

Form 3160-3
(October 2024)FORM APPROVED
OMB No. 1004-0220
Expires: October 31, 2027UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☐ DRILL ☐ REENTER		5. Lease Serial No.
1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator		8. Lease Name and Well No.
3a. Address		9. API Well No. 30-015-57391
3b. Phone No. (include area code)		10. Field and Pool, or Exploratory
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish
		13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- | | |
|--|---|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be requested by the BLM. |

25. Signature	Name (Printed/Typed)	Date
Title		
Approved by (Signature)	Name (Printed/Typed)	Date
Title		
Office		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)



C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION		Revised July 9, 2024	
			Submittal Type:	☒ Initial Submittal
				☐ Amended Report
		☐ As Drilled		

WELL LOCATION INFORMATION

API Number 30-015-57391	Pool Code 96210	Pool Name EMPIRE; GLORIETA-YESO
Property Code 337838	Property Name GHOST 16-15 STATE COM	Well Number 21H
OGRID No. 328947	Operator Name SPUR ENERGY PARTNERS LLC.	Ground Level Elevation 3581'
Surface Owner: ☒ State ☐ Fee ☐ Tribal ☐ Federal		Mineral Owner: ☒ State ☐ Fee ☐ Tribal ☐ Federal

Surface Location

UL M	Section 16	Township 17S	Range 28E	Lot	Ft. from N/S 1055 FSL	Ft. from E/W 99 FWL	Latitude 32.8298200°N	Longitude 104.1889783°W	County EDDY
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Bottom Hole Location

UL N	Section 15	Township 17S	Range 28E	Lot	Ft. from N/S 330 FSL	Ft. from E/W 2553 FWL	Latitude 32.8280678°N	Longitude 104.1638457°W	County EDDY
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Dedicated Acres 480	Infill or Defining Well INFILL	Defining Well API 30-015-PENDING	Overlapping Spacing Unit (Y/N) N	Consolidation Code F & C
Order Numbers. PENDING			Well setbacks are under Common Ownership: ☒ Yes ☐ No	

Kick Off Point (KOP)

UL P	Section 17	Township 17S	Range 28E	Lot	Ft. from N/S 528 FSL	Ft. from E/W 646 FEL	Latitude 32.8283718°N	Longitude 104.1913613°W	County EDDY
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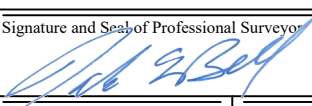
First Take Point (FTP)

UL M	Section 16	Township 17S	Range 28E	Lot	Ft. from N/S 330 FSL	Ft. from E/W 100 FWL	Latitude 32.8278283°N	Longitude 104.1889189°W	County EDDY
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Last Take Point (LTP)

UL N	Section 15	Township 17S	Range 28E	Lot	Ft. from N/S 330 FSL	Ft. from E/W 2503 FWL	Latitude 32.8280670°N	Longitude 104.1640085°W	County EDDY
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Unitized Area or Area of Uniform Interest Y	Spacing Unit Type ☒ Horizontal ☐ Vertical	Ground Floor Elevation: 3581' GR
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OPERATOR CERTIFICATIONS <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, 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 a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i> <i>If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.</i> Sarah Chapman 04/29/2025		SURVEYOR CERTIFICATIONS <i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me under my supervision, and that the same is true and correct to the best of my belief.</i> 	
Signature SARAH CHAPMAN		Signature and Seal of Professional Surveyor 	
Printed Name SCHAPMAN@SPURENERGY.COM		Certificate Number 14400	Date of Survey 03/25/2025
Email Address			

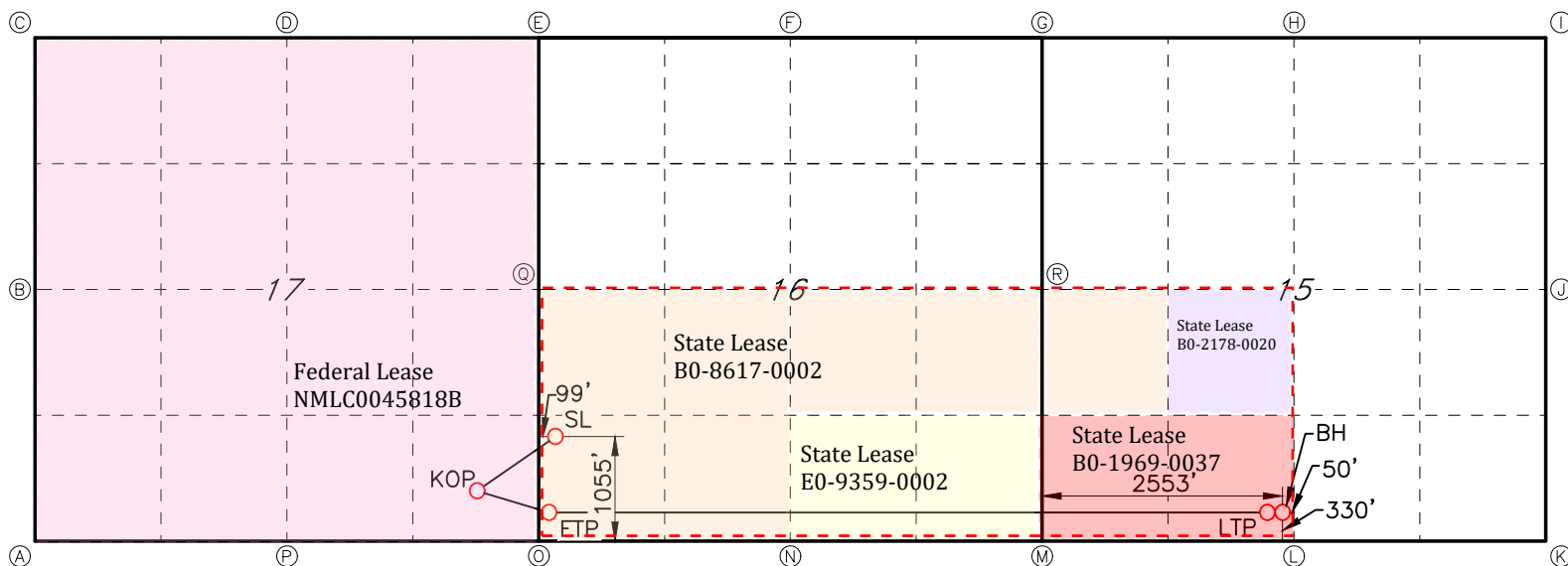
Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is a directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.

