

**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

Form C-101

August 1, 2011

Permit 305330

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

**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 30-025-49656
4. Property Code 331866	5. Property Name JG 16 STATE NORTH COM	6. Well No. 021H

**7. Surface Location**

UL - Lot D	Section 16	Township 17S	Range 32E	Lot Idn D	Feet From 1320	N/S Line N	Feet From 80	E/W Line W	County Lea
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**8. Proposed Bottom Hole Location**

UL - Lot H	Section 16	Township 17S	Range 32E	Lot Idn H	Feet From 1980	N/S Line N	Feet From 50	E/W Line E	County Lea
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**9. Pool Information**

MALJAMAR;YESO, WEST	44500
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**Additional Well Information**

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 4038
16. Multiple N	17. Proposed Depth 11503	18. Formation Paddock	19. Contractor	20. Spud Date 3/9/2022
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	13.375	54.5	925	897	0
Int1	12.25	9.625	36	4250	1264	0
Prod	8.75	7	32	6100	2381	0
Prod	8.75	5.5	20	11503	2381	0

**Casing/Cement Program: Additional Comments**

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**22. Proposed Blowout Prevention Program**

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	5	70	Shaffer

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 <input checked="" type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input checked="" type="checkbox"/> , if applicable.	<b>OIL CONSERVATION DIVISION</b>	
Signature:		
Printed Name: Electronically filed by Sarah Chapman	Approved By: Paul F Kautz	
Title: Regulatory Director	Title: Geologist	
Email Address: schapman@spurenergy.com	Approved Date: 12/17/2021	Expiration Date: 12/17/2023
Date: 12/16/2021	Phone: 832-930-8613	Conditions of Approval Attached

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Phone (505) 476-3480 Fax: (505) 476-3482

State of New Mexico  
Energy, Minerals and Natural Resources Department

**OIL CONSERVATION DIVISION**  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

Form C-102

Revised August 4, 2011

Submit one copy to appropriate  
District Office

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

☐ AMENDED REPORT

API Number	Pool Code <b>98033</b>	Pool Name <b>WC-025 G-10 S2133280; Wolfcamp</b>
Property Code <b>326484</b>	Property Name <b>ANDERSON FED COM</b>	Well Number <b>702H</b>
OGRID No. <b>372417</b>	Operator Name <b>ADVANCE ENERGY PARTNERS HAT MESA, LLC</b>	Elevation <b>3667'</b>

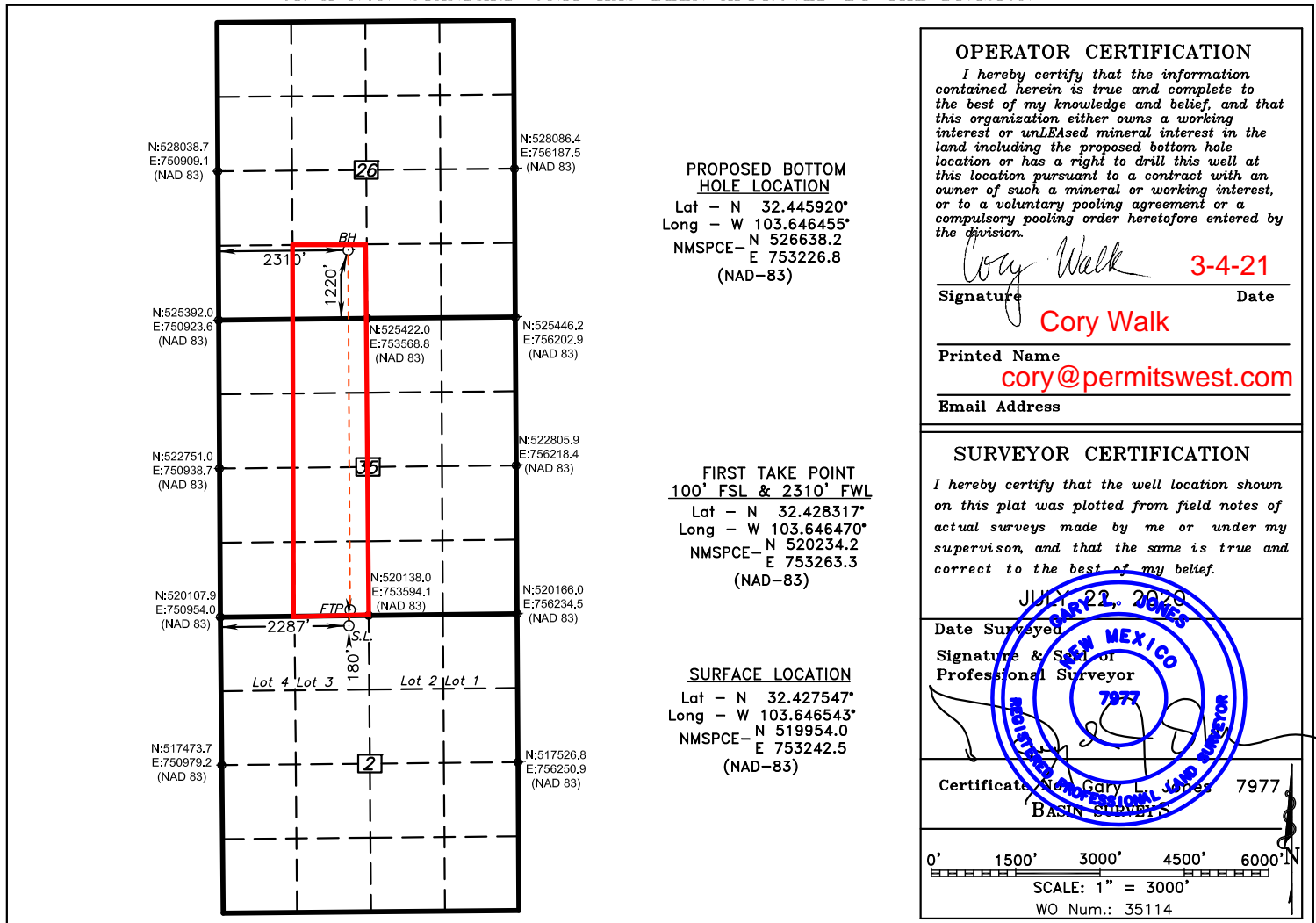
**Surface Location**

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
LOT 3	2	22 S	32 E		180	NORTH	2287	WEST	LEA

**Bottom Hole Location If Different From Surface**

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
N	26	21 S	32 E		1220	SOUTH	2310	WEST	LEA
Dedicated Acres <b>200.00</b>	Joint or Infill	Consolidation Code <b>C</b>	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



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**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

Form APD Conditions

Permit 305330

**PERMIT CONDITIONS OF APPROVAL**

Operator Name and Address: Spur Energy Partners LLC [328947] 9655 Katy Freeway Houston, TX 77024	API Number: 30-025-49656
	Well: JG 16 STATE NORTH COM #021H

OCD Reviewer	Condition
pkautz	Notify OCD 24 hours prior to casing & cement
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104
pkautz	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
pkautz	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
pkautz	1) SURFACE & INTERMEDIATE CASING - Cement must circulate to surface -- 2) PRODUCTION CASING - Cement must tie back into intermediate casing --
pkautz	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud

