

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 291100

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

1. Operator Name and Address Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024		2. OGRID Number 328947
		3. API Number 30-015-47910
4. Property Code 329966	5. Property Name LIVE OAK	6. Well No. 050H

7. Surface Location

UL - Lot B	Section 27	Township 19S	Range 25E	Lot Idn B	Feet From 1069	N/S Line N	Feet From 1650	E/W Line E	County Eddy
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8. Proposed Bottom Hole Location

UL - Lot B	Section 28	Township 19S	Range 25E	Lot Idn B	Feet From 1115	N/S Line N	Feet From 2604	E/W Line E	County Eddy
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9. Pool Information

N. SEVEN RIVERS; GLORIETA-YESO	97565
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Additional Well Information

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type Private	15. Ground Level Elevation 3444
16. Multiple N	17. Proposed Depth 8809	18. Formation Yeso	19. Contractor	20. Spud Date 6/9/2021
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	17.5	9.625	36	1200	393	0
Prod	8.75	7	32	3450	1403	0
Prod	8.75	5.5	20	8809	1403	0

Casing/Cement Program: Additional Comments

SEE ATTACHED DRILL PLAN FOR MORE INFORMATION.

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Blind	5	70	Control Technology Inc.

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.

Signature:

OIL CONSERVATION DIVISION

Printed Name: Electronically filed by Sarah Chapman	Approved By: Kurt Simmons
Title: Regulatory Director	Title: Petroleum Specialist - A
Email Address: schapman@spurepllc.com	Approved Date: 1/12/2021 Expiration Date: 1/12/2023
Date: 1/10/2021 Phone: 832-930-8613	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 30-015-	² Pool Code 97565	³ Pool Name N. SEVEN RIVERS; GLORIETA-YESO
⁴ Property Code	⁵ Property Name LIVE OAK	⁶ Well Number 50H
⁷ OGRID NO. 328947	⁸ Operator Name SPUR ENERGY PARTNERS LLC.	⁹ Elevation 3444'

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
B	27	19S	25E		1069	NORTH	1650	EAST	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
B	28	19S	25E		1115	NORTH	2604	EAST	EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
320			

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

¹⁶ <u>GEODETIC DATA</u> NAD 83 GRID - NM EAST <u>SURFACE LOCATION (SL)</u> N: 595081.3 - E: 499415.5 LAT: 32.6358538° N LONG: 104.4695190° W <u>FIRST TAKE POINT (FTP)</u> 1115' FNL & 2518' FWL - SEC 27 N: 595072.5 - E: 498356.9 LAT: 32.6358256° N LONG: 104.4729579° W <u>LAST TAKE POINT (LTP)</u> 1115' FNL & 2554' FEL - SEC 28 N: 595168.4 - E: 493288.0 LAT: 32.6360698° N LONG: 104.4894249° W <u>BOTTOM HOLE (BH)</u> N: 595168.5 - E: 493238.0 LAT: 32.6360699° N LONG: 104.4895873° W	<u>CORNER DATA</u> NAD 83 GRID - NM EAST A: FOUND 1/2" REBAR N: 590950.1 - E: 490511.8 B: FOUND 10"x8"x2.5" LIMESTONE ROCK N: 596289.2 - E: 490540.3 C: FOUND 1/2" REBAR N: 596283.3 - E: 493191.2 D: FOUND 1" PIPE N: 596277.3 - E: 495841.8 E: FOUND 1/2" REBAR N: 596183.6 - E: 498448.0 F: FOUND 1/2" REBAR N: 596091.2 - E: 501054.3 G: FOUND 1/2" REBAR N: 590847.7 - E: 501100.1 H: FOUND LIMESTONE ROCK N: 590929.4 - E: 498489.6 I: FOUND 1/2" REBAR N: 590944.6 - E: 495839.1 J: FOUND 1/2" REBAR N: 590947.0 - E: 493175.7 K: FOUND 60D NAIL N: 593638.2 - E: 495840.9	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. <i>Sarah Chapman</i> 12/23/2020 Signature Date SARAH CHAPMAN Printed Name SCHAPMAN@SPUREPLLC.COM E-mail Address	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. 11-17-2020 Date of Survey Signature and Seal of Professional Surveyor 19680 Certificate Number
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LS20110666

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Oil Conservation Division
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Santa Fe, NM 87505

GAS CAPTURE PLAN

Date: 1/12/2021

☒ Original

Operator & OGRID No.: [328947] Spur Energy Partners 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, recomple 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
LIVE OAK #050H	30-015-47910	B-27-19S-25E	1069N 1650E	600	Flared	WILL FLARE UNTIL TIE-IN COMPLETE

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 DCP OPERATING COMPANY, LP and will be connected to DCP OPERATING COMPANY, LP Low Pressure gathering system located in Eddy County, New Mexico. It will require 1795' of pipeline to connect the facility to Low Pressure gathering system. Spur Energy Partners LLC provides (periodically) to DCP OPERATING COMPANY, LP a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Spur Energy Partners LLC and DCP OPERATING COMPANY, LP have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at DCP OPERATING COMPANY, LP Processing Plant located in Sec. 07, Twn. 18S, Rng. 28E, Eddy 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 DCP OPERATING COMPANY, LP system at that time. Based on current information, it is Spur Energy Partners 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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Santa Fe, NM 87505

Form APD Comments

Permit 291100

PERMIT COMMENTS

Operator Name and Address: Spur Energy Partners LLC [328947] 9655 Katy Freeway Houston, TX 77024		API Number: 30-015-47910
		Well: LIVE OAK #050H

Created By	Comment	Comment Date
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Form APD Conditions

Permit 291100

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: Spur Energy Partners LLC [328947] 9655 Katy Freeway Houston, TX 77024	API Number: 30-015-47910
	Well: LIVE OAK #050H

OCD Reviewer	Condition
ksimmons	Notify OCD 24 hours prior to casing & cement
ksimmons	Will require a File As Drilled C-102 and a Directional Survey with the C-104
ksimmons	Cement is required to circulate on both surface and intermediate1 strings of casing
kpickford	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
kpickford	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system
kpickford	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud
kpickford	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud 2)- Drilling Sundries Form C-103 (Casing and Cement test are to be submitted within 10 days 3)- Completion Reports & Logs are to be submitted within 45 days

