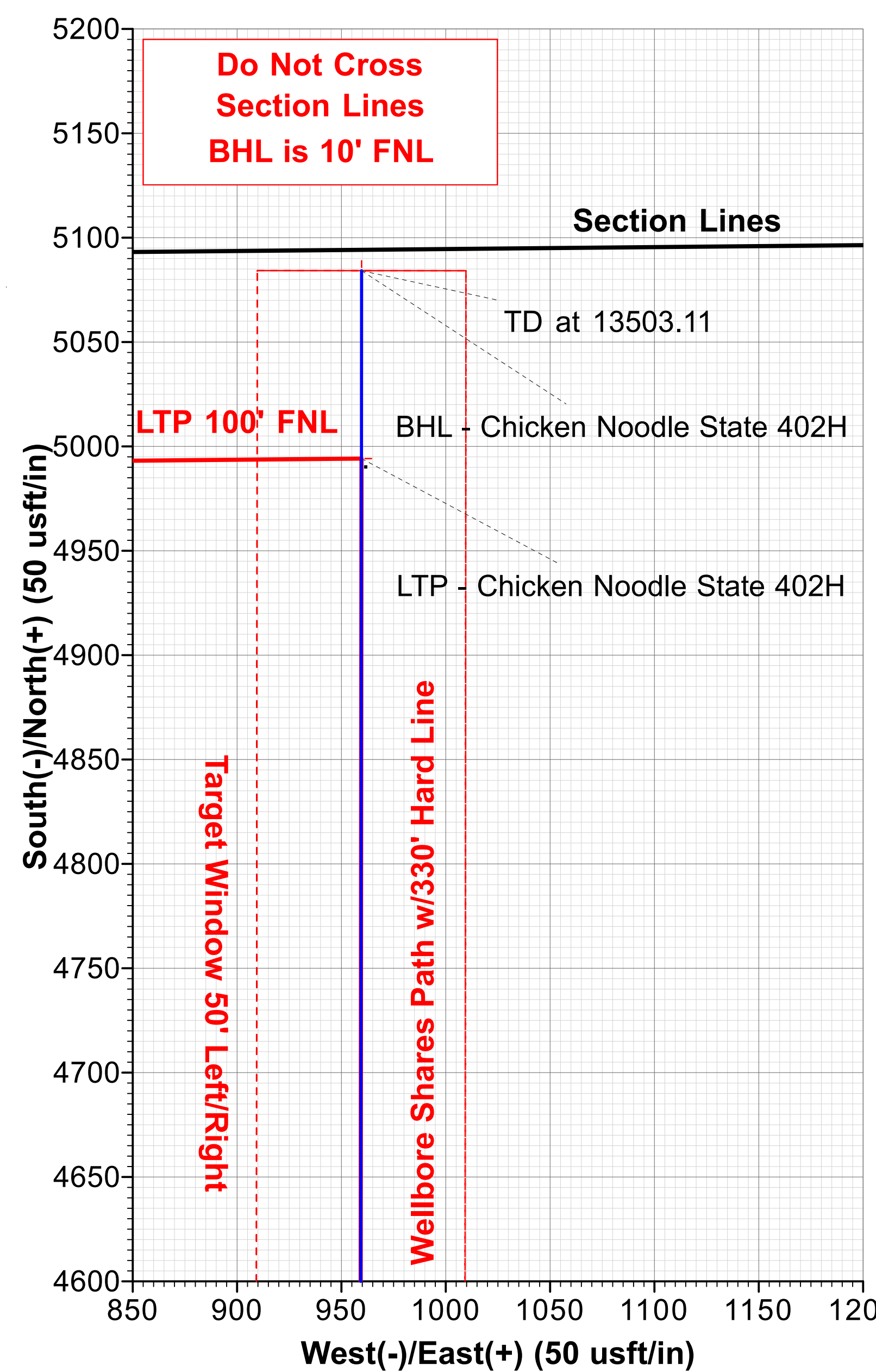
SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		KOP, Begin 2.00°/100' Build
2	750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	0.00		Hold 9.00° Inc at 101.30° Azm
3	1199.97	9.00	101.30	1198.12	-6.91	34.58	2.00	101.30	-6.88		Begin 2.00°/100' Drop
4	6975.16	9.00	101.30	6902.22	-183.99	920.43	0.00	0.00	-183.19		Begin Vertical Hold
5	7425.13	0.00	360.00	7350.34	-190.90	955.02	2.00	180.00	-190.07		KOP2, Begin 12.00°/100' Build
6	7955.25	0.00	360.00	7880.46	-190.90	955.02	0.00	360.00	-190.07		LP, Hold 89.45° Inc at 0.05° Azm
7	8700.67	89.45	0.05	8357.90	281.98	955.44	12.00	0.05	282.81		
8	13503.11	89.45	0.05	8404.00	5084.20	959.73	0.00	0.00	5085.04	BHL - Chicken Noodle State 402H	TD at 13503.11