State of New Mexico  
Energy, Minerals and Natural Resources Department

Submit Electronically  
Via E-permitting

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

## NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

### Section 1 – Plan Description Effective May 25, 2021

**I. Operator:** SPUR ENERGY PARTNERS LLC **OGRID:** 328947 **Date:** 10 / 16 / 2021

**II. Type:** ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: \_\_\_\_\_

**III. Well(s):** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
JG 16 STATE NORTH COM 20H	30-025-PEND	D-16-17S-32E	1280' FNL 80' FWL	364 BBL/D	613 MCF/D	1273 BBL/D
JG 16 STATE NORTH COM 21H	30-025-PEND	D-16-17S-32E	1320' FNL 80' FWL	364 BBL/D	613 MCF/D	1273 BBL/D
JG 16 STATE NORTH COM 60H	30-015-PEND	D-16-17S-32E	1300' FNL 80' FWL	274 BBL/D	274 MCF/D	891 BBL/D

**IV. Central Delivery Point Name:** JG 16 STATE COM NORTH TANK BATTERY [See 19.15.27.9(D)(1) NMAC]

**V. Anticipated Schedule:** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
JG 16 STATE NORTH COM 20H	30-025-PEND	02/20/2022	02/26/2022	03/21/2022	04/06/2022	04/06/2022
JG 16 STATE NORTH COM 21H	30-025-PEND	03/09/2022	03/18/2022	03/21/2022	04/06/2022	04/06/2022
JG 16 STATE NORTH COM 60H	30-015-PEND	02/27/2022	03/08/2022	03/21/2022	04/06/2022	04/06/2022

**VI. Separation Equipment:** ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

**VII. Operational Practices:** ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

**VIII. Best Management Practices:** ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

## **Section 2 – Enhanced Plan**

### **EFFECTIVE APRIL 1, 2022**

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

#### **IX. Anticipated Natural Gas Production:**

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

#### **X. Natural Gas Gathering System (NGGS):**

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

**XI. Map.** ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

**XII. Line Capacity.** The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

**XIII. Line Pressure.** Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

**XIV. Confidentiality:** ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

### **Section 3 - Certifications**

**Effective May 25, 2021**

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

***If Operator checks this box, Operator will select one of the following:***

**Well Shut-In.** ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

**Venting and Flaring Plan.** ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

### **Section 4 - Notices**

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature:	<i>Sarah Chapman</i>
Printed Name:	SARAH CHAPMAN
Title:	REGULATORY DIRECTOR
E-mail Address:	SCHAPMAN@SPUREENERGY.COM
Date:	12/16/2021
Phone:	832-930-8613
<b>OIL CONSERVATION DIVISION</b> <b>(Only applicable when submitted as a standalone form)</b>	
Approved By:	
Title:	
Approval Date:	
Conditions of Approval:	



## Natural Gas Management Plan – Attachment

VI. Separation equipment will be sized by construction engineering staff based on anticipated daily production to ensure adequate capacity.

VII. Spur Energy Partners LLC (“Spur”) will take the following actions to comply with the regulations listed in 19.15.27.8:

- A. Spur will maximize the recovery of natural gas by minimizing waste, as defined by 19.15.2 NMAC, of natural gas through venting and flaring. Spur will ensure that our wells will be connected to a natural gas gathering system with sufficient capacity to transport natural gas.
- B. All drilling operations will be equipped with a rig flare at least 100 feet from the nearest surface hole location. Rig flare will be utilized to combust any natural gas that is brought to surface during normal operations. In the case of emergency, flaring volumes will be reported appropriately.
- C. During completion operations any natural gas brought to surface will be flared. Immediately following completion operations, wells will flow to permanent separation equipment. Produced natural gas from separation equipment will be sent to sales. If natural gas does not meet gathering pipeline specifications, Spur will flare for 60 days or until natural gas meets the pipeline specifications. Spur will ensure flare is properly sized and is equipped with an automatic igniter or continuous pilot. Gas samples will be taken twice per week and natural gas will be routed into a gathering system as soon as the pipeline specifications are met.
- D. Natural gas will not be flared with the exception of 19.15.27.8(D)(1-4). If there is no adequate takeaway for the separator gas, wells will be shut-in until that natural gas gathering system is available with exception of emergency or malfunction situations. Volumes will be reported appropriately.
- E. Spur will comply with performance standards pursuant to 19.15.27.8(E)(1-8). All equipment will be designed and sized to handle maximum pressures to minimize waste. Storage tanks constructed after May 25, 2021 will be equipped with an automatic gauging system that reduces venting of natural gas. Flare stacks installed or replaced after May 25, 2021 will be equipped with an automatic igniter or continuous pilot. Spur will conduct AVO inspections as described in 19.15.27.8(E)(5)(a) with frequencies specified in 19.15.27.8(E)(5)(b) and (c). All emergencies or malfunctions will be resolved as quickly and safely as possible to minimize waste.
- F. The volume of natural gas that is vented or flared as the result of an emergency or malfunction during drilling and/or completion operations will be estimated and reported accordingly. The volume of natural gas that is vented, flared or beneficially used during production operations, will be measured and reported accordingly. Spur will install equipment to measure the volume of natural gas flared from existing piping or a flowline piped from equipment such as high-pressure separators, heater treaters, or VRUs associated with a well or facility associated with a well authorized by an APD after May 25, 2021 that has an average daily production of less than 60,000 cubic feet of natural gas. If metering is not practicable due to circumstances such as low flow rate or low pressure venting or flaring, Spur will estimate the volume of flared or vented natural gas. Measuring equipment will conform to industry standards and will not be equipped with a manifold





that allows the diversion of natural gas around the metering element except for the sole purpose of inspecting and servicing equipment.

VIII. For maintenance activities involving production equipment and compression, venting be limited to the depressurization of the subject equipment to ensure safe working conditions. For maintenance of production equipment, the associated producing wells will be shut-in to eliminate venting. For maintenance of VRUs, all natural gas normally routed to the VRU will be routed to flare.



## **Spur Energy Partners, LLC**

**Lea County, NM (Nad-83/ NME)**

**JG 16 STATE NORTH COM**

**21H**

**Wellbore #1**

**Plan: PLAN #1**

## **Standard Planning Report**

**12 December, 2021**



## Planning Report

<b>Database:</b>	WBDS_SQL_2	<b>Local Co-ordinate Reference:</b>	Well 21H
<b>Company:</b>	Spur Energy Partners, LLC	<b>TVD Reference:</b>	RKB = 20' @ 4058.00usft (AKITA 57)
<b>Project:</b>	Lea County, NM (Nad-83/ NME)	<b>MD Reference:</b>	RKB = 20' @ 4058.00usft (AKITA 57)
<b>Site:</b>	JG 16 STATE NORTH COM	<b>North Reference:</b>	Grid
<b>Well:</b>	21H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	PLAN #1		

<b>Project</b>	Lea County, NM (Nad-83/ NME)		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	New Mexico Eastern Zone		

Site		JG 16 STATE NORTH COM			
Site Position: From:	Map	Northing:	669,185.10 usft	Latitude:	32.838391
		Easting:	711,352.20 usft	Longitude:	-103.779785
		Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in

Well	21H					
Well Position	+N/-S	-39.90 usft	Northing:	669,145.20 usft	Latitude:	32.838282
	+E/-W	0.30 usft	Easting:	711,352.50 usft	Longitude:	-103.779785
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	4,038.00 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	12/08/21	6.634	60.411	47,780.39898297