Spur Energy Partners LLC – Live Oak 50H

1. Geologic Formations

Formation	TVD - RKB	Expected Fluids
Top San Andres	735'	Water Flow
Top Middle San Andres	1035'	Oil/Gas
Top Lower San Andres	1750'	Oil/Gas
Top Glorieta	2285'	Oil/Gas
Top Yeso	2415'	Oil/Gas
Base Yeso	3785'	Oil/Gas

*H₂S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program

Primary Plan:

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Hole Size (in)	Casing Interval		Csg. Size (in)	Weight (lbs)	Grade	Conn.	SF	SF Burst	Body SF	Joint SF
	From (ft)	To (ft)					Collapse		Tension	Tension
12.25	0	1200	9.625	36	J-55	BTC	1.125	1.2	1.4	1.4
8.75	0	3450	7	32	L-80	BK-HT	1.125	1.2	1.4	1.4
8.75	3450	8808	5.5	20	L-80	BK-HT	1.125	1.2	1.4	1.4
SF Values will meet or Exceed										

Spur Energy Partners LLC – Live Oak 50H

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Spur Energy Partners LLC – Live Oak 50H

3. Cementing Program

Primary Plan:

Casing String	Top (ft)	Bottom (ft)	% Excess
Surface (Lead)	0	950	100%
Surface (Tail)	950	1200	165%
Production (Lead)	0	2450	0%
Production (Tail)	2450	8808	50%

Casing String	# Sks	Wt. (lb/gal)	Yld (ft3/sack)	H2O (gal/sk)	500# Comp. Strength (hours)	Slurry Description
Surface (Lead)	270	12.2	2.31	13.48	8:12	Clas C Premium Plus Cement
Surface (Tail)	123	13.2	1.84	9.92	6:59	Clas C Premium Plus Cement
Production (Lead)	153	11.8	2.54	15.29	N/A	Clas C Premium Plus Cement
Production (Tail)	1250	13.2	1.81	9.81	N/A	Clas C Premium Plus Cement

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12.25" Hole	11"	5M	Annular	✓	70% of working pressure
		5M	Blind Ram	✓	250 psi / 5000 psi
			Pipe Ram	✓	
			Double Ram		
			Other*		
8.75" Hole	11"	5M	Annular	✓	70% of working pressure
		5M	Blind Ram	✓	250 psi / 5000 psi
			Pipe Ram	✓	
			Double Ram		
			Other*		

Spur Energy Partners LLC will be utilizing a 5M BOP

Condition	Specify what type and where?
BH Pressure at deepest TVD	1475 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	106°F

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Spur Energy Partners LLC – Live Oak 50H

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	Are anchors required by manufacturer?
	A conventional wellhead system will be employed. The wellhead and connection to the BOPE will meet all API 6A requirements. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. See attached schematics.

5. BOP Break Testing Request

Spur Energy Partners LLC requests permission to adjust the BOP break testing requirements as per the verbal agreement reached over the phone between SPUR/BLM on September 7, 2020. A separate sundry will be sent prior to spud that reflects the pad-based break testing plan.

BOP break test under the following conditions:

- After a full BOP test is conducted
- When skidding to drill the production section, where the surface casing point is shallower than the 3 Bone Spring or 10,000 TVD.
- When skidding to drill a production section that does not penetrate the 3rd Bone Spring or deeper.

If the kill line is broken prior to skid, four tests will be performed.

- 1) The void between the wellhead and the spool (this consists of two tests)
- 2) The spool between the kill lines and the choke manifold (this consists of two tests)

If the kill line is not broken prior to skid, two tests will be performed.

- 1) The void between the wellhead and the pipe rams

Spur Energy Partners LLC – Live Oak 50H

6. Mud Program

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times. The following is a general list of products: Barite, Bentonite, Gypsum, Lime, Soda Ash, Caustic Soda, Nut Plug, Cedar Fiber, Cotton Seed Hulls, Drilling Paper, Salt Water Clay, CACL2. Spur will use a closed mud system.

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From (ft)	To (ft)				
0	1200	Water-Based Mud	8.6-8.9	32-36	N/C
1200	8808	Water-Based Mud	8.6-8.9	32-36	N/C

What will be used to monitor the loss or gain of fluid?	PVT/PASON/Visual Monitoring
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7. Logging and Testing Procedures

Logging, Coring and Testing.		
Yes	Will run GR from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.	
No	Logs are planned based on well control or offset log information.	
No	Drill stem test? If yes, explain	
No	Coring? If yes, explain	
Additional logs planned		Interval
No	Resistivity	
No	Density	
No	CBL	
Yes	Mud log	ICP - TD
No	PEX	

8. Drilling Conditions

Pump high viscosity sweeps as needed for hole cleaning. The mud system will be monitored visually/manually as well as with an electronic PVT. The necessary mud products for additional weight and fluid loss control will be on location at all times. Appropriately weighted mud will be used to isolate potential gas, oil, and water zones until such time as casing can be cemented into place for zonal isolation.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H2S is present
Y	H2S Plan attached

Total estimated cuttings volume: 830 bbls.

Spur Energy Partners LLC – Live Oak 50H**9. Other facets of operation**

	Yes/No
Will more than one drilling rig be used for drilling operations? If yes, describe. Spur Energy Partners LLC requests the option to contract a Surface Rig to drill, set surface casing, and cement for this well. If the timing between rigs is such that Spur Energy Partners LLC. would not be able to preset surface, the Primary Rig will MIRU and drill the well in its entirety per the APD. Please see the attached document for information on the spudder rig.	Yes

Attachments

- ☒ Directional Plan
☒ H2S Contingency Plan
☒ Akita 57 Attachment
☒ BOP Schematics
☒ Transcend Spudder Rig Attachment

10. Company Personnel

<u>Name</u>	<u>Title</u>	<u>Office Phone</u>	<u>Mobile Phone</u>
Christopher Hollis	Drilling Manager	832-930-8629	713-380-7754
Johnny Nabors	Senior Vice President Operations	832-930-8502	281-904-8811



Spur Energy Partners, LLC

Eddy County, NM (NAD 83 - NME)