LEGEND

- 301H, OH, Plan 1 10-31-19 V0
- 1, OH, Surveys V0
- 302H, OH, Plan 1 10-31-19 V0
- 401H, OH, Plan 1 10-31-19 V0
- 1, OH, Surveys V0
- Plan 1 10-31-19



Map System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone Name: New Mexico Eastern Zone
Local Origin: Well 402H, Grid North
Latitude: 32° 3' 54.287814 N
Longitude: 104° 22' 14.052936 W
Grid East: 529802.66
Grid North: 387415.65
Scale Factor: 1.000
Geomagnetic Model: MVHD
Sample Date: 31-Oct-19
Magnetic Declination: 7.32°
Dip Angle from Horizontal: 59.62°
Magnetic Field Strength: 47709.08053497nT
To convert a Magnetic Direction to a Grid Direction, Add 7.34°
To convert a Magnetic Direction to a True Direction, Add 7.32° East
To convert a True Direction to a Grid Direction, Add 0.02°





Titus Oil & Gas Production, LLC

Eddy County, NM (NAD83 NME)

Chicken Noodle State

402H

OH

Plan: Plan 1 10-31-19

Standard Planning Report

31 October, 2019





Planning Report



Database:	USA Compass	Local Co-ordinate Reference:	Well 402H
Company:	Titus Oil & Gas Production, LLC	TVD Reference:	RKB @ 3673.50usft (TBD)
Project:	Eddy County, NM (NAD83 NME)	MD Reference:	RKB @ 3673.50usft (TBD)
Site:	Chicken Noodle State	North Reference:	Grid
Well:	402H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 10-31-19		

Project	Eddy County, NM (NAD83 NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Chicken Noodle State			
Site Position:		Northing:	387,416.23 usft	Latitude:	32° 3' 54.293292 N
From:	Map	Easting:	529,712.64 usft	Longitude:	104° 22' 15.099132 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.02 °

Well	402H					
Well Position	+N/-S	-0.58 usft	Northing:	387,415.65 usft	Latitude:	32° 3' 54.287814 N
	+E/-W	90.02 usft	Easting:	529,802.66 usft	Longitude:	104° 22' 14.052936 W
Position Uncertainty		1.00 usft	Wellhead Elevation:		Ground Level:	3,647.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	10/31/2019	7.32	59.62	47,709.08053497

Design	Plan 1 10-31-19			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	0.05

Plan Survey Tool Program	Date	10/31/2019		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	13,503.11	Plan 1 10-31-19 (OH)	MWD+HDGM+MS OWSG Rev.2 MWD + HDGI

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,199.97	9.00	101.30	1,198.12	-6.91	34.58	2.00	2.00	0.00	101.30	
6,975.16	9.00	101.30	6,902.22	-183.99	920.43	0.00	0.00	0.00	0.00	
7,425.13	0.00	360.00	7,350.34	-190.90	955.02	2.00	-2.00	0.00	180.00	
7,955.25	0.00	360.00	7,880.46	-190.90	955.02	0.00	0.00	0.00	360.00	
8,700.67	89.45	0.05	8,357.90	281.98	955.44	12.00	12.00	0.01	0.05	
13,503.11	89.45	0.05	8,404.00	5,084.20	959.73	0.00	0.00	0.00	0.00	BHL - Chicken Noodle