<b>Design</b>	PLAN #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	89.83

<b>Plan Survey Tool Program</b>	<b>Date</b>	12/10/21		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	11,503.48	PLAN #1 (Wellbore #1)	MWD+IFR1+SAG+FDIR OWSG MWD + IFR1 + Sag + F

<b>Plan Sections</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	<b>TFO (°)</b>	<b>Target</b>
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	
998.28	13.97	235.05	991.39	-48.51	-69.41	2.00	2.00	0.00	235.054	
4,848.89	13.97	235.05	4,728.17	-580.82	-831.16	0.00	0.00	0.00	0.000	
5,873.55	60.00	89.83	5,598.24	-661.14	-435.78	7.00	4.49	-14.17	-148.652	
6,073.55	60.00	89.83	5,698.24	-660.63	-262.58	0.00	0.00	0.00	0.000	
6,373.55	90.00	89.83	5,775.00	-659.80	23.90	10.00	10.00	0.00	0.000	3. FTP 21H: 1980' FN
11,453.57	90.00	89.83	5,775.00	-645.04	5,103.90	0.00	0.00	0.00	0.000	4. LTP 21H: 1980' FN
11,503.48	90.00	89.83	5,775.00	-644.90	5,153.80	0.00	0.00	0.00	0.000	5. BHL 21H: 1980' FN



## Planning Report

<b>Database:</b>	WBDS_SQL_2	<b>Local Co-ordinate Reference:</b>	Well 21H
<b>Company:</b>	Spur Energy Partners, LLC	<b>TVD Reference:</b>	RKB = 20' @ 4058.00usft (AKITA 57)
<b>Project:</b>	Lea County, NM (Nad-83/ NME)	<b>MD Reference:</b>	RKB = 20' @ 4058.00usft (AKITA 57)
<b>Site:</b>	JG 16 STATE NORTH COM	<b>North Reference:</b>	Grid
<b>Well:</b>	21H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	PLAN #1		

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	
<b>1. SHL 21H: 1320' FNL, 80' FWL - JG STATE 23 SHL (AL) - JG STATE 9 SHL (AL) - JG STATE 21 SHL (AL) - JG STATE 20 SHL (AL) - JG STA</b>										
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	235.05	399.98	-1.00	-1.43	-1.43	2.00	2.00	0.00	
500.00	4.00	235.05	499.84	-4.00	-5.72	-5.73	2.00	2.00	0.00	
600.00	6.00	235.05	599.45	-8.99	-12.86	-12.89	2.00	2.00	0.00	
700.00	8.00	235.05	698.70	-15.97	-22.85	-22.90	2.00	2.00	0.00	
800.00	10.00	235.05	797.47	-24.93	-35.67	-35.75	2.00	2.00	0.00	
900.00	12.00	235.05	895.62	-35.86	-51.31	-51.42	2.00	2.00	0.00	
998.28	13.97	235.05	991.39	-48.51	-69.41	-69.56	2.00	2.00	0.00	
1,000.00	13.97	235.05	993.06	-48.74	-69.75	-69.90	0.00	0.00	0.00	
1,100.00	13.97	235.05	1,090.10	-62.57	-89.53	-89.72	0.00	0.00	0.00	
1,200.00	13.97	235.05	1,187.14	-76.39	-109.32	-109.54	0.00	0.00	0.00	
1,300.00	13.97	235.05	1,284.19	-90.22	-129.10	-129.37	0.00	0.00	0.00	
1,400.00	13.97	235.05	1,381.23	-104.04	-148.88	-149.19	0.00	0.00	0.00	
1,500.00	13.97	235.05	1,478.28	-117.87	-168.66	-169.01	0.00	0.00	0.00	
1,600.00	13.97	235.05	1,575.32	-131.69	-188.45	-188.84	0.00	0.00	0.00	
1,700.00	13.97	235.05	1,672.36	-145.51	-208.23	-208.66	0.00	0.00	0.00	
1,800.00	13.97	235.05	1,769.41	-159.34	-228.01	-228.48	0.00	0.00	0.00	
1,900.00	13.97	235.05	1,866.45	-173.16	-247.79	-248.31	0.00	0.00	0.00	
2,000.00	13.97	235.05	1,963.50	-186.99	-267.58	-268.13	0.00	0.00	0.00	
2,100.00	13.97	235.05	2,060.54	-200.81	-287.36	-287.95	0.00	0.00	0.00	
2,200.00	13.97	235.05	2,157.58	-214.64	-307.14	-307.78	0.00	0.00	0.00	
2,300.00	13.97	235.05	2,254.63	-228.46	-326.92	-327.60	0.00	0.00	0.00	
2,400.00	13.97	235.05	2,351.67	-242.28	-346.71	-347.42	0.00	0.00	0.00	
2,500.00	13.97	235.05	2,448.72	-256.11	-366.49	-367.25	0.00	0.00	0.00	
2,600.00	13.97	235.05	2,545.76	-269.93	-386.27	-387.07	0.00	0.00	0.00	
2,700.00	13.97	235.05	2,642.80	-283.76	-406.05	-406.89	0.00	0.00	0.00	
2,800.00	13.97	235.05	2,739.85	-297.58	-425.84	-426.72	0.00	0.00	0.00	
2,900.00	13.97	235.05	2,836.89	-311.41	-445.62	-446.54	0.00	0.00	0.00	
3,000.00	13.97	235.05	2,933.94	-325.23	-465.40	-466.36	0.00	0.00	0.00	
3,100.00	13.97	235.05	3,030.98	-339.05	-485.18	-486.19	0.00	0.00	0.00	
3,200.00	13.97	235.05	3,128.02	-352.88	-504.97	-506.01	0.00	0.00	0.00	
3,300.00	13.97	235.05	3,225.07	-366.70	-524.75	-525.83	0.00	0.00	0.00	
3,400.00	13.97	235.05	3,322.11	-380.53	-544.53	-545.66	0.00	0.00	0.00	
3,500.00	13.97	235.05	3,419.16	-394.35	-564.31	-565.48	0.00	0.00	0.00	
3,600.00	13.97	235.05	3,516.20	-408.17	-584.10	-585.30	0.00	0.00	0.00	
3,700.00	13.97	235.05	3,613.24	-422.00	-603.88	-605.13	0.00	0.00	0.00	
3,800.00	13.97	235.05	3,710.29	-435.82	-623.66	-624.95	0.00	0.00	0.00	
3,900.00	13.97	235.05	3,807.33	-449.65	-643.44	-644.77	0.00	0.00	0.00	
4,000.00	13.97	235.05	3,904.38	-463.47	-663.22	-664.60	0.00	0.00	0.00	
4,100.00	13.97	235.05	4,001.42	-477.30	-683.01	-684.42	0.00	0.00	0.00	
4,200.00	13.97	235.05	4,098.46	-491.12	-702.79	-704.24	0.00	0.00	0.00	
4,300.00	13.97	235.05	4,195.51	-504.94	-722.57	-724.07	0.00	0.00	0.00	
4,400.00	13.97	235.05	4,292.55	-518.77	-742.35	-743.89	0.00	0.00	0.00	
4,500.00	13.97	235.05	4,389.60	-532.59	-762.14	-763.71	0.00	0.00	0.00	
4,600.00	13.97	235.05	4,486.64	-546.42	-781.92	-783.54	0.00	0.00	0.00	
4,700.00	13.97	235.05	4,583.68	-560.24	-801.70	-803.36	0.00	0.00	0.00	
4,800.00	13.97	235.05	4,680.73	-574.07	-821.48	-823.18	0.00	0.00	0.00	
4,848.89	13.97	235.05	4,728.17	-580.82	-831.16	-832.88	0.00	0.00	0.00	
<b>2. KOP 21H @ 4848.89' MD</b>										