LIVE OAK

#50H

Wellbore #1

Plan: PERMIT

Standard Planning Report

19 December, 2020





Planning Report



Database:	WBDS_SQL_2	Local Co-ordinate Reference:	Well #50H
Company:	Spur Energy Partners, LLC	TVD Reference:	RKB = 20' @ 3464.00usft
Project:	Eddy County, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3464.00usft
Site:	LIVE OAK	North Reference:	Grid
Well:	#50H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Project	Eddy County, NM (NAD 83 - 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		LIVE OAK			
Site Position:		Northing:	595,065.90 usft	Latitude:	32.6358113
From:	Map	Easting:	499,402.70 usft	Longitude:	-104.4695605
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	-0.073

Well	#50H					
Well Position	+N/-S	15.40 usft	Northing:	595,081.30 usft	Latitude:	32.6358537
	+E/-W	12.80 usft	Easting:	499,415.50 usft	Longitude:	-104.4695189
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,444.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	12/18/20	7.048	60.155	47,693.51109773

Design	PERMIT			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	271.07

Plan Survey Tool Program	Date	12/18/20		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	8,808.87	PERMIT (Wellbore #1)	MWD+IGRF
				OWSG MWD + IGRF or WM

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.000	
487.58	3.75	260.40	487.45	-1.02	-6.05	2.00	2.00	0.00	260.401	
2,246.56	3.75	260.40	2,242.66	-20.22	-119.54	0.00	0.00	0.00	0.000	
3,185.16	60.00	271.07	3,008.25	-17.49	-595.08	6.00	5.99	1.14	11.114	
3,385.16	60.00	271.07	3,108.25	-14.25	-768.26	0.00	0.00	0.00	0.000	
3,689.07	90.39	271.07	3,185.00	-8.80	-1,058.60	10.00	10.00	0.00	0.000	LO #50H LP/ FTP:
8,759.00	90.39	271.07	3,150.34	86.26	-6,127.52	0.00	0.00	0.00	0.000	LO #50H LTP: 1115
8,808.99	90.39	271.07	3,150.00	87.20	-6,177.50	0.00	0.00	0.00	0.000	LO #50H PBHL: 11'



Planning Report



Database:	WBDS_SQL_2	Local Co-ordinate Reference:	Well #50H
Company:	Spur Energy Partners, LLC	TVD Reference:	RKB = 20' @ 3464.00usft
Project:	Eddy County, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3464.00usft
Site:	LIVE OAK	North Reference:	Grid
Well:	#50H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	2.00	260.40	399.98	-0.29	-1.72	1.71	2.00	2.00	0.00
487.58	3.75	260.40	487.45	-1.02	-6.05	6.03	2.00	2.00	0.00
500.00	3.75	260.40	499.84	-1.16	-6.85	6.83	0.00	0.00	0.00
600.00	3.75	260.40	599.63	-2.25	-13.31	13.26	0.00	0.00	0.00
700.00	3.75	260.40	699.41	-3.34	-19.76	19.69	0.00	0.00	0.00
800.00	3.75	260.40	799.20	-4.43	-26.21	26.12	0.00	0.00	0.00
900.00	3.75	260.40	898.98	-5.52	-32.66	32.55	0.00	0.00	0.00
1,000.00	3.75	260.40	998.77	-6.61	-39.11	38.98	0.00	0.00	0.00
1,100.00	3.75	260.40	1,098.55	-7.71	-45.56	45.41	0.00	0.00	0.00
1,200.00	3.75	260.40	1,198.34	-8.80	-52.02	51.84	0.00	0.00	0.00
1,300.00	3.75	260.40	1,298.13	-9.89	-58.47	58.27	0.00	0.00	0.00
1,400.00	3.75	260.40	1,397.91	-10.98	-64.92	64.70	0.00	0.00	0.00
1,500.00	3.75	260.40	1,497.70	-12.07	-71.37	71.13	0.00	0.00	0.00
1,600.00	3.75	260.40	1,597.48	-13.16	-77.82	77.56	0.00	0.00	0.00
1,700.00	3.75	260.40	1,697.27	-14.25	-84.27	83.99	0.00	0.00	0.00
1,800.00	3.75	260.40	1,797.05	-15.34	-90.73	90.42	0.00	0.00	0.00
1,900.00	3.75	260.40	1,896.84	-16.43	-97.18	96.85	0.00	0.00	0.00
2,000.00	3.75	260.40	1,996.62	-17.53	-103.63	103.28	0.00	0.00	0.00
2,100.00	3.75	260.40	2,096.41	-18.62	-110.08	109.71	0.00	0.00	0.00
2,200.00	3.75	260.40	2,196.20	-19.71	-116.53	116.14	0.00	0.00	0.00
2,246.56	3.75	260.40	2,242.66	-20.22	-119.54	119.14	0.00	0.00	0.00
2,250.00	3.95	260.98	2,246.09	-20.25	-119.76	119.36	6.00	5.89	16.77
2,300.00	6.93	265.53	2,295.86	-20.76	-124.47	124.06	6.00	5.94	9.11
2,350.00	9.91	267.35	2,345.31	-21.19	-131.78	131.36	6.00	5.98	3.64
2,400.00	12.91	268.34	2,394.32	-21.55	-141.66	141.24	6.00	5.99	1.97
2,450.00	15.90	268.95	2,442.74	-21.84	-154.10	153.66	6.00	5.99	1.24
2,500.00	18.90	269.38	2,490.45	-22.05	-169.05	168.61	6.00	5.99	0.85
2,550.00	21.90	269.69	2,537.31	-22.19	-186.47	186.03	6.00	6.00	0.63
2,600.00	24.90	269.93	2,583.19	-22.25	-206.33	205.88	6.00	6.00	0.48
2,650.00	27.90	270.13	2,627.97	-22.24	-228.56	228.10	6.00	6.00	0.38
2,700.00	30.90	270.28	2,671.53	-22.15	-253.09	252.64	6.00	6.00	0.31
2,750.00	33.89	270.42	2,713.74	-21.98	-279.88	279.42	6.00	6.00	0.26
2,800.00	36.89	270.53	2,754.50	-21.74	-308.83	308.37	6.00	6.00	0.23
2,850.00	39.89	270.63	2,793.68	-21.43	-339.88	339.42	6.00	6.00	0.20
2,900.00	42.89	270.71	2,831.19	-21.04	-372.94	372.48	6.00	6.00	0.17
2,950.00	45.89	270.79	2,866.91	-20.58	-407.91	407.45	6.00	6.00	0.15
3,000.00	48.89	270.86	2,900.76	-20.05	-444.70	444.25	6.00	6.00	0.14
3,050.00	51.89	270.92	2,932.63	-19.45	-483.21	482.76	6.00	6.00	0.13
3,100.00	54.89	270.98	2,962.44	-18.78	-523.34	522.90	6.00	6.00	0.12
3,150.00	57.89	271.04	2,990.12	-18.05	-564.97	564.53	6.00	6.00	0.11
3,185.16	60.00	271.07	3,008.25	-17.49	-595.08	594.65	6.00	6.00	0.10
3,200.00	60.00	271.07	3,015.67	-17.25	-607.93	607.50	0.00	0.00	0.00
3,300.00	60.00	271.07	3,065.67	-15.63	-694.52	694.11	0.00	0.00	0.00
3,385.16	60.00	271.07	3,108.25	-14.25	-768.26	767.86	0.00	0.00	0.00
3,400.00	61.48	271.07	3,115.51	-14.00	-781.20	780.80	10.00	10.00	0.00
3,450.00	66.48	271.07	3,137.43	-13.16	-826.11	825.72	10.00	10.00	0.00
3,500.00	71.48	271.07	3,155.35	-12.29	-872.76	872.38	10.00	10.00	0.00
3,550.00	76.48	271.07	3,169.15	-11.38	-920.80	920.43	10.00	10.00	0.00
3,600.00	81.48	271.07	3,178.70	-10.46	-969.85	969.49	10.00	10.00	0.00
3,650.00	86.48	271.07	3,183.94	-9.53	-1,019.55	1,019.20	10.00	10.00	0.00