Planning Report



Database:	USA Compass	Local Co-ordinate Reference:	Well 402H
Company:	Titus Oil & Gas Production, LLC	TVD Reference:	RKB @ 3673.50usft (TBD)
Project:	Eddy County, NM (NAD83 NME)	MD Reference:	RKB @ 3673.50usft (TBD)
Site:	Chicken Noodle State	North Reference:	Grid
Well:	402H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 10-31-19		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Begin 2.00°/100' Build									
800.00	1.00	101.30	800.00	-0.09	0.43	-0.09	2.00	2.00	0.00
900.00	3.00	101.30	899.93	-0.77	3.85	-0.77	2.00	2.00	0.00
1,000.00	5.00	101.30	999.68	-2.14	10.69	-2.13	2.00	2.00	0.00
1,100.00	7.00	101.30	1,099.13	-4.19	20.94	-4.17	2.00	2.00	0.00
1,199.97	9.00	101.30	1,198.12	-6.91	34.58	-6.88	2.00	2.00	0.00
Hold 9.00° Inc at 101.30° Azm									
1,200.00	9.00	101.30	1,198.15	-6.91	34.59	-6.88	0.00	0.00	0.00
1,300.00	9.00	101.30	1,296.92	-9.98	49.93	-9.94	0.00	0.00	0.00
1,400.00	9.00	101.30	1,395.69	-13.05	65.26	-12.99	0.00	0.00	0.00
1,500.00	9.00	101.30	1,494.46	-16.11	80.60	-16.04	0.00	0.00	0.00
1,600.00	9.00	101.30	1,593.23	-19.18	95.94	-19.09	0.00	0.00	0.00
1,700.00	9.00	101.30	1,692.00	-22.24	111.28	-22.15	0.00	0.00	0.00
1,800.00	9.00	101.30	1,790.77	-25.31	126.62	-25.20	0.00	0.00	0.00
1,900.00	9.00	101.30	1,889.53	-28.38	141.96	-28.25	0.00	0.00	0.00
2,000.00	9.00	101.30	1,988.30	-31.44	157.30	-31.31	0.00	0.00	0.00
2,100.00	9.00	101.30	2,087.07	-34.51	172.64	-34.36	0.00	0.00	0.00
2,200.00	9.00	101.30	2,185.84	-37.58	187.98	-37.41	0.00	0.00	0.00
2,300.00	9.00	101.30	2,284.61	-40.64	203.31	-40.46	0.00	0.00	0.00
2,400.00	9.00	101.30	2,383.38	-43.71	218.65	-43.52	0.00	0.00	0.00
2,500.00	9.00	101.30	2,482.15	-46.77	233.99	-46.57	0.00	0.00	0.00
2,600.00	9.00	101.30	2,580.92	-49.84	249.33	-49.62	0.00	0.00	0.00
2,700.00	9.00	101.30	2,679.69	-52.91	264.67	-52.68	0.00	0.00	0.00
2,800.00	9.00	101.30	2,778.46	-55.97	280.01	-55.73	0.00	0.00	0.00
2,900.00	9.00	101.30	2,877.22	-59.04	295.35	-58.78	0.00	0.00	0.00
3,000.00	9.00	101.30	2,975.99	-62.11	310.69	-61.83	0.00	0.00	0.00
3,100.00	9.00	101.30	3,074.76	-65.17	326.03	-64.89	0.00	0.00	0.00
3,200.00	9.00	101.30	3,173.53	-68.24	341.36	-67.94	0.00	0.00	0.00
3,300.00	9.00	101.30	3,272.30	-71.30	356.70	-70.99	0.00	0.00	0.00
3,400.00	9.00	101.30	3,371.07	-74.37	372.04	-74.05	0.00	0.00	0.00
3,500.00	9.00	101.30	3,469.84	-77.44	387.38	-77.10	0.00	0.00	0.00
3,600.00	9.00	101.30	3,568.61	-80.50	402.72	-80.15	0.00	0.00	0.00
3,700.00	9.00	101.30	3,667.38	-83.57	418.06	-83.20	0.00	0.00	0.00
3,800.00	9.00	101.30	3,766.15	-86.63	433.40	-86.26	0.00	0.00	0.00
3,900.00	9.00	101.30	3,864.91	-89.70	448.74	-89.31	0.00	0.00	0.00
4,000.00	9.00	101.30	3,963.68	-92.77	464.08	-92.36	0.00	0.00	0.00
4,100.00	9.00	101.30	4,062.45	-95.83	479.42	-95.42	0.00	0.00	0.00
4,200.00	9.00	101.30	4,161.22	-98.90	494.75	-98.47	0.00	0.00	0.00
4,300.00	9.00	101.30	4,259.99	-101.97	510.09	-101.52	0.00	0.00	0.00
4,400.00	9.00	101.30	4,358.76	-105.03	525.43	-104.57	0.00	0.00	0.00
4,500.00	9.00	101.30	4,457.53	-108.10	540.77	-107.63	0.00	0.00	0.00
4,600.00	9.00	101.30	4,556.30	-111.16	556.11	-110.68	0.00	0.00	0.00
4,700.00	9.00	101.30	4,655.07	-114.23	571.45	-113.73	0.00	0.00	0.00
4,800.00	9.00	101.30	4,753.84	-117.30	586.79	-116.78	0.00	0.00	0.00
4,900.00	9.00	101.30	4,852.60	-120.36	602.13	-119.84	0.00	0.00	0.00
5,000.00	9.00	101.30	4,951.37	-123.43	617.47	-122.89	0.00	0.00	0.00
5,100.00	9.00	101.30	5,050.14	-126.50	632.80	-125.94	0.00	0.00	0.00
5,200.00	9.00	101.30	5,148.91	-129.56	648.14	-129.00	0.00	0.00	0.00
5,300.00	9.00	101.30	5,247.68	-132.63	663.48	-132.05	0.00	0.00	0.00
5,400.00	9.00	101.30	5,346.45	-135.69	678.82	-135.10	0.00	0.00	0.00
5,500.00	9.00	101.30	5,445.22	-138.76	694.16	-138.15	0.00	0.00	0.00