## Planning Report

<b>Database:</b>	WBDS_SQL_2	<b>Local Co-ordinate Reference:</b>	Well 21H
<b>Company:</b>	Spur Energy Partners, LLC	<b>TVD Reference:</b>	RKB = 20' @ 4058.00usft (AKITA 57)
<b>Project:</b>	Lea County, NM (Nad-83/ NME)	<b>MD Reference:</b>	RKB = 20' @ 4058.00usft (AKITA 57)
<b>Site:</b>	JG 16 STATE NORTH COM	<b>North Reference:</b>	Grid
<b>Well:</b>	21H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	PLAN #1		

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)
4,850.00	13.90	234.89	4,729.25	-580.98	-831.37	-833.09	7.00	-5.97	-15.16
4,900.00	11.06	225.32	4,778.07	-587.81	-839.70	-841.44	7.00	-5.67	-19.14
4,950.00	8.72	210.04	4,827.33	-594.47	-845.01	-846.77	7.00	-4.69	-30.55
5,000.00	7.35	186.76	4,876.85	-600.92	-847.29	-849.06	7.00	-2.74	-46.56
5,050.00	7.51	159.46	4,926.45	-607.16	-846.52	-848.31	7.00	0.32	-54.60
5,100.00	9.11	137.72	4,975.93	-613.15	-842.70	-844.52	7.00	3.21	-43.48
5,150.00	11.58	123.78	5,025.12	-618.87	-835.87	-837.70	7.00	4.94	-27.89
5,200.00	14.48	114.99	5,073.84	-624.31	-826.03	-827.87	7.00	5.79	-17.57
5,250.00	17.59	109.17	5,121.89	-629.43	-813.22	-815.08	7.00	6.23	-11.64
5,300.00	20.82	105.08	5,169.10	-634.22	-797.50	-799.38	7.00	6.47	-8.18
5,350.00	24.13	102.06	5,215.30	-638.67	-778.92	-780.81	7.00	6.61	-6.05
5,400.00	27.48	99.73	5,260.31	-642.76	-757.55	-759.45	7.00	6.70	-4.66
5,450.00	30.86	97.87	5,303.96	-646.46	-733.47	-735.38	7.00	6.76	-3.71
5,500.00	34.26	96.35	5,346.10	-649.78	-706.77	-708.69	7.00	6.81	-3.04
5,550.00	37.68	95.07	5,386.55	-652.69	-677.55	-679.48	7.00	6.84	-2.55
5,600.00	41.11	93.98	5,425.19	-655.18	-645.91	-647.85	7.00	6.86	-2.19
5,650.00	44.55	93.03	5,461.85	-657.25	-611.99	-613.94	7.00	6.88	-1.90
5,700.00	48.00	92.19	5,496.40	-658.88	-575.90	-577.85	7.00	6.89	-1.68
5,750.00	51.45	91.43	5,528.72	-660.08	-537.78	-539.73	7.00	6.90	-1.51
5,800.00	54.91	90.74	5,558.68	-660.84	-497.76	-499.72	7.00	6.91	-1.37
5,850.00	58.37	90.11	5,586.17	-661.14	-456.01	-457.97	7.00	6.92	-1.26
5,873.55	60.00	89.83	5,598.24	-661.14	-435.78	-437.74	7.00	6.92	-1.19
5,900.00	60.00	89.83	5,611.46	-661.07	-412.88	-414.84	0.00	0.00	0.00
6,000.00	60.00	89.83	5,661.46	-660.82	-326.28	-328.24	0.00	0.00	0.00
6,073.55	60.00	89.83	5,698.24	-660.63	-262.58	-264.54	0.00	0.00	0.00
6,100.00	62.64	89.83	5,710.93	-660.56	-239.38	-241.34	10.00	10.00	0.00
6,150.00	67.64	89.83	5,731.94	-660.43	-194.02	-195.98	10.00	10.00	0.00
6,200.00	72.64	89.83	5,748.92	-660.30	-147.01	-148.97	10.00	10.00	0.00
6,250.00	77.64	89.83	5,761.73	-660.16	-98.70	-100.66	10.00	10.00	0.00
6,300.00	82.64	89.83	5,770.29	-660.01	-49.45	-51.41	10.00	10.00	0.00
6,350.00	87.64	89.83	5,774.52	-659.87	0.35	-1.60	10.00	10.00	0.00
6,373.55	90.00	89.83	5,775.00	-659.80	23.90	21.94	10.00	10.00	0.00
<b>3. FTP 21H: 1980' FNL, 100' FWL</b>									
6,400.00	90.00	89.83	5,775.00	-659.72	50.35	48.39	0.00	0.00	0.00
6,500.00	90.00	89.83	5,775.00	-659.43	150.35	148.39	0.00	0.00	0.00
6,600.00	90.00	89.83	5,775.00	-659.14	250.35	248.39	0.00	0.00	0.00
6,700.00	90.00	89.83	5,775.00	-658.85	350.35	348.39	0.00	0.00	0.00
6,800.00	90.00	89.83	5,775.00	-658.56	450.34	448.39	0.00	0.00	0.00
6,900.00	90.00	89.83	5,775.00	-658.27	550.34	548.39	0.00	0.00	0.00
7,000.00	90.00	89.83	5,775.00	-657.98	650.34	648.39	0.00	0.00	0.00
7,100.00	90.00	89.83	5,775.00	-657.69	750.34	748.39	0.00	0.00	0.00
7,200.00	90.00	89.83	5,775.00	-657.40	850.34	848.39	0.00	0.00	0.00
7,300.00	90.00	89.83	5,775.00	-657.11	950.34	948.39	0.00	0.00	0.00
7,400.00	90.00	89.83	5,775.00	-656.82	1,050.34	1,048.39	0.00	0.00	0.00
7,500.00	90.00	89.83	5,775.00	-656.53	1,150.34	1,148.39	0.00	0.00	0.00
7,600.00	90.00	89.83	5,775.00	-656.24	1,250.34	1,248.39	0.00	0.00	0.00
7,700.00	90.00	89.83	5,775.00	-655.95	1,350.34	1,348.39	0.00	0.00	0.00
7,800.00	90.00	89.83	5,775.00	-655.66	1,450.34	1,448.39	0.00	0.00	0.00
7,900.00	90.00	89.83	5,775.00	-655.37	1,550.34	1,548.39	0.00	0.00	0.00
8,000.00	90.00	89.83	5,775.00	-655.08	1,650.34	1,648.39	0.00	0.00	0.00
8,100.00	90.00	89.83	5,775.00	-654.79	1,750.34	1,748.39	0.00	0.00	0.00
8,200.00	90.00	89.83	5,775.00	-654.50	1,850.34	1,848.39	0.00	0.00	0.00
8,300.00	90.00	89.83	5,775.00	-654.20	1,950.34	1,948.39	0.00	0.00	0.00
8,400.00	90.00	89.83	5,775.00	-653.91	2,050.34	2,048.39	0.00	0.00	0.00