Planning Report



Database:	WBDS_SQL_2	Local Co-ordinate Reference:	Well #50H
Company:	Spur Energy Partners, LLC	TVD Reference:	RKB = 20' @ 3464.00usft
Project:	Eddy County, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3464.00usft
Site:	LIVE OAK	North Reference:	Grid
Well:	#50H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,689.07	90.39	271.07	3,185.00	-8.80	-1,058.60	1,058.25	10.00	10.00	0.00
3,700.00	90.39	271.07	3,184.93	-8.60	-1,069.52	1,069.18	0.00	0.00	0.00
3,800.00	90.39	271.07	3,184.24	-6.72	-1,169.50	1,169.17	0.00	0.00	0.00
3,900.00	90.39	271.07	3,183.56	-4.85	-1,269.48	1,269.17	0.00	0.00	0.00
4,000.00	90.39	271.07	3,182.87	-2.97	-1,369.46	1,369.17	0.00	0.00	0.00
4,100.00	90.39	271.07	3,182.19	-1.10	-1,469.44	1,469.17	0.00	0.00	0.00
4,200.00	90.39	271.07	3,181.51	0.78	-1,569.42	1,569.16	0.00	0.00	0.00
4,300.00	90.39	271.07	3,180.82	2.66	-1,669.40	1,669.16	0.00	0.00	0.00
4,400.00	90.39	271.07	3,180.14	4.53	-1,769.38	1,769.16	0.00	0.00	0.00
4,500.00	90.39	271.07	3,179.46	6.41	-1,869.36	1,869.16	0.00	0.00	0.00
4,600.00	90.39	271.07	3,178.77	8.28	-1,969.34	1,969.16	0.00	0.00	0.00
4,700.00	90.39	271.07	3,178.09	10.16	-2,069.32	2,069.15	0.00	0.00	0.00
4,800.00	90.39	271.07	3,177.41	12.03	-2,169.30	2,169.15	0.00	0.00	0.00
4,900.00	90.39	271.07	3,176.72	13.91	-2,269.28	2,269.15	0.00	0.00	0.00
5,000.00	90.39	271.07	3,176.04	15.78	-2,369.26	2,369.15	0.00	0.00	0.00
5,100.00	90.39	271.07	3,175.35	17.66	-2,469.24	2,469.14	0.00	0.00	0.00
5,200.00	90.39	271.07	3,174.67	19.53	-2,569.22	2,569.14	0.00	0.00	0.00
5,300.00	90.39	271.07	3,173.99	21.41	-2,669.20	2,669.14	0.00	0.00	0.00
5,400.00	90.39	271.07	3,173.30	23.28	-2,769.18	2,769.14	0.00	0.00	0.00
5,500.00	90.39	271.07	3,172.62	25.16	-2,869.16	2,869.13	0.00	0.00	0.00
5,600.00	90.39	271.07	3,171.94	27.03	-2,969.15	2,969.13	0.00	0.00	0.00
5,700.00	90.39	271.07	3,171.25	28.91	-3,069.13	3,069.13	0.00	0.00	0.00
5,800.00	90.39	271.07	3,170.57	30.78	-3,169.11	3,169.13	0.00	0.00	0.00
5,900.00	90.39	271.07	3,169.89	32.66	-3,269.09	3,269.13	0.00	0.00	0.00
6,000.00	90.39	271.07	3,169.20	34.53	-3,369.07	3,369.12	0.00	0.00	0.00
6,100.00	90.39	271.07	3,168.52	36.41	-3,469.05	3,469.12	0.00	0.00	0.00
6,200.00	90.39	271.07	3,167.84	38.28	-3,569.03	3,569.12	0.00	0.00	0.00
6,300.00	90.39	271.07	3,167.15	40.16	-3,669.01	3,669.12	0.00	0.00	0.00
6,400.00	90.39	271.07	3,166.47	42.03	-3,768.99	3,769.11	0.00	0.00	0.00
6,500.00	90.39	271.07	3,165.78	43.91	-3,868.97	3,869.11	0.00	0.00	0.00
6,600.00	90.39	271.07	3,165.10	45.78	-3,968.95	3,969.11	0.00	0.00	0.00
6,700.00	90.39	271.07	3,164.42	47.66	-4,068.93	4,069.11	0.00	0.00	0.00
6,800.00	90.39	271.07	3,163.73	49.53	-4,168.91	4,169.10	0.00	0.00	0.00
6,900.00	90.39	271.07	3,163.05	51.41	-4,268.89	4,269.10	0.00	0.00	0.00
7,000.00	90.39	271.07	3,162.37	53.28	-4,368.87	4,369.10	0.00	0.00	0.00
7,100.00	90.39	271.07	3,161.68	55.16	-4,468.85	4,469.10	0.00	0.00	0.00
7,200.00	90.39	271.07	3,161.00	57.03	-4,568.83	4,569.09	0.00	0.00	0.00
7,300.00	90.39	271.07	3,160.32	58.91	-4,668.81	4,669.09	0.00	0.00	0.00
7,400.00	90.39	271.07	3,159.63	60.78	-4,768.79	4,769.09	0.00	0.00	0.00
7,500.00	90.39	271.07	3,158.95	62.66	-4,868.77	4,869.09	0.00	0.00	0.00
7,600.00	90.39	271.07	3,158.26	64.53	-4,968.75	4,969.09	0.00	0.00	0.00
7,700.00	90.39	271.07	3,157.58	66.41	-5,068.73	5,069.08	0.00	0.00	0.00
7,800.00	90.39	271.07	3,156.90	68.28	-5,168.71	5,169.08	0.00	0.00	0.00
7,900.00	90.39	271.07	3,156.21	70.16	-5,268.69	5,269.08	0.00	0.00	0.00
8,000.00	90.39	271.07	3,155.53	72.03	-5,368.67	5,369.08	0.00	0.00	0.00
8,100.00	90.39	271.07	3,154.85	73.91	-5,468.65	5,469.07	0.00	0.00	0.00
8,200.00	90.39	271.07	3,154.16	75.78	-5,568.63	5,569.07	0.00	0.00	0.00
8,300.00	90.39	271.07	3,153.48	77.66	-5,668.61	5,669.07	0.00	0.00	0.00
8,400.00	90.39	271.07	3,152.80	79.53	-5,768.59	5,769.07	0.00	0.00	0.00
8,500.00	90.39	271.07	3,152.11	81.41	-5,868.57	5,869.06	0.00	0.00	0.00
8,600.00	90.39	271.07	3,151.43	83.28	-5,968.55	5,969.06	0.00	0.00	0.00
8,700.00	90.39	271.07	3,150.75	85.16	-6,068.53	6,069.06	0.00	0.00	0.00
8,759.00	90.39	271.07	3,150.34	86.26	-6,127.52	6,128.06	0.00	0.00	0.00
8,808.99	90.39	271.07	3,150.00	87.20	-6,177.50	6,178.05	0.00	0.00	0.00