GHOST 16-15 STATE COM #21H



GEODETTIC DATA
NAD 83 GRID - NM EAST

SURFACE LOCATION (SL)
1055' FSL & 99' FWL (SEC.16)
N: 665651.7 - E: 585678.2
LAT: 32.8298200° N
LONG: 104.1889783° W

KICK OFF POINT (KOP)
528' FSL & 646' FEL (SEC.17)
N: 665123.8 - E: 584946.9
LAT: 32.8283718° N
LONG: 104.1913613° W

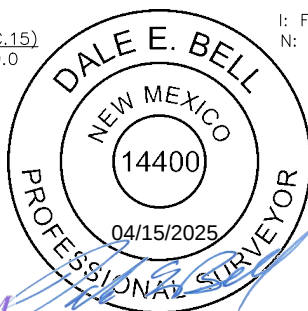
FIRST TAKE POINT (FTP)
330' FSL & 100' FWL (SEC.16)
N: 664927.1 - E: 585697.4
LAT: 32.8278283° N
LONG: 104.1889189° W

LAST TAKE POINT (LTP)
330' FSL & 2503' FWL (SEC.15)
N: 665025.3 - E: 593349.0
LAT: 32.8280670° N
LONG: 104.1640085° W

BOTTOM HOLE (BH)
330' FSL & 2553' FWL (SEC.15)
N: 665025.7 - E: 593399.0
LAT: 32.8280678° N
LONG: 104.1638457° W

CORNER DATA
NAD 83 GRID - NM EAST

A: FOUND BRASS CAP "1941" N: 664598.7 - E: 580344.4	J: FOUND BRASS CAP "1941" N: 667371.0 - E: 595986.7
B: FOUND 1/2" REBAR CIRCLE OF STONES N: 667242.8 - E: 580307.6	K: FOUND BRASS CAP "1941" N: 664715.7 - E: 596062.5
C: FOUND BRASS CAP "1941" N: 669888.2 - E: 580272.7	L: FOUND BRASS CAP "1941" N: 664696.3 - E: 593458.5
D: FOUND BRASS CAP "1941" N: 669891.3 - E: 582874.8	M: FOUND BRASS CAP "1941" N: 664676.8 - E: 590857.1
E: FOUND BRASS CAP "1941" N: 669895.3 - E: 585475.8	N: FOUND BRASS CAP "1941" N: 664637.7 - E: 588231.8
F: FOUND BRASS CAP "1941" N: 669932.6 - E: 588081.1	O: FOUND BRASS CAP "1941" N: 664595.7 - E: 585605.5
G: CALCULATED CORNER N: 669970.6 - E: 590686.3	P: FOUND BRASS CAP "1941" N: 664596.6 - E: 582975.3
H: FOUND BRASS CAP "1941" N: 670001.6 - E: 593305.7	Q: FOUND BRASS CAP "1941" N: 667245.5 - E: 585540.4
I: FOUND BRASS CAP "1941" N: 670028.0 - E: 595911.3	R: FOUND BRASS CAP "1941" N: 667324.8 - E: 590770.1



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

Submit Electronically
Via E-permitting

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:** 04 / 14 / 2025

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
GHOST 16 15 STATE COM 10H	30-015-	M-16-17S-28E	1095' FSL 100' FWL	369 BBL/D	602 MCF/D	2216 BBL/D
GHOST 16 15 STATE COM 20H	30-015-	L-16-17S-28E	1975' FSL 97' FWL	369 BBL/D	602 MCF/D	2216 BBL/D
GHOST 16 15 STATE COM 21H	30-015-	M-16-17S-28E	1055' FSL 99' FWL	369 BBL/D	602 MCF/D	2216 BBL/D
GHOST 16 15 STATE COM 70H	30-015-	L-16-17S-28E	1955' FSL 97' FWL	338 BBL/D	1014 MCF/D	2367 BBL/D
GHOST 16 15 STATE COM 71H	30-015-	M-16-17S-28E	1075' FSL 99' FWL	338 BBL/D	1014 MCF/D	2367 BBL/D

IV. Central Delivery Point Name: GHOST 16 15 STATE COM 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
GHOST 16 15 STATE COM 10H	30-015-	11/05/2025	11/13/2025	12/24/2025	01/14/2026	01/29/2026
GHOST 16 15 STATE COM 20H	30-015-	11/13/2025	11/21/2025	12/24/2025	01/14/2026	01/29/2026
GHOST 16 15 STATE COM 21H	30-015-	11/21/2025	11/29/2025	12/24/2025	01/14/2026	01/29/2026
GHOST 16 15 STATE COM 70H	30-015-	11/29/2025	12/07/2025	12/24/2025	01/14/2026	01/29/2026
GHOST 16 15 STATE COM 71H	30-015-	12/07/2025	12/15/2025	12/24/2025	01/14/2026	01/29/2026

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:	04/14/2025
Phone:	832-930-8613
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)	
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 – Ghost 16-15 State Com 21H

1. Geologic Formations

TVD of Target	3,765'
MD at TD	12,069'

Formation	Depth	Lithology	Expected Fluids
Quaternary	0'	Dolomite, other: Caliche	Useable Water
Tansill	280'	Sandstone, Dolomite	None
Yates	365'	Dolomite, Limestone, Shale, Siltstone	None
Seven Rivers	625'	Dolomite, Limestone	Natural Gas, Oil
Queen	1165'	Anhydrite, Dolomite, Sandstone	Natural Gas, Oil
Grayburg	1595'	Anhydrite	Natural Gas, Oil
San Andres	1950'	Dolomite	Natural Gas, Oil
Glorieta	3325'	Dolomite, Siltstone	Natural Gas, Oil
Paddock	341'	Dolomite, Limestone	Natural Gas, Oil
Upper Blinberry	3865'	Dolomite, Limestone	Natural Gas, Oil
Abo	5450'	Dolomite, Limestone	Natural Gas, Oil

*H₂S, 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

Buoyant											Buoyant
Casing Formation Set Interval	Hole Size (in)	Casing Interval		Csg. Size (in)	Weight	Grade	Conn.	SF	SF Burst	Body SF	Joint SF
		From (ft)	To (ft)		(lbs)			Collapse		Tension	Tension
		Yates	17.5	0	450			13.375		54.5	J-55
San Andres	12.25	0	2250	9.625	36	J-55	BTC	1.125	1.2	1.4	1.4
N/A	8.75	0	4100	7	32	L-80	GBCD	1.125	1.2	1.4	1.4
Yeso	8.75	4100	12069	5.5	20	L-80	GBCD	1.125	1.2	1.4	1.4
									SF Values will meet or Exceed		