## Planning Report

<b>Database:</b>	WBDS_SQL_2	<b>Local Co-ordinate Reference:</b>	Well 21H
<b>Company:</b>	Spur Energy Partners, LLC	<b>TVD Reference:</b>	RKB = 20' @ 4058.00usft (AKITA 57)
<b>Project:</b>	Lea County, NM (Nad-83/ NME)	<b>MD Reference:</b>	RKB = 20' @ 4058.00usft (AKITA 57)
<b>Site:</b>	JG 16 STATE NORTH COM	<b>North Reference:</b>	Grid
<b>Well:</b>	21H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	PLAN #1		

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)	
8,500.00	90.00	89.83	5,775.00	-653.62	2,150.34	2,148.39	0.00	0.00	0.00	
8,600.00	90.00	89.83	5,775.00	-653.33	2,250.34	2,248.39	0.00	0.00	0.00	
8,700.00	90.00	89.83	5,775.00	-653.04	2,350.34	2,348.39	0.00	0.00	0.00	
8,800.00	90.00	89.83	5,775.00	-652.75	2,450.34	2,448.39	0.00	0.00	0.00	
8,900.00	90.00	89.83	5,775.00	-652.46	2,550.34	2,548.39	0.00	0.00	0.00	
9,000.00	90.00	89.83	5,775.00	-652.17	2,650.34	2,648.39	0.00	0.00	0.00	
9,100.00	90.00	89.83	5,775.00	-651.88	2,750.34	2,748.39	0.00	0.00	0.00	
9,200.00	90.00	89.83	5,775.00	-651.59	2,850.33	2,848.39	0.00	0.00	0.00	
9,300.00	90.00	89.83	5,775.00	-651.30	2,950.33	2,948.39	0.00	0.00	0.00	
9,400.00	90.00	89.83	5,775.00	-651.01	3,050.33	3,048.39	0.00	0.00	0.00	
9,500.00	90.00	89.83	5,775.00	-650.72	3,150.33	3,148.39	0.00	0.00	0.00	
9,600.00	90.00	89.83	5,775.00	-650.43	3,250.33	3,248.39	0.00	0.00	0.00	
9,700.00	90.00	89.83	5,775.00	-650.14	3,350.33	3,348.39	0.00	0.00	0.00	
9,800.00	90.00	89.83	5,775.00	-649.85	3,450.33	3,448.39	0.00	0.00	0.00	
9,900.00	90.00	89.83	5,775.00	-649.56	3,550.33	3,548.39	0.00	0.00	0.00	
10,000.00	90.00	89.83	5,775.00	-649.27	3,650.33	3,648.39	0.00	0.00	0.00	
10,100.00	90.00	89.83	5,775.00	-648.98	3,750.33	3,748.39	0.00	0.00	0.00	
10,200.00	90.00	89.83	5,775.00	-648.69	3,850.33	3,848.39	0.00	0.00	0.00	
10,300.00	90.00	89.83	5,775.00	-648.40	3,950.33	3,948.39	0.00	0.00	0.00	
10,400.00	90.00	89.83	5,775.00	-648.11	4,050.33	4,048.39	0.00	0.00	0.00	
10,500.00	90.00	89.83	5,775.00	-647.81	4,150.33	4,148.39	0.00	0.00	0.00	
10,600.00	90.00	89.83	5,775.00	-647.52	4,250.33	4,248.39	0.00	0.00	0.00	
10,700.00	90.00	89.83	5,775.00	-647.23	4,350.33	4,348.39	0.00	0.00	0.00	
10,800.00	90.00	89.83	5,775.00	-646.94	4,450.33	4,448.39	0.00	0.00	0.00	
10,900.00	90.00	89.83	5,775.00	-646.65	4,550.33	4,548.39	0.00	0.00	0.00	
11,000.00	90.00	89.83	5,775.00	-646.36	4,650.33	4,648.39	0.00	0.00	0.00	
11,100.00	90.00	89.83	5,775.00	-646.07	4,750.33	4,748.39	0.00	0.00	0.00	
11,200.00	90.00	89.83	5,775.00	-645.78	4,850.33	4,848.39	0.00	0.00	0.00	
11,300.00	90.00	89.83	5,775.00	-645.49	4,950.33	4,948.39	0.00	0.00	0.00	
11,400.00	90.00	89.83	5,775.00	-645.20	5,050.33	5,048.39	0.00	0.00	0.00	
11,453.57	90.00	89.83	5,775.00	-645.04	5,103.90	5,101.96	0.00	0.00	0.00	
<b>4. LTP 21H: 1980' FNL, 100' FEL</b>										
11,503.48	90.00	89.83	5,775.00	-644.90	5,153.80	5,151.86	0.00	0.00	0.00	
<b>5. BHL 21H: 1980' FNL, 50' FEL</b>										



## Planning Report

<b>Database:</b>	WBDS_SQL_2	<b>Local Co-ordinate Reference:</b>	Well 21H
<b>Company:</b>	Spur Energy Partners, LLC	<b>TVD Reference:</b>	RKB = 20' @ 4058.00usft (AKITA 57)
<b>Project:</b>	Lea County, NM (Nad-83/ NME)	<b>MD Reference:</b>	RKB = 20' @ 4058.00usft (AKITA 57)
<b>Site:</b>	JG 16 STATE NORTH COM	<b>North Reference:</b>	Grid
<b>Well:</b>	21H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	PLAN #1		

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
1. SHL 21H: 1320' FNL, - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	669,145.20	711,352.50	32.838282	-103.779785
2. KOP 21H @ 4848.89' - plan hits target center - Point	0.00	0.00	4,728.17	-580.82	-831.16	668,564.38	710,521.34	32.836697	-103.782501
5. BHL 21H: 1980' FNL, - plan hits target center - Point	0.00	0.00	5,775.00	-644.90	5,153.80	668,500.30	716,506.30	32.836434	-103.763017
4. LTP 21H: 1980' FNL, - plan misses target center by 0.06usft at 11453.57usft MD (5775.00 TVD, -645.04 N, 5103.90 E) - Point	0.00	0.00	5,775.00	-645.10	5,103.90	668,500.10	716,456.40	32.836434	-103.763179
3. FTP 21H: 1980' FNL, - plan hits target center - Point	0.00	0.00	5,775.00	-659.80	23.90	668,485.40	711,376.40	32.836468	-103.779719





Company: Spur Energy Partners, LLC  
Project: Lea County, NM (Nad-83/ NME)  
Site: JG 16 STATE NORTH COM  
Well: 21H  
Wellbore: Wellbore #1  
Rig: AKITA 57  
Design: PLAN #1 / 17:28, December 12 2021

WELL DETAILS: 21H

RKB = 20' @ 4058.00usft (AKITA 57)

			4038.00		
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	669145.20	711352.50	32.838281	-103.779785

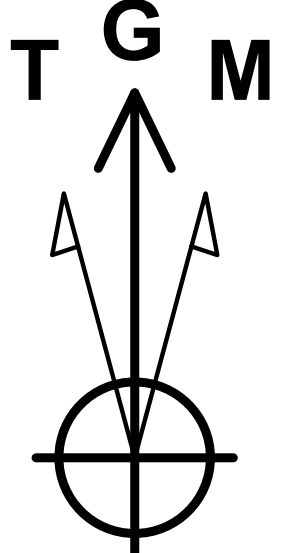
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.000	0.00
3	998.28	13.97	235.05	991.39	-48.51	-69.41	2.00	235.054	-69.56
4	4848.89	13.97	235.05	4728.17	-580.82	-831.16	0.00	0.000	-832.88
5	5873.55	60.00	89.83	5598.24	-661.14	-435.78	7.00	-148.652	-437.74
6	6073.55	60.00	89.83	5698.24	-660.63	-262.58	0.00	0.000	-264.54
7	6373.55	90.00	89.83	5775.00	-659.80	23.90	10.00	0.000	21.94
8	11453.57	90.00	89.83	5775.00	-645.04	5103.90	0.00	0.000	5101.96
9	11503.47	90.00	89.83	5775.00	-644.90	5153.80	0.00	0.000	5151.86