Planning Report



Database:	WBDS_SQL_2	Local Co-ordinate Reference:	Well #50H
Company:	Spur Energy Partners, LLC	TVD Reference:	RKB = 20' @ 3464.00usft
Project:	Eddy County, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3464.00usft
Site:	LIVE OAK	North Reference:	Grid
Well:	#50H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
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Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LO #50H SHL: 1069' I - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	595,081.30	499,415.50	32.6358537	-104.4695189
LO #50H KOP: 2246.1 - plan hits target center - Point	0.00	360.00	2,242.66	-20.22	-119.54	595,061.09	499,295.97	32.6357977	-104.4699072
LO #50H PBHL: 1115' - plan hits target center - Point	0.00	0.00	3,150.00	87.20	-6,177.50	595,168.50	493,238.00	32.6360700	-104.4895872
LO #50H LTP: 1115' F - plan misses target center by 0.84usft at 8759.00usft MD (3150.34 TVD, 86.26 N, -6127.52 E) - Point	0.00	0.00	3,150.34	87.10	-6,127.50	595,168.40	493,288.00	32.6360699	-104.4894248
LO #50H LP/ FTP: 11' - plan hits target center - Point	0.00	0.00	3,185.00	-8.80	-1,058.60	595,072.50	498,356.90	32.6358257	-104.4729578



Company: Spur Energy Partners, LLC
Project: Eddy County, NM (NAD 83 - NME)
Site: LIVE OAK
Well: #50H
Wellbore: Wellbore #1
Rig:
Design: PERMIT / 8:44, December 19 2020



WELL DETAILS: #50H

RKB = 20' @ 3464.00usft

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	595081.30	499415.50	32.6358536	-104.4695190

PROJECT DETAILS: Eddy County, NM (NAD 83 - NME)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

DESIGN TARGET DETAILS

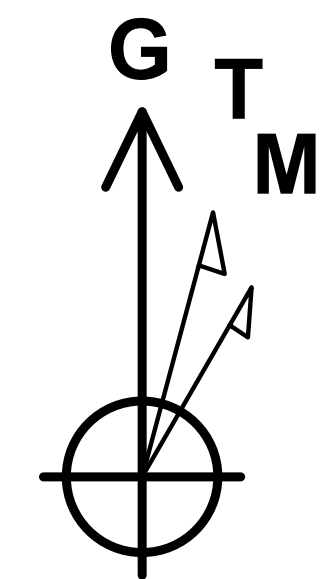
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LO #50H SHL: 1069' FNL & 1650' FEL	0.00	0.00	0.00	595081.30	499415.50	32.6358536	-104.4695190
LO #50H KOP: 2246.56' MD	2242.66	-20.22	-119.54	595061.08	499295.96	32.6357977	-104.4699072
LO #50H PBHL: 1115' FNL & 2604' FEL	3150.00	87.20	-6177.50	595168.50	493238.00	32.6360700	-104.4895872
LO #50H LTP: 1115' FNL & 2554' FEL	3150.34	87.10	-6127.50	595168.40	493288.00	32.6360699	-104.4894248
LO #50H LP/ FTP: 1115' FNL & 2518' FWL	3185.00	-8.80	-1058.60	595072.50	498356.90	32.6358257	-104.4729578

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00
3	487.58	3.75	260.40	487.45	-1.02	-6.05	2.00	6.03
4	2246.56	3.75	260.40	2242.66	-20.22	-119.54	0.00	119.14
5	3185.16	60.00	271.07	3008.25	-17.49	-595.08	6.00	594.65
6	3385.16	60.00	271.07	3108.25	-14.25	-768.26	0.00	767.86
7	3689.07	90.39	271.07	3185.00	-8.80	-1058.60	10.00	1058.25
8	8759.00	90.39	271.07	3150.34	86.26	-6127.52	0.00	6128.06
9	8808.99	90.39	271.07	3150.00	87.20	-6177.50	0.00	6178.05