Spur Energy Partners LLC – Ghost 16-15 State 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 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?	
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	450	100%
Intermediate (Lead)	0	450	50%
Intermediate (Tail)	450	2250	100%
Production (Lead)	0	3100	0%
Production (Tail)	3100	12069	50%

Casing String	# Sks	Wt. (lb/gal)	Yld (ft3/sack)	H2O (gal/sk)	500# Comp. Strength (hours)	Slurry Description
Surface Tail	278	13.2	2.32	9.92	6:59	Clas C Premium Plus Cement
Intermediate (Lead)	89	12.2	1.84	13.48	8:12	Clas C Premium Plus Cement
Intermediate (Tail)	494	13.2	2.32	9.92	6:59	Clas C Premium Plus Cement
Production (Lead)	583	11.8	2.54	15.29	N/A	Clas C Premium Plus Cement
Production (Tail)	1798	13.2	1.81	9.81	N/A	Clas C Premium Plus Cement

Spur Energy Partners LLC – Ghost 16-15 State Com 21H

4. Pressure Control Equipment

Spur Energy Partners LLC variance for flex hose

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	1743 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	111°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.

Spur Energy Partners LLC – Ghost 16-15 State Com 21H

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 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 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

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	450	Water-Based Mud	8.6-8.9	32-36	N/C
450	2250	Brine	9.0-10.0	32-36	N/C
2250	12069	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
---	-----------------------------

Spur Energy Partners LLC – Ghost 16-15 State 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 ₂ S) monitors will be installed prior to drilling out the surface shoe. If H ₂ 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 ₂ S is present
Y	H ₂ S Plan attached

Total estimated cuttings volume: 1072.6 bbls.

Spur Energy Partners LLC – Ghost 16-15 State Com 21H**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/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

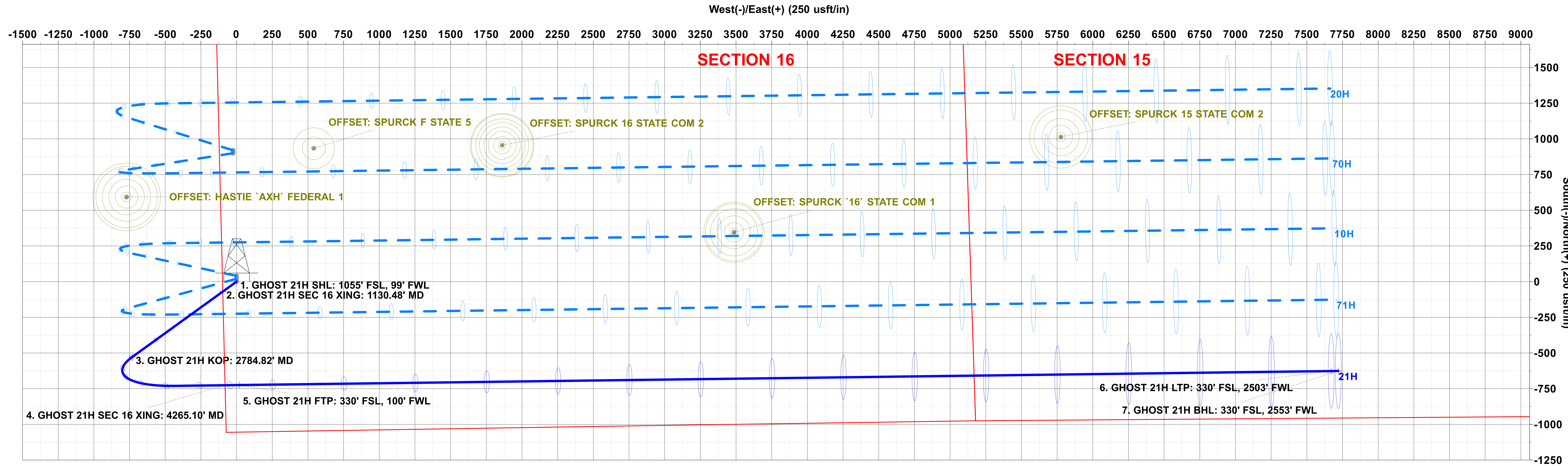
- ☒ Directional Plan
- ☒ H2S Contingency Plan
- ☒ Akita 57 Attachments
- ☒ BOP Schematics
- ☒ Transcend Spudder Rig Attachments

10. Company Personnel

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



Project: EDDY COUNTY, NM (NAD 83 - NME)
Site: GHOST 16-15 STATE COM
Well: 21H
Wellbore: OH
Design: PERMIT



WELL DETAILS: 21H

Rig Name:		AKITA 57	RKB = 20' @ 3600.00usft (AKITA 57)		
			GL: 3580.00		
+N/-S	+E/-W	Northring	Easting	Latitude	Longitude
0.00	0.00	665651.70	585678.20	32.82982	-104.18898