Planning Report



Database:	USA Compass	Local Co-ordinate Reference:	Well 402H
Company:	Titus Oil & Gas Production, LLC	TVD Reference:	RKB @ 3673.50usft (TBD)
Project:	Eddy County, NM (NAD83 NME)	MD Reference:	RKB @ 3673.50usft (TBD)
Site:	Chicken Noodle State	North Reference:	Grid
Well:	402H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 10-31-19		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,600.00	9.00	101.30	5,543.99	-141.83	709.50	-141.21	0.00	0.00	0.00
5,700.00	9.00	101.30	5,642.76	-144.89	724.84	-144.26	0.00	0.00	0.00
5,800.00	9.00	101.30	5,741.53	-147.96	740.18	-147.31	0.00	0.00	0.00
5,900.00	9.00	101.30	5,840.29	-151.03	755.52	-150.37	0.00	0.00	0.00
6,000.00	9.00	101.30	5,939.06	-154.09	770.86	-153.42	0.00	0.00	0.00
6,100.00	9.00	101.30	6,037.83	-157.16	786.19	-156.47	0.00	0.00	0.00
6,200.00	9.00	101.30	6,136.60	-160.22	801.53	-159.52	0.00	0.00	0.00
6,300.00	9.00	101.30	6,235.37	-163.29	816.87	-162.58	0.00	0.00	0.00
6,400.00	9.00	101.30	6,334.14	-166.36	832.21	-165.63	0.00	0.00	0.00
6,500.00	9.00	101.30	6,432.91	-169.42	847.55	-168.68	0.00	0.00	0.00
6,600.00	9.00	101.30	6,531.68	-172.49	862.89	-171.74	0.00	0.00	0.00
6,700.00	9.00	101.30	6,630.45	-175.55	878.23	-174.79	0.00	0.00	0.00
6,800.00	9.00	101.30	6,729.22	-178.62	893.57	-177.84	0.00	0.00	0.00
6,900.00	9.00	101.30	6,827.98	-181.69	908.91	-180.89	0.00	0.00	0.00
6,975.16	9.00	101.30	6,902.22	-183.99	920.43	-183.19	0.00	0.00	0.00
Begin 2.00°/100' Drop									
7,000.00	8.50	101.30	6,926.77	-184.73	924.14	-183.93	2.00	-2.00	0.00
7,100.00	6.50	101.30	7,025.91	-187.29	936.94	-186.47	2.00	-2.00	0.00
7,200.00	4.50	101.30	7,125.44	-189.17	946.35	-188.35	2.00	-2.00	0.00
7,300.00	2.50	101.30	7,225.25	-190.37	952.34	-189.54	2.00	-2.00	0.00
7,400.00	0.50	101.30	7,325.21	-190.88	954.91	-190.05	2.00	-2.00	0.00
7,425.13	0.00	360.00	7,350.34	-190.90	955.02	-190.07	2.00	-2.00	0.00
Begin Vertical Hold									
7,955.25	0.00	0.00	7,880.46	-190.90	955.02	-190.07	0.00	0.00	0.00
KOP2, Begin 12.00°/100' Build									
8,000.00	5.37	0.05	7,925.15	-188.81	955.02	-187.98	12.00	12.00	0.00
8,100.00	17.37	0.05	8,023.00	-169.13	955.04	-168.30	12.00	12.00	0.00
8,200.00	29.37	0.05	8,114.63	-129.54	955.07	-128.70	12.00	12.00	0.00
8,300.00	41.37	0.05	8,196.03	-71.76	955.12	-70.92	12.00	12.00	0.00
8,400.00	53.37	0.05	8,263.63	1.68	955.19	2.52	12.00	12.00	0.00
8,500.00	65.37	0.05	8,314.48	87.58	955.26	88.41	12.00	12.00	0.00
8,600.00	77.37	0.05	8,346.37	182.16	955.35	183.00	12.00	12.00	0.00
8,700.00	89.37	0.05	8,357.90	281.31	955.44	282.15	12.00	12.00	0.00
8,700.67	89.45	0.05	8,357.90	281.98	955.44	282.82	11.92	11.92	0.00
LP, Hold 89.45° Inc at 0.05° Azm									
8,800.00	89.45	0.05	8,358.86	381.31	955.53	382.14	0.00	0.00	0.00
8,900.00	89.45	0.05	8,359.82	481.30	955.62	482.14	0.00	0.00	0.00
9,000.00	89.45	0.05	8,360.78	581.30	955.71	582.13	0.00	0.00	0.00
9,100.00	89.45	0.05	8,361.74	681.29	955.80	682.13	0.00	0.00	0.00
9,200.00	89.45	0.05	8,362.70	781.29	955.88	782.12	0.00	0.00	0.00
9,300.00	89.45	0.05	8,363.66	881.28	955.97	882.12	0.00	0.00	0.00
9,400.00	89.45	0.05	8,364.62	981.28	956.06	982.11	0.00	0.00	0.00
9,500.00	89.45	0.05	8,365.58	1,081.27	956.15	1,082.11	0.00	0.00	0.00
9,600.00	89.45	0.05	8,366.54	1,181.27	956.24	1,182.10	0.00	0.00	0.00
9,700.00	89.45	0.05	8,367.50	1,281.27	956.33	1,282.10	0.00	0.00	0.00
9,800.00	89.45	0.05	8,368.46	1,381.26	956.42	1,382.09	0.00	0.00	0.00
9,900.00	89.45	0.05	8,369.42	1,481.26	956.51	1,482.09	0.00	0.00	0.00
10,000.00	89.45	0.05	8,370.37	1,581.25	956.60	1,582.09	0.00	0.00	0.00
10,100.00	89.45	0.05	8,371.33	1,681.25	956.69	1,682.08	0.00	0.00	0.00
10,200.00	89.45	0.05	8,372.29	1,781.24	956.78	1,782.08	0.00	0.00	0.00
10,300.00	89.45	0.05	8,373.25	1,881.24	956.87	1,882.07	0.00	0.00	0.00
10,400.00	89.45	0.05	8,374.21	1,981.23	956.96	1,982.07	0.00	0.00	0.00
10,500.00	89.45	0.05	8,375.17	2,081.23	957.05	2,082.06	0.00	0.00	0.00