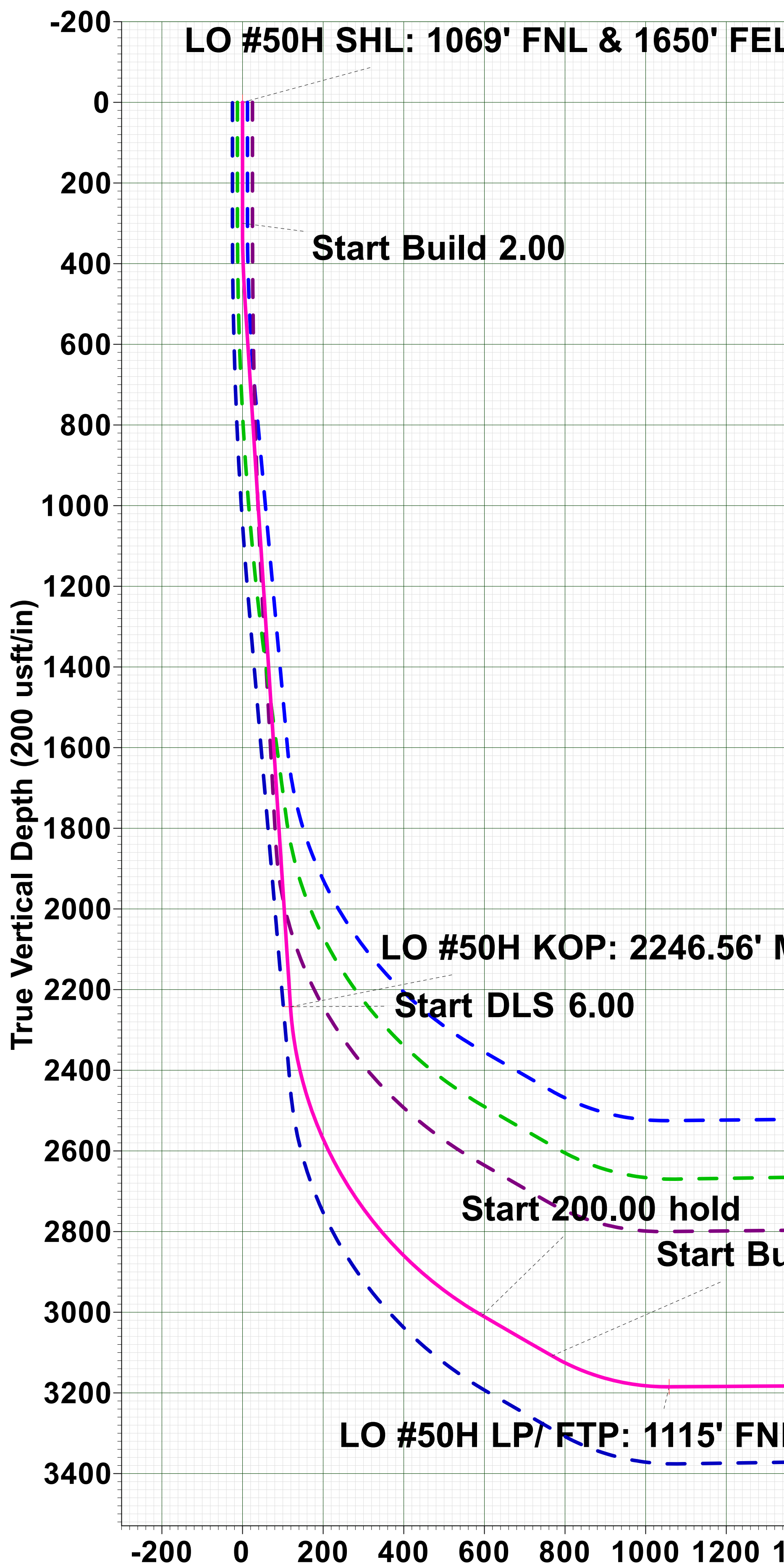
CORRECTION REFERENCE DATA:

To convert a Magnetic Direction to a Grid Direction, Add 7.122°
To convert a True Direction to a Grid Direction, Add 0.073°
To convert a Magnetic Direction to a True Direction, Add 7.048° East
Magnetic Declination: 7.048°
Magnetic Dip Angle: 60.155°
Magnetic Field Strength: 47693.51109773nT