SECTION DETAILS

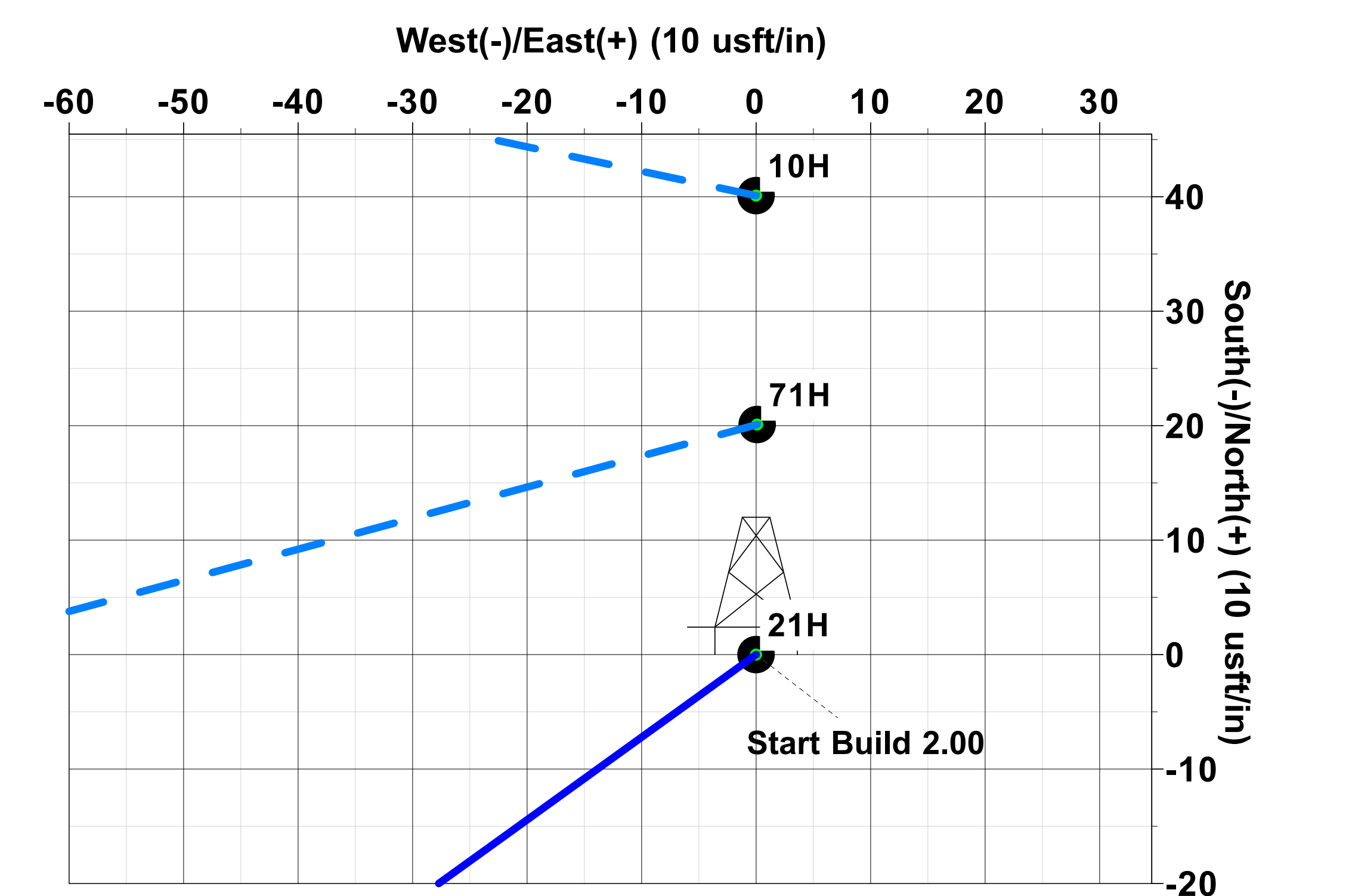
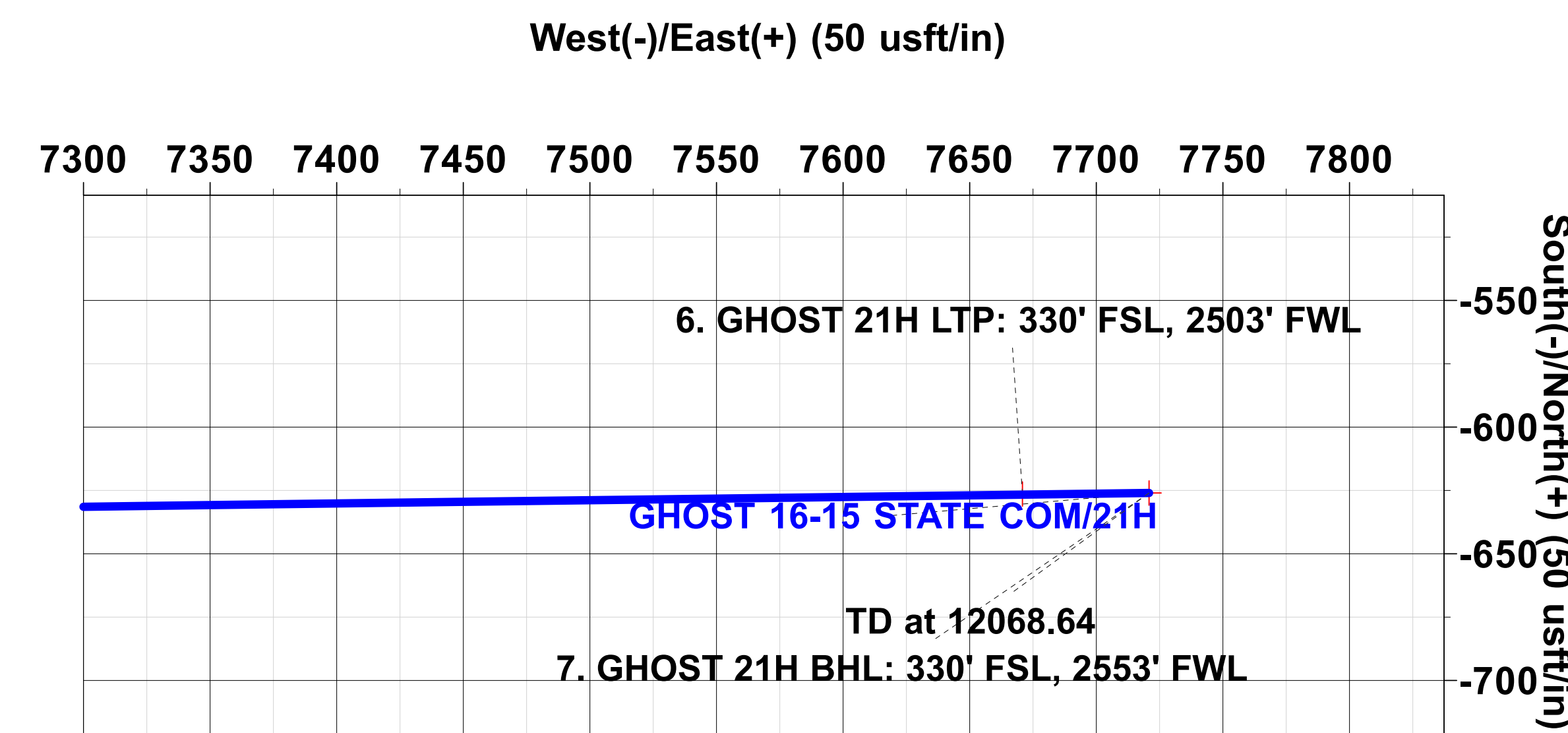
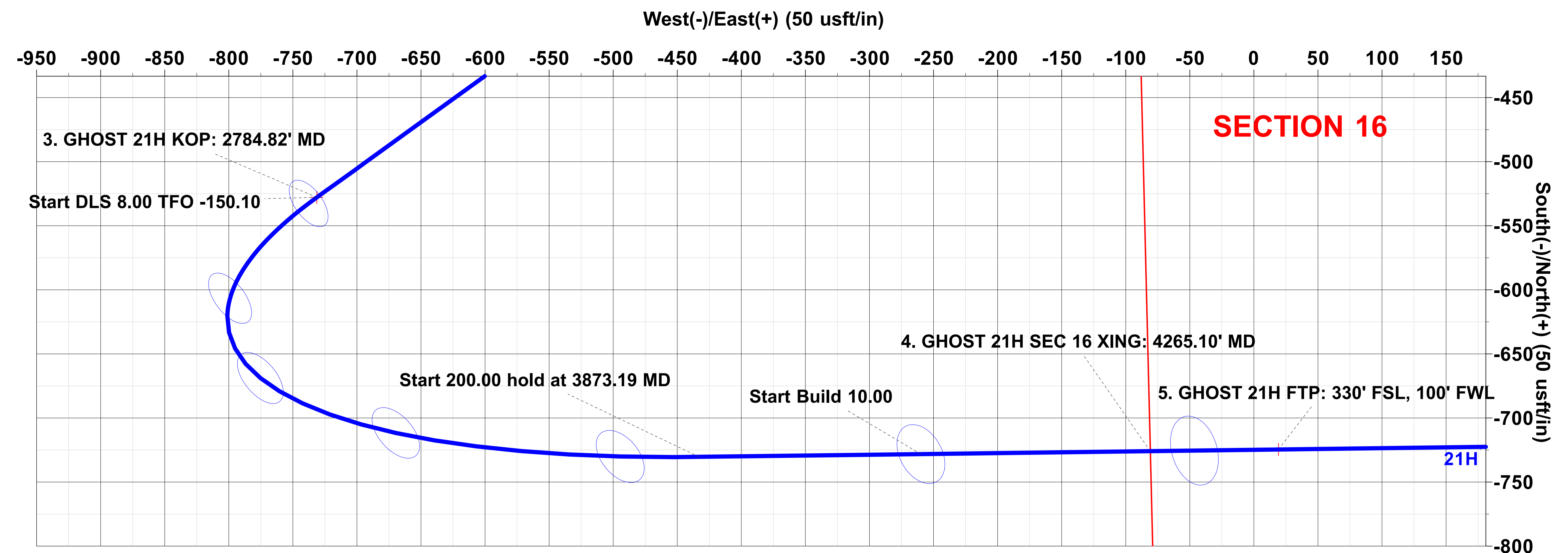
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00
3	1891.39	31.83	234.18	1810.80	-252.12	-349.27	2.00	-352.45
4	2784.82	31.83	234.18	2569.89	-527.89	-731.30	0.00	-737.97
5	3873.19	60.00	89.27	3488.29	-730.39	-433.01	8.00	-442.28
6	4073.19	60.00	89.27	3588.29	-728.17	-259.82	0.00	-269.07
7	4365.76	89.26	89.27	3665.00	-724.60	19.20	10.00	9.97
8	12018.63	89.26	89.27	3764.35	-626.64	7670.80	0.00	7662.20
9	12068.64	89.26	89.27	3765.00	-626.00	7720.80	0.00	7712.20