Planning Report



Database:	USA Compass	Local Co-ordinate Reference:	Well 402H
Company:	Titus Oil & Gas Production, LLC	TVD Reference:	RKB @ 3673.50usft (TBD)
Project:	Eddy County, NM (NAD83 NME)	MD Reference:	RKB @ 3673.50usft (TBD)
Site:	Chicken Noodle State	North Reference:	Grid
Well:	402H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 10-31-19		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
10,600.00	89.45	0.05	8,376.13	2,181.22	957.14	2,182.06	0.00	0.00	0.00	
10,700.00	89.45	0.05	8,377.09	2,281.22	957.23	2,282.05	0.00	0.00	0.00	
10,800.00	89.45	0.05	8,378.05	2,381.21	957.32	2,382.05	0.00	0.00	0.00	
10,900.00	89.45	0.05	8,379.01	2,481.21	957.40	2,482.04	0.00	0.00	0.00	
11,000.00	89.45	0.05	8,379.97	2,581.21	957.49	2,582.04	0.00	0.00	0.00	
11,100.00	89.45	0.05	8,380.93	2,681.20	957.58	2,682.04	0.00	0.00	0.00	
11,200.00	89.45	0.05	8,381.89	2,781.20	957.67	2,782.03	0.00	0.00	0.00	
11,300.00	89.45	0.05	8,382.85	2,881.19	957.76	2,882.03	0.00	0.00	0.00	
11,400.00	89.45	0.05	8,383.81	2,981.19	957.85	2,982.02	0.00	0.00	0.00	
11,500.00	89.45	0.05	8,384.77	3,081.18	957.94	3,082.02	0.00	0.00	0.00	
11,600.00	89.45	0.05	8,385.73	3,181.18	958.03	3,182.01	0.00	0.00	0.00	
11,700.00	89.45	0.05	8,386.69	3,281.17	958.12	3,282.01	0.00	0.00	0.00	
11,800.00	89.45	0.05	8,387.65	3,381.17	958.21	3,382.00	0.00	0.00	0.00	
11,900.00	89.45	0.05	8,388.61	3,481.16	958.30	3,482.00	0.00	0.00	0.00	
12,000.00	89.45	0.05	8,389.57	3,581.16	958.39	3,581.99	0.00	0.00	0.00	
12,100.00	89.45	0.05	8,390.53	3,681.15	958.48	3,681.99	0.00	0.00	0.00	
12,200.00	89.45	0.05	8,391.49	3,781.15	958.57	3,781.98	0.00	0.00	0.00	
12,300.00	89.45	0.05	8,392.45	3,881.14	958.66	3,881.98	0.00	0.00	0.00	
12,400.00	89.45	0.05	8,393.41	3,981.14	958.75	3,981.98	0.00	0.00	0.00	
12,500.00	89.45	0.05	8,394.37	4,081.14	958.84	4,081.97	0.00	0.00	0.00	
12,600.00	89.45	0.05	8,395.33	4,181.13	958.93	4,181.97	0.00	0.00	0.00	
12,700.00	89.45	0.05	8,396.29	4,281.13	959.01	4,281.96	0.00	0.00	0.00	
12,800.00	89.45	0.05	8,397.25	4,381.12	959.10	4,381.96	0.00	0.00	0.00	
12,900.00	89.45	0.05	8,398.21	4,481.12	959.19	4,481.95	0.00	0.00	0.00	