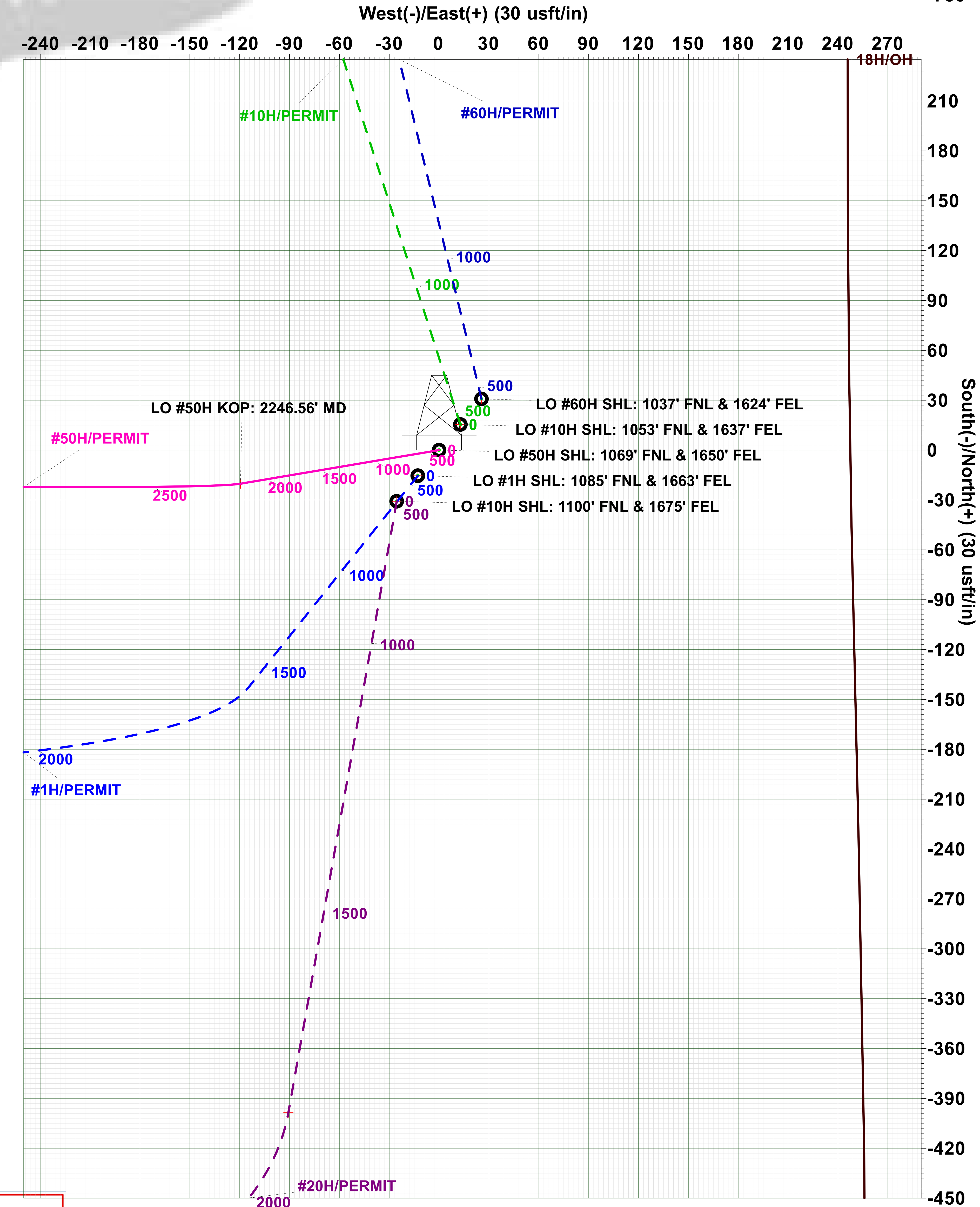
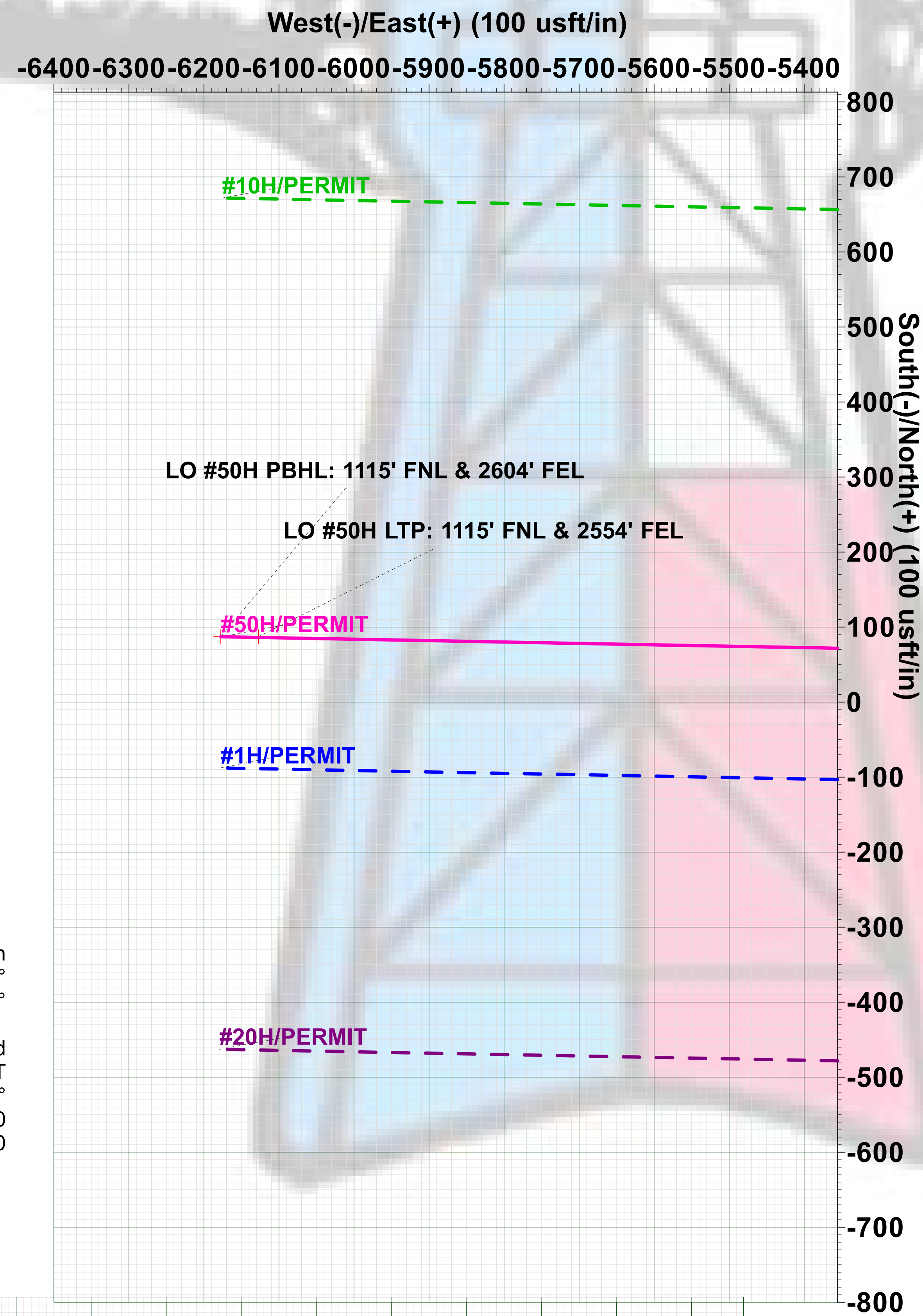
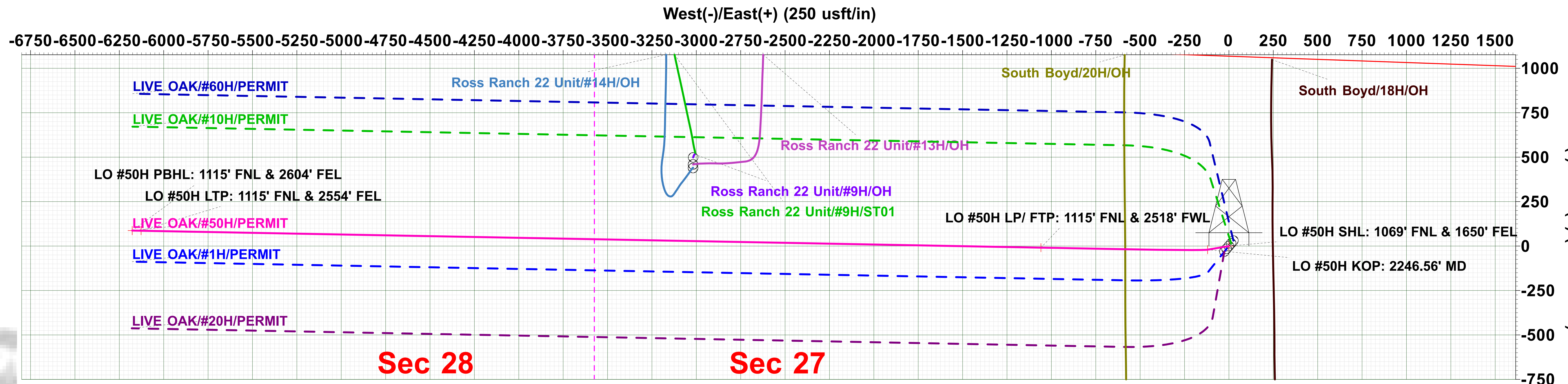