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northring	Easting
1. GHOST 21H SHL: 1055' FSL, 99' FWL	0.00	0.00	0.00	665651.70	585678.20
2. GHOST 21H SEC 16 XING: 1130.48' MD	1118.89	-69.96	-96.92	665581.74	585581.28
3. GHOST 21H KOP: 2784.82' MD	2569.89	-527.89	-731.30	665123.81	584946.90
4. GHOST 21H SEC 16 XING: 4265.10' MD	3654.88	-725.88	-80.81	664925.82	585597.39
5. GHOST 21H FTP: 330' FSL, 100' FWL	3665.00	-724.60	19.20	664927.10	585697.40
6. GHOST 21H LTP: 330' FSL, 2503' FWL	3764.35	-626.40	7670.80	665025.30	593349.00
7. GHOST 21H BHL: 330' FSL, 2553' FWL	3765.00	-626.00	7720.80	665025.70	593399.00

PROJECT DETAILS: EDDY COUNTY, NM (NAD 83 - NME)

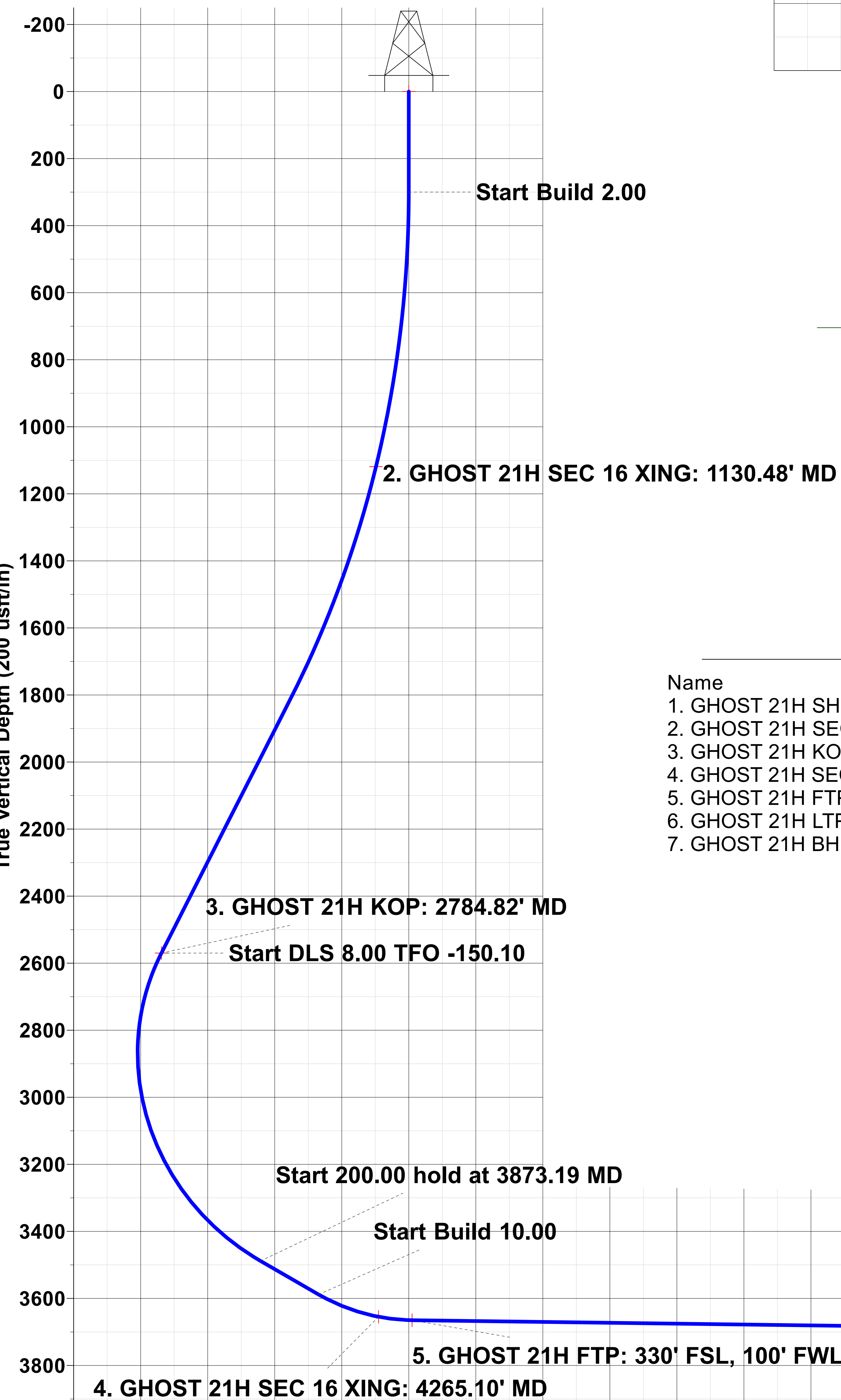
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level