13,000.00	89.45	0.05	8,399.17	4,581.11	959.28	4,581.95	0.00	0.00	0.00	
13,100.00	89.45	0.05	8,400.13	4,681.11	959.37	4,681.94	0.00	0.00	0.00	
13,200.00	89.45	0.05	8,401.09	4,781.10	959.46	4,781.94	0.00	0.00	0.00	
13,300.00	89.45	0.05	8,402.05	4,881.10	959.55	4,881.93	0.00	0.00	0.00	
13,400.00	89.45	0.05	8,403.01	4,981.09	959.64	4,981.93	0.00	0.00	0.00	
13,500.00	89.45	0.05	8,403.97	5,081.09	959.73	5,081.92	0.00	0.00	0.00	
13,503.11	89.45	0.05	8,404.00	5,084.20	959.73	5,085.03	0.00	0.00	0.00	
TD at 13503.11										

Design Targets										
Target Name										
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
FTP - Chicken Noodle	0.00	0.00	8,354.00	-115.90	955.04	387,299.75	530,757.70	32° 3' 53.143957 N	04° 22' 2.953422 W	
- plan misses target center by 144.15usft at 8374.65usft MD (8247.97 TVD, -18.25 N, 955.17 E)										
- Point										
LTP - Chicken Noodle	0.00	360.00	8,403.14	4,994.20	959.72	392,409.85	530,762.38	32° 4' 43.715063 N	04° 22' 2.917824 W	
- plan misses target center by 0.07usft at 13413.11usft MD (8403.14 TVD, 4994.20 N, 959.65 E)										
- Point										
BHL - Chicken Noodle	0.55	0.05	8,404.00	5,084.20	959.73	392,499.85	530,762.39	32° 4' 44.605730 N	04° 22' 2.918039 W	
- plan hits target center										
- Rectangle (sides W100.00 H5,200.10 D0.00)										



Planning Report



Database:	USA Compass	Local Co-ordinate Reference:	Well 402H
Company:	Titus Oil & Gas Production, LLC	TVD Reference:	RKB @ 3673.50usft (TBD)
Project:	Eddy County, NM (NAD83 NME)	MD Reference:	RKB @ 3673.50usft (TBD)
Site:	Chicken Noodle State	North Reference:	Grid
Well:	402H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 10-31-19		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
750.00	750.00	0.00	0.00	KOP, Begin 2.00°/100' Build
1,199.97	1,198.12	-6.91	34.58	Hold 9.00° Inc at 101.30° Azm
6,975.16	6,902.22	-183.99	920.43	Begin 2.00°/100' Drop
7,425.13	7,350.34	-190.90	955.02	Begin Vertical Hold
7,955.25	7,880.46	-190.90	955.02	KOP2, Begin 12.00°/100' Build
8,700.67	8,357.90	281.98	955.44	LP, Hold 89.45° Inc at 0.05° Azm
13,503.11	8,404.00	5,084.20	959.73	TD at 13503.11