Azimuths to Grid North
True North: 0.07°
Magnetic North: 7.12°

Magnetic Field
Strength: 47693.5nT
Dip Angle: 60.15°
Date: 12/18/2020
Model: IGRF2020



Vertical Section at 271.07° (200 usft/in)



Disclaimer:
All Plan Details, boundary
lines and offset well
location/ survey data is
provided by customer and
subject to customer
approval.

Plan: PERMIT (#50H/Wellbore #1)

Created By: Matthew May Date: 8:44, December 19 2020



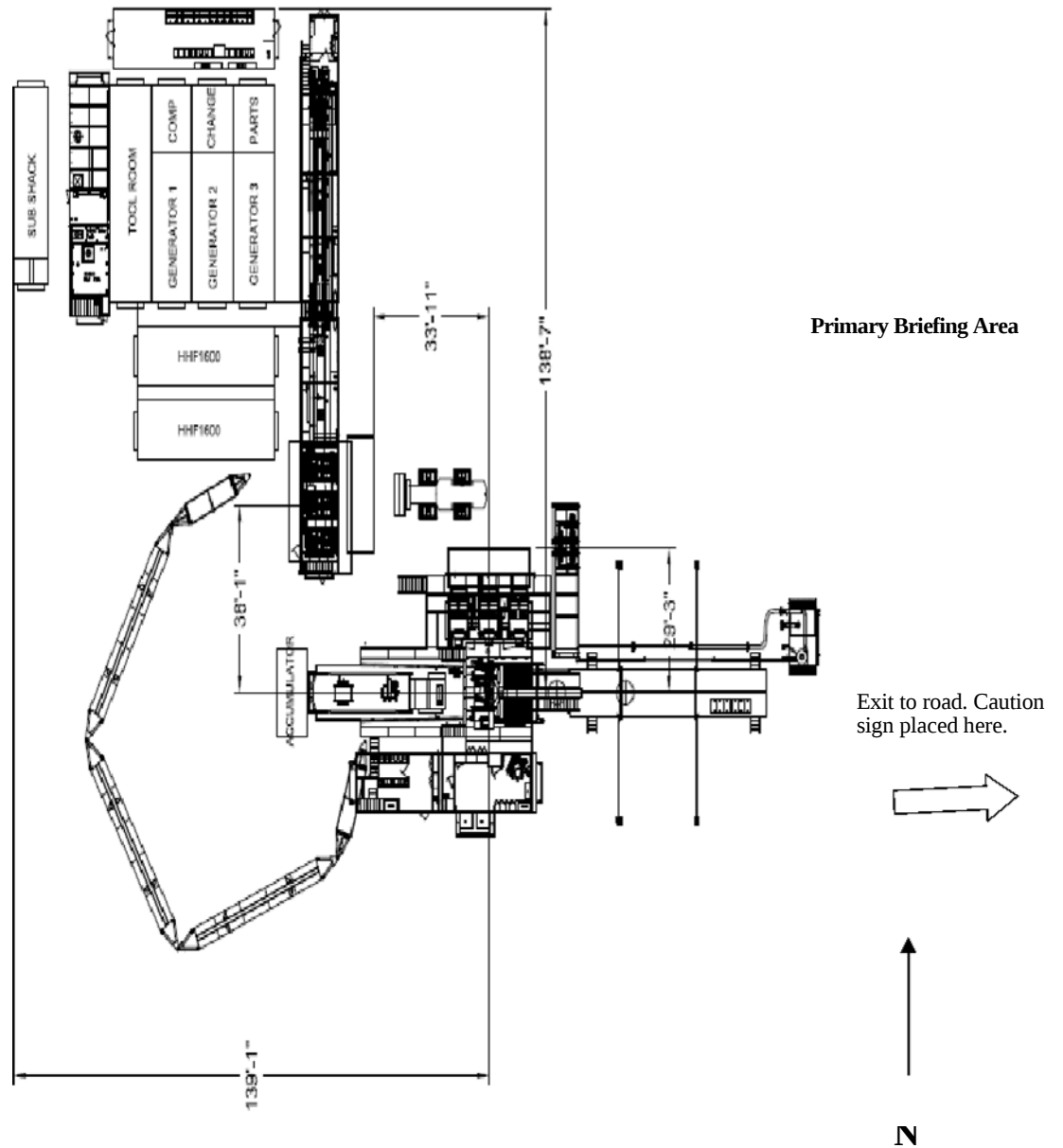
Permian Drilling Hydrogen Sulfide Drilling Operations Plan Live Oak 50H

Open drill site. No homes or buildings are near the proposed location.

1. Escape

Personnel shall escape upwind of wellbore in the event of an emergency gas release. Escape can take place through the lease road on the Southeast side of the location. Personnel need to move to a safe distance and block the entrance to location. If the primary route is not an option due to the wind direction, then a secondary egress route should be taken.

Secondary Briefing Area



WIND: Prevailing winds are from the Southwest

Secondary Egress

Intent ☐ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Is this well the defining well for the Horizontal Spacing Unit? ☐Is this well an infill well? ☐

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #		
Operator Name:	Property Name:	Well Number

KZ 06/29/2018