6. GHOST 21H LTP: 330' FSL, 2503' FWL
7. GHOST 21H BHL: 330' FSL, 2553' FWL
TD at 12068.64

Plan: PERMIT (21H/OH)

Created By: PROTOTYPE WELL PLANNING / Date: 7:53, April 10 2025



Vertical Section at 89.27° (200 usft/in)

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SPUR ENERGY PARTNERS, LLC

EDDY COUNTY, NM (NAD 83 - NME)

GHOST 16-15 STATE COM

21H

OH

Plan: PERMIT

Standard Planning Report

10 April, 2025

Planning Report

Database:	EDM 5000.17 Single User Db	Local Co-ordinate Reference:	Well 21H
Company:	SPUR ENERGY PARTNERS, LLC	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Project:	EDDY COUNTY, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site:	GHOST 16-15 STATE COM	North Reference:	Grid
Well:	21H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
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		

Well	21H			
Well Position	+N/-S	0.00 usft	Northing:	665,651.70 usft
	+E/-W	0.00 usft	Easting:	585,678.20 usft
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft
Grid Convergence:		0.08 °	Ground Level:	3,580.00 usft

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	89.27

Plan Survey Tool Program	Date	4/9/2025		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	12,068.64	PERMIT (OH)	MWD+IGRF
				OWSG MWD + IGRF or WI

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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,891.39	31.83	234.18	1,810.80	-252.12	-349.27	2.00	2.00	0.00	234.18	
2,784.82	31.83	234.18	2,569.89	-527.89	-731.30	0.00	0.00	0.00	0.00	
3,873.19	60.00	89.27	3,488.29	-730.39	-433.01	8.00	2.59	-13.31	-150.10	
4,073.19	60.00	89.27	3,588.29	-728.17	-259.82	0.00	0.00	0.00	0.00	
4,365.76	89.26	89.27	3,665.00	-724.60	19.20	10.00	10.00	0.00	0.00	5. GHOST 21H FTF
12,018.63	89.26	89.27	3,764.35	-626.64	7,670.80	0.00	0.00	0.00	0.00	6. GHOST 21H LTF
12,068.64	89.26	89.27	3,765.00	-626.00	7,720.80	0.00	0.00	0.00	0.00	7. GHOST 21H BHI

Planning Report

Database:	EDM 5000.17 Single User Db	Local Co-ordinate Reference:	Well 21H
Company:	SPUR ENERGY PARTNERS, LLC	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Project:	EDDY COUNTY, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site:	GHOST 16-15 STATE COM	North Reference:	Grid
Well:	21H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