3. FTP 21H: 1980' FNL, 100' FWL  
4. LTP 21H: 1980' FNL, 100' FEL  
5. BHL 21H: 1980' FNL, 50' FEL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
1. SHL 21H: 1320' FNL, 80' FWL	0.00	0.00	0.00	669145.20	711352.50	32.838281	-103.779785
2. KOP 21H @ 4848.89' MD	4728.17	-580.82	-831.16	668564.38	710521.34	32.836697	-103.782501
3. FTP 21H: 1980' FNL, 100' FWL	5775.00	-659.80	23.90	668485.40	711376.40	32.836468	-103.779718
4. LTP 21H: 1980' FNL, 100' FEL	5775.00	-645.10	5103.90	668500.10	716456.40	32.836434	-103.763179
5. BHL 21H: 1980' FNL, 50' FEL	5775.00	-644.90	5153.80	668500.30	716506.30	32.836434	-103.763017



Azimuths to Grid North  
True North: -0.30°  
Magnetic North: 6.33°  
  
Magnetic Field  
Strength: 47780.4snT  
Dip Angle: 60.41°  
Date: 12/08/2021  
Model: IGRF2020

PROJECT DETAILS: Lea 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

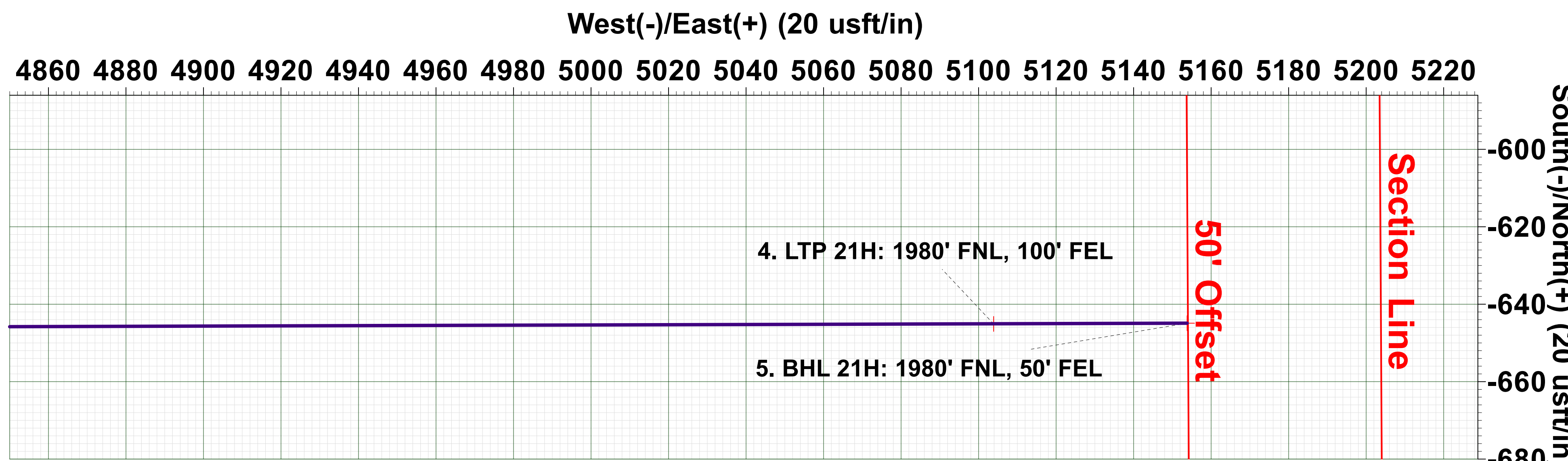
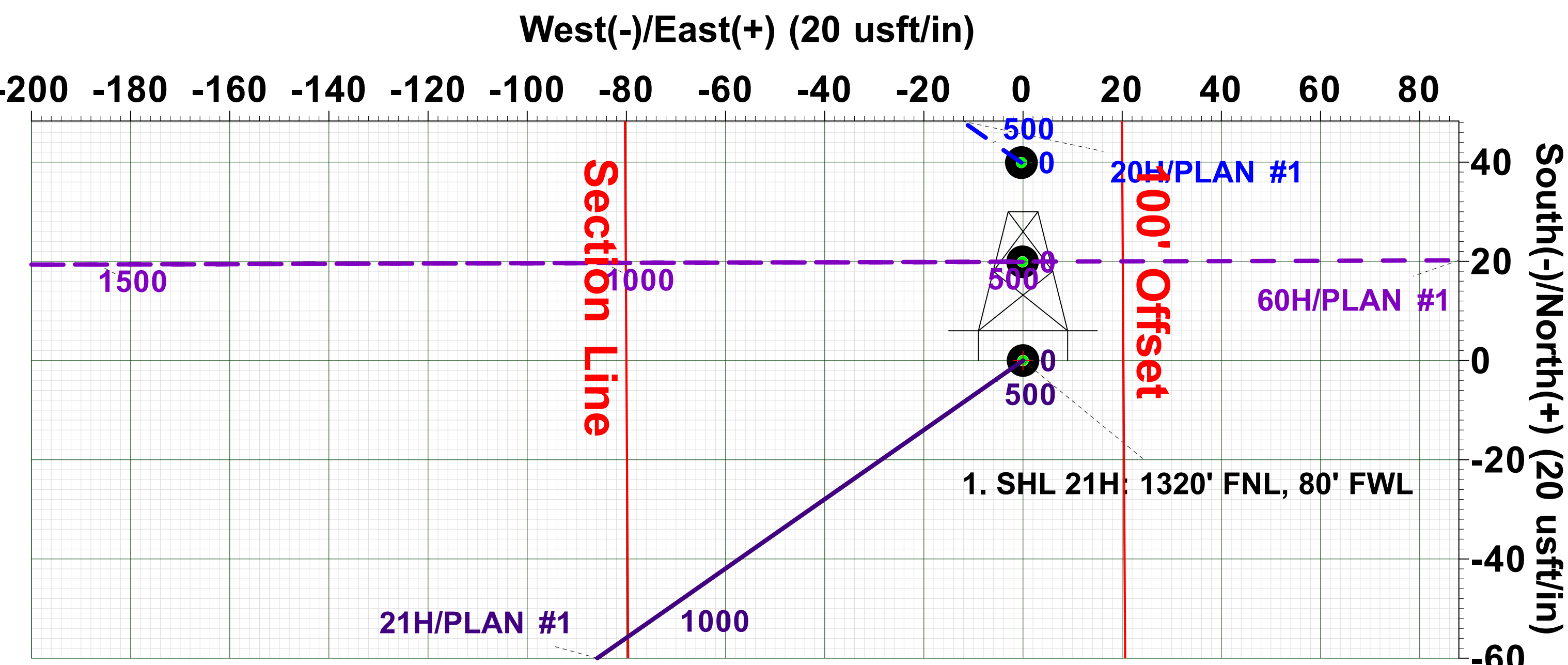
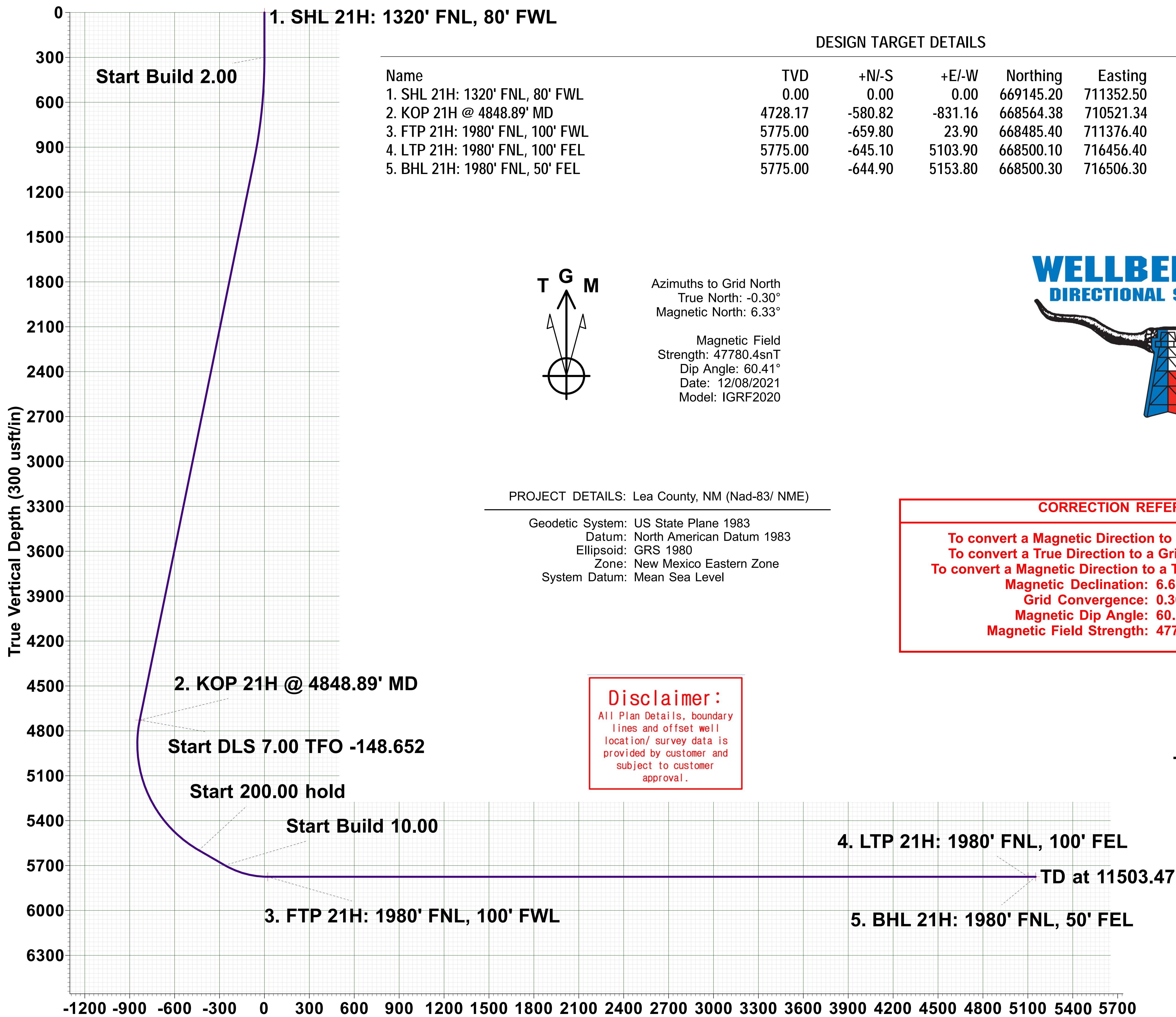
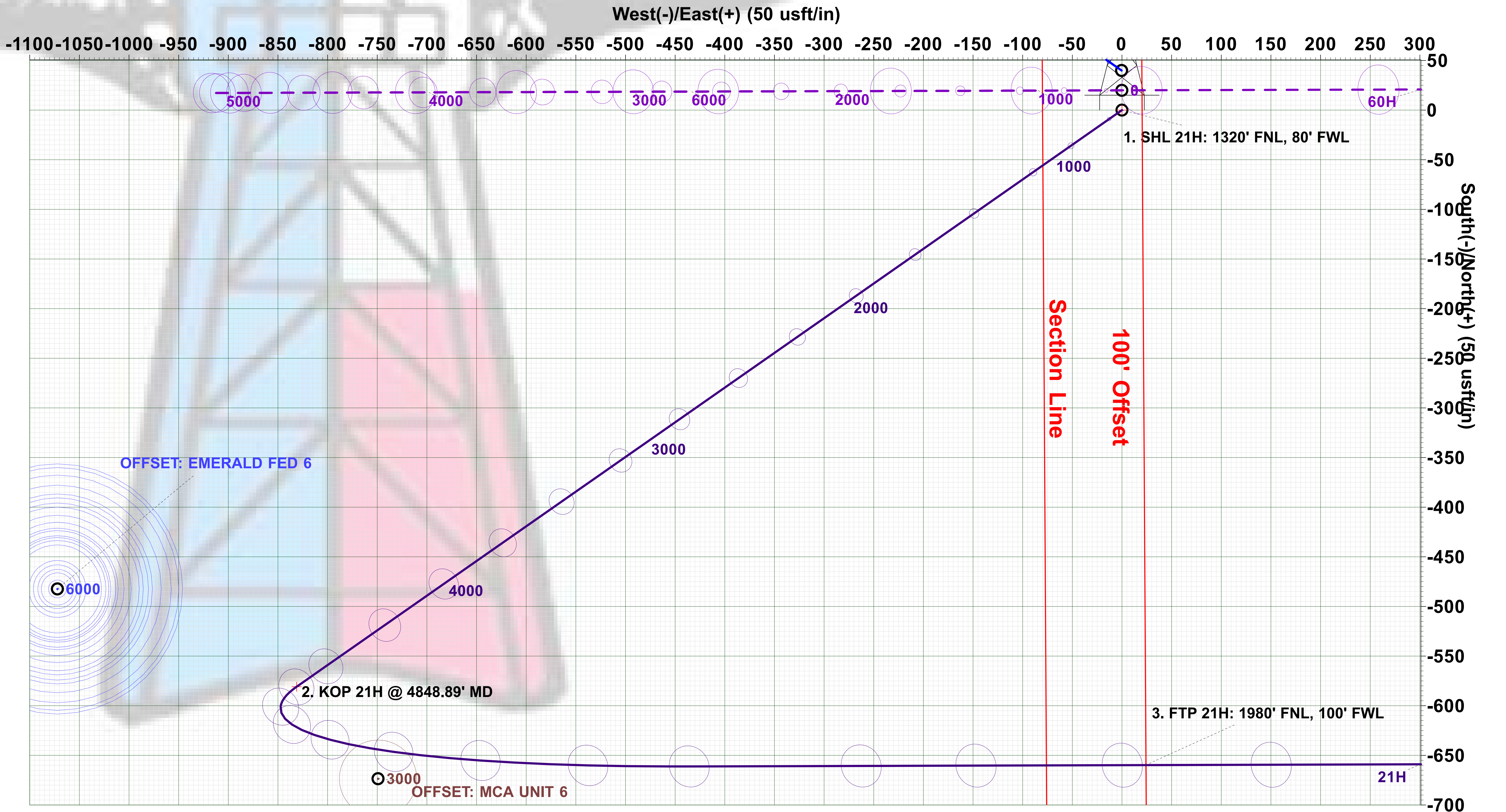
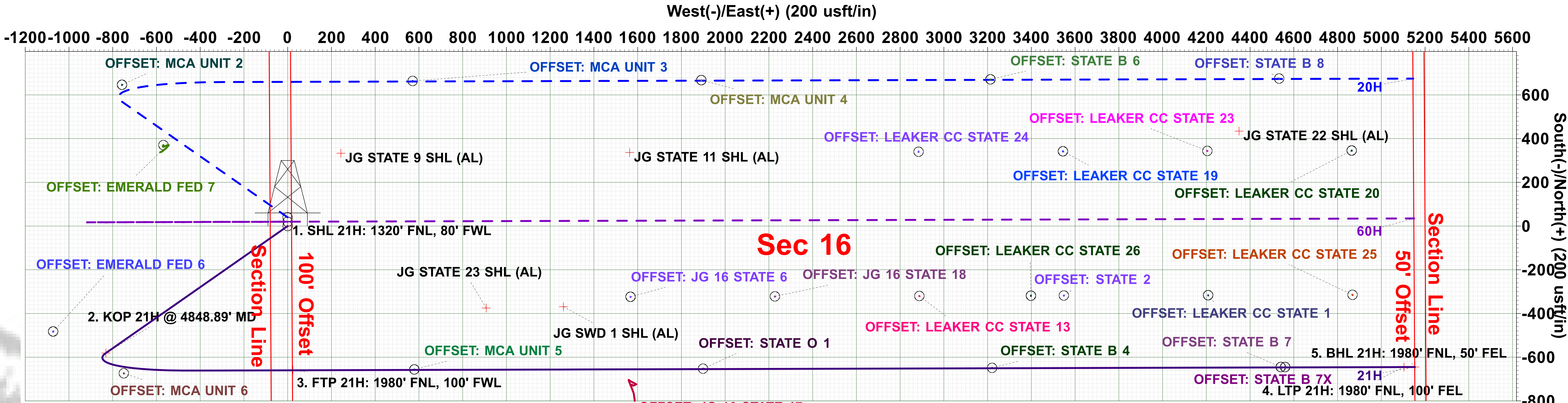
Disclaimer:

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



CORRECTION REFERENCE DATA:

To convert a Magnetic Direction to a Grid Direction, Add 6.334°  
To convert a True Direction to a Grid Direction, Subtract 0.300°  
To convert a Magnetic Direction to a True Direction, Add 6.634° East  
Magnetic Declination: 6.634°  
Grid Convergence: 0.300° West  
Magnetic Dip Angle: 60.411°  
Magnetic Field Strength: 47780.39898297nT



Plan: PLAN #1 (21H/Wellbore #1) AKITA 57

Created By: Derek Stephens Date: 17:28, December 12 2021



## Spur Energy Partners LLC – JG 16 State North Com 21H

### 1. Geologic Formations

TVD of Target	5,775'
MD at TD	11,503'

Formation	Depth	Lithology	Expected Fluids
Quaternary	0'	Dolomite, other: Caliche	Useable Water
Rustler	830'	Dolomite, Shale, Anhydrite	Other: Brackish Water
Top Salt	1042'	Anhydrite	Other: Salt
Tansill	2057'	Dolomite, Limestone	None
Yates	2162'	Sandstone	None
Seven Rivers	2515'	Dolomite, Sandstone	Natural Gas, Oil
Queen	3130'	Dolomite, Sandstone	Natural Gas, Oil
San Andres	3885'	Dolomite, Limestone	Natural Gas, Oil
Glorieta	5393'	Dolomits, Siltstone	Natural Gas, Oil
Yeso	5484'	Dolomite	Natural Gas, Oil
Blinberry	5915'	Dolomite	Natural Gas, Oil

\*H<sub>2</sub>S, water flows, loss of circulation, abnormal pressures, etc.

### 2. Casing Program

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
17.5	0	925	13.375	54.5	J-55	BTC	1.125	1.2	1.4	1.4
12.25	0	4250	9.625	36	J-55	BTC	1.125	1.2	1.4	1.4
8.75	0	6100	7	32	L-80	BK-HT	1.125	1.2	1.4	1.4
8.75	6100	11503	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 – JG 16 State North Com 21H**

	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 <sup>rd</sup> 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 <sup>nd</sup> 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?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

**3. Cementing Program**

Casing String	Top (ft)	Bottom (ft)	% Excess
Surface Tail	0	925	165%
Intermediate (Lead)	0	925	100%
Intermediate (Tail)	925	4250	100%
Production (Lead)	0	5100	100%
Production (Tail)	5100	11503	25%

Casing String	# Sks	Wt. (lb/gal)	Yld (ft3/sack)	H2O (gal/sk)	500# Comp. Strength (hours)	Slurry Description
Surface Tail	897	13.2	1.87	9.92	6:59	Clas C Premium Plus Cement
Intermediate (Lead)	140	12	2.4	13.48	8:12	Clas C Premium Plus Cement
Intermediate (Tail)	1124	13.2	1.87	9.92	6:59	Clas C Premium Plus Cement
Production (Lead)	1161	11.4	2.42	15.29	N/A	Clas C Premium Plus Cement
Production (Tail)	1220	13.2	1.56	9.81	N/A	Clas C Premium Plus Cement

## Spur Energy Partners LLC – JG 16 State North Com 21H

### 4. Pressure Control Equipment

#### \*Spur Energy Partners LLC variance for flex hose\*

1. Spur requests a variance to use a flex line from the BOP to the choke manifold. Documentation will be attached in the APD and be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no bends).

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12.25" Hole	13-5/8"	5M	Annular	✓	70% of working pressure
		5M	Blind Ram	✓	250 psi / 3000 psi
			Pipe Ram	✓	
			Double Ram		
			Other*		
8.75" Hole	13-5/8"	5M	Annular	✓	70% of working pressure
		5M	Blind Ram	✓	250 psi / 3000 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	2673 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	127°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.

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?	

**Spur Energy Partners LLC – JG 16 State North Com 21H**

	<p>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.</p> <p>See attached schematics.</p>
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**5. BOP Break Testing Request**

Spur Energy Partners LLC requests permission to adjust the BOP break testing requirements as follows:

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 3<sup>rd</sup> 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

**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	925	Water-Based Mud	8.6-8.9	32-36	N/C
925	4250	Brine	9.0-10.0	32-36	N/C
4250	11503	Brine	9.0-10.0	32-36	N/C

What will be used to monitor the loss or gain of fluid?	PVT/PASON/Visual Monitoring
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## Spur Energy Partners LLC – JG 16 State North Com 21H

### 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 (H <sub>2</sub> S) monitors will be installed prior to drilling out the surface shoe. If H <sub>2</sub> S 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	H <sub>2</sub> S is present
Y	H <sub>2</sub> S Plan attached

**Total estimated cuttings volume:** 1117.9 bbls.

**Spur Energy Partners LLC – JG 16 State North Com 21H****9. Other facets of operation**

	<b>Yes/No</b>
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/intermediate 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 Attachments  
☒ BOP Schematics  
☒ Transcend Spudder Rig Attachments

**10. Company Personnel**

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

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