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
1. GHOST 21H SHL: 1055' FSL, 99' FWL									
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	234.18	399.98	-1.02	-1.42	-1.43	2.00	2.00	0.00
500.00	4.00	234.18	499.84	-4.08	-5.66	-5.71	2.00	2.00	0.00
600.00	6.00	234.18	599.45	-9.19	-12.72	-12.84	2.00	2.00	0.00
700.00	8.00	234.18	698.70	-16.32	-22.61	-22.81	2.00	2.00	0.00
800.00	10.00	234.18	797.47	-25.47	-35.29	-35.61	2.00	2.00	0.00
900.00	12.00	234.18	895.62	-36.64	-50.76	-51.22	2.00	2.00	0.00
1,000.00	14.00	234.18	993.06	-49.81	-69.00	-69.63	2.00	2.00	0.00
1,100.00	16.00	234.18	1,089.64	-64.95	-89.98	-90.80	2.00	2.00	0.00
1,130.48	16.61	234.18	1,118.89	-69.96	-96.92	-97.80	2.00	2.00	0.00
2. GHOST 21H SEC 16 XING: 1130.48' MD									
1,200.00	18.00	234.18	1,185.27	-82.07	-113.69	-114.72	2.00	2.00	0.00
1,300.00	20.00	234.18	1,279.82	-101.12	-140.08	-141.36	2.00	2.00	0.00
1,400.00	22.00	234.18	1,373.17	-122.09	-169.14	-170.68	2.00	2.00	0.00
1,500.00	24.00	234.18	1,465.21	-144.96	-200.82	-202.65	2.00	2.00	0.00
1,600.00	26.00	234.18	1,555.84	-169.70	-235.08	-237.23	2.00	2.00	0.00
1,700.00	28.00	234.18	1,644.94	-196.27	-271.89	-274.37	2.00	2.00	0.00
1,800.00	30.00	234.18	1,732.39	-224.64	-311.20	-314.04	2.00	2.00	0.00
1,891.39	31.83	234.18	1,810.80	-252.12	-349.27	-352.45	2.00	2.00	0.00
1,900.00	31.83	234.18	1,818.11	-254.78	-352.95	-356.17	0.00	0.00	0.00
2,000.00	31.83	234.18	1,903.08	-285.65	-395.71	-399.32	0.00	0.00	0.00
2,100.00	31.83	234.18	1,988.04	-316.51	-438.47	-442.47	0.00	0.00	0.00
2,200.00	31.83	234.18	2,073.00	-347.38	-481.23	-485.62	0.00	0.00	0.00
2,300.00	31.83	234.18	2,157.97	-378.25	-523.99	-528.77	0.00	0.00	0.00
2,400.00	31.83	234.18	2,242.93	-409.11	-566.75	-571.92	0.00	0.00	0.00
2,500.00	31.83	234.18	2,327.90	-439.98	-609.51	-615.07	0.00	0.00	0.00
2,600.00	31.83	234.18	2,412.86	-470.85	-652.27	-658.22	0.00	0.00	0.00
2,700.00	31.83	234.18	2,497.82	-501.71	-695.03	-701.37	0.00	0.00	0.00
2,784.82	31.83	234.18	2,569.89	-527.89	-731.30	-737.97	0.00	0.00	0.00
3. GHOST 21H KOP: 2784.82' MD									
2,800.00	30.78	232.99	2,582.86	-532.57	-737.65	-744.37	8.00	-6.90	-7.79
2,850.00	27.42	228.53	2,626.55	-547.90	-756.50	-763.42	8.00	-6.72	-8.93
2,900.00	24.23	222.96	2,671.55	-563.04	-772.12	-779.23	8.00	-6.37	-11.14
2,950.00	21.31	215.90	2,717.66	-577.92	-784.45	-791.75	8.00	-5.85	-14.13
3,000.00	18.76	206.87	2,764.64	-592.45	-793.41	-800.90	8.00	-5.09	-18.06
3,050.00	16.77	195.47	2,812.27	-606.58	-798.97	-806.63	8.00	-3.99	-22.80
3,100.00	15.54	181.74	2,860.31	-620.23	-801.10	-808.94	8.00	-2.45	-27.45
3,150.00	15.27	166.68	2,908.54	-633.34	-799.79	-807.79	8.00	-0.54	-30.13
3,200.00	16.00	152.05	2,956.71	-645.84	-795.04	-803.20	8.00	1.46	-29.26
3,250.00	17.61	139.35	3,004.58	-657.67	-786.87	-795.19	8.00	3.22	-25.40
3,300.00	19.89	129.08	3,051.94	-668.78	-775.34	-783.80	8.00	4.55	-20.53
3,350.00	22.63	121.03	3,098.54	-679.10	-760.49	-769.08	8.00	5.48	-16.11
3,400.00	25.69	114.72	3,144.17	-688.59	-742.39	-751.11	8.00	6.12	-12.62
3,450.00	28.96	109.71	3,188.59	-697.21	-721.14	-729.97	8.00	6.55	-10.02
3,500.00	32.39	105.65	3,231.59	-704.91	-696.84	-705.77	8.00	6.85	-8.11
3,550.00	35.92	102.31	3,272.96	-711.65	-669.60	-678.62	8.00	7.07	-6.69
3,600.00	39.53	99.49	3,312.50	-717.41	-639.57	-648.65	8.00	7.22	-5.63
3,650.00	43.20	97.08	3,350.02	-722.14	-606.87	-616.02	8.00	7.34	-4.82
3,700.00	46.92	94.98	3,385.34	-725.84	-571.68	-580.88	8.00	7.43	-4.20

Planning Report

Database:	EDM 5000.17 Single User Db	Local Co-ordinate Reference:	Well 21H
Company:	SPUR ENERGY PARTNERS, LLC	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Project:	EDDY COUNTY, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site:	GHOST 16-15 STATE COM	North Reference:	Grid
Well:	21H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

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)
3,750.00	50.66	93.12	3,418.27	-728.48	-534.17	-543.41	8.00	7.49	-3.72
3,800.00	54.44	91.45	3,448.67	-730.04	-494.52	-503.78	8.00	7.55	-3.34
3,850.00	58.23	89.93	3,476.38	-730.53	-452.91	-462.18	8.00	7.59	-3.04
3,873.19	60.00	89.27	3,488.29	-730.39	-433.01	-442.28	8.00	7.62	-2.86
3,900.00	60.00	89.27	3,501.69	-730.09	-409.80	-419.06	0.00	0.00	0.00
4,000.00	60.00	89.27	3,551.69	-728.98	-323.20	-332.46	0.00	0.00	0.00
4,073.19	60.00	89.27	3,588.29	-728.17	-259.82	-269.07	0.00	0.00	0.00
4,100.00	62.68	89.27	3,601.14	-727.87	-236.30	-245.55	10.00	10.00	0.00
4,150.00	67.68	89.27	3,622.12	-727.29	-190.94	-200.19	10.00	10.00	0.00
4,200.00	72.68	89.27	3,639.07	-726.69	-143.92	-153.16	10.00	10.00	0.00
4,250.00	77.68	89.27	3,651.86	-726.07	-95.60	-104.84	10.00	10.00	0.00
4,265.10	79.19	89.27	3,654.88	-725.88	-80.81	-90.05	10.00	10.00	0.00
4. GHOST 21H SEC 16 XING: 4265.10' MD									
4,300.00	82.68	89.27	3,660.38	-725.44	-46.35	-55.59	10.00	10.00	0.00
4,350.00	87.68	89.27	3,664.58	-724.80	3.45	-5.78	10.00	10.00	0.00
4,365.76	89.26	89.27	3,665.00	-724.60	19.20	9.97	10.00	10.00	0.00
5. GHOST 21H FTP: 330' FSL, 100' FWL									
4,400.00	89.26	89.27	3,665.44	-724.16	53.44	44.21	0.00	0.00	0.00
4,500.00	89.26	89.27	3,666.74	-722.88	153.42	144.20	0.00	0.00	0.00
4,600.00	89.26	89.27	3,668.04	-721.60	253.41	244.19	0.00	0.00	0.00
4,700.00	89.26	89.27	3,669.34	-720.32	353.39	344.18	0.00	0.00	0.00
4,800.00	89.26	89.27	3,670.64	-719.04	453.37	444.17	0.00	0.00	0.00
4,900.00	89.26	89.27	3,671.94	-717.76	553.36	544.17	0.00	0.00	0.00
5,000.00	89.26	89.27	3,673.23	-716.48	653.34	644.16	0.00	0.00	0.00
5,100.00	89.26	89.27	3,674.53	-715.20	753.32	744.15	0.00	0.00	0.00
5,200.00	89.26	89.27	3,675.83	-713.92	853.31	844.14	0.00	0.00	0.00
5,300.00	89.26	89.27	3,677.13	-712.64	953.29	944.13	0.00	0.00	0.00
5,400.00	89.26	89.27	3,678.43	-711.36	1,053.27	1,044.12	0.00	0.00	0.00
5,500.00	89.26	89.27	3,679.73	-710.08	1,153.26	1,144.12	0.00	0.00	0.00
5,600.00	89.26	89.27	3,681.02	-708.80	1,253.24	1,244.11	0.00	0.00	0.00
5,700.00	89.26	89.27	3,682.32	-707.52	1,353.22	1,344.10	0.00	0.00	0.00
5,800.00	89.26	89.27	3,683.62	-706.24	1,453.21	1,444.09	0.00	0.00	0.00
5,900.00	89.26	89.27	3,684.92	-704.96	1,553.19	1,544.08	0.00	0.00	0.00
6,000.00	89.26	89.27	3,686.22	-703.68	1,653.17	1,644.07	0.00	0.00	0.00
6,100.00	89.26	89.27	3,687.51	-702.40	1,753.16	1,744.06	0.00	0.00	0.00
6,200.00	89.26	89.27	3,688.81	-701.12	1,853.14	1,844.06	0.00	0.00	0.00
6,300.00	89.26	89.27	3,690.11	-699.84	1,953.12	1,944.05	0.00	0.00	0.00
6,400.00	89.26	89.27	3,691.41	-698.56	2,053.11	2,044.04	0.00	0.00	0.00
6,500.00	89.26	89.27	3,692.71	-697.28	2,153.09	2,144.03	0.00	0.00	0.00
6,600.00	89.26	89.27	3,694.01	-696.00	2,253.07	2,244.02	0.00	0.00	0.00
6,700.00	89.26	89.27	3,695.30	-694.72	2,353.06	2,344.01	0.00	0.00	0.00
6,800.00	89.26	89.27	3,696.60	-693.44	2,453.04	2,444.01	0.00	0.00	0.00
6,900.00	89.26	89.27	3,697.90	-692.16	2,553.02	2,544.00	0.00	0.00	0.00
7,000.00	89.26	89.27	3,699.20	-690.88	2,653.01	2,643.99	0.00	0.00	0.00
7,100.00	89.26	89.27	3,700.50	-689.60	2,752.99	2,743.98	0.00	0.00	0.00
7,200.00	89.26	89.27	3,701.79	-688.32	2,852.97	2,843.97	0.00	0.00	0.00
7,300.00	89.26	89.27	3,703.09	-687.04	2,952.96	2,943.96	0.00	0.00	0.00
7,400.00	89.26	89.27	3,704.39	-685.76	3,052.94	3,043.96	0.00	0.00	0.00
7,500.00	89.26	89.27	3,705.69	-684.48	3,152.92	3,143.95	0.00	0.00	0.00
7,600.00	89.26	89.27	3,706.99	-683.20	3,252.91	3,243.94	0.00	0.00	0.00
7,700.00	89.26	89.27	3,708.29	-681.92	3,352.89	3,343.93	0.00	0.00	0.00
7,800.00	89.26	89.27	3,709.58	-680.64	3,452.87	3,443.92	0.00	0.00	0.00
7,900.00	89.26	89.27	3,710.88	-679.36	3,552.86	3,543.91	0.00	0.00	0.00
8,000.00	89.26	89.27	3,712.18	-678.08	3,652.84	3,643.90	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.17 Single User Db	Local Co-ordinate Reference:	Well 21H
Company:	SPUR ENERGY PARTNERS, LLC	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Project:	EDDY COUNTY, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site:	GHOST 16-15 STATE COM	North Reference:	Grid
Well:	21H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

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)	
8,100.00	89.26	89.27	3,713.48	-676.80	3,752.82	3,743.90	0.00	0.00	0.00	
8,200.00	89.26	89.27	3,714.78	-675.52	3,852.81	3,843.89	0.00	0.00	0.00	
8,300.00	89.26	89.27	3,716.08	-674.24	3,952.79	3,943.88	0.00	0.00	0.00	
8,400.00	89.26	89.27	3,717.37	-672.96	4,052.77	4,043.87	0.00	0.00	0.00	
8,500.00	89.26	89.27	3,718.67	-671.68	4,152.76	4,143.86	0.00	0.00	0.00	
8,600.00	89.26	89.27	3,719.97	-670.40	4,252.74	4,243.85	0.00	0.00	0.00	
8,700.00	89.26	89.27	3,721.27	-669.12	4,352.72	4,343.85	0.00	0.00	0.00	
8,800.00	89.26	89.27	3,722.57	-667.84	4,452.71	4,443.84	0.00	0.00	0.00	
8,900.00	89.26	89.27	3,723.86	-666.56	4,552.69	4,543.83	0.00	0.00	0.00	
9,000.00	89.26	89.27	3,725.16	-665.28	4,652.67	4,643.82	0.00	0.00	0.00	
9,100.00	89.26	89.27	3,726.46	-664.00	4,752.66	4,743.81	0.00	0.00	0.00	
9,200.00	89.26	89.27	3,727.76	-662.72	4,852.64	4,843.80	0.00	0.00	0.00	
9,300.00	89.26	89.27	3,729.06	-661.44	4,952.62	4,943.79	0.00	0.00	0.00	
9,400.00	89.26	89.27	3,730.36	-660.16	5,052.61	5,043.79	0.00	0.00	0.00	
9,500.00	89.26	89.27	3,731.65	-658.88	5,152.59	5,143.78	0.00	0.00	0.00	
9,600.00	89.26	89.27	3,732.95	-657.60	5,252.57	5,243.77	0.00	0.00	0.00	
9,700.00	89.26	89.27	3,734.25	-656.32	5,352.56	5,343.76	0.00	0.00	0.00	
9,800.00	89.26	89.27	3,735.55	-655.04	5,452.54	5,443.75	0.00	0.00	0.00	
9,900.00	89.26	89.27	3,736.85	-653.76	5,552.52	5,543.74	0.00	0.00	0.00	
10,000.00	89.26	89.27	3,738.14	-652.48	5,652.51	5,643.74	0.00	0.00	0.00	
10,100.00	89.26	89.27	3,739.44	-651.20	5,752.49	5,743.73	0.00	0.00	0.00	
10,200.00	89.26	89.27	3,740.74	-649.92	5,852.47	5,843.72	0.00	0.00	0.00	
10,300.00	89.26	89.27	3,742.04	-648.64	5,952.46	5,943.71	0.00	0.00	0.00	
10,400.00	89.26	89.27	3,743.34	-647.36	6,052.44	6,043.70	0.00	0.00	0.00	
10,500.00	89.26	89.27	3,744.64	-646.08	6,152.42	6,143.69	0.00	0.00	0.00	
10,600.00	89.26	89.27	3,745.93	-644.80	6,252.41	6,243.69	0.00	0.00	0.00	
10,700.00	89.26	89.27	3,747.23	-643.52	6,352.39	6,343.68	0.00	0.00	0.00	
10,800.00	89.26	89.27	3,748.53	-642.24	6,452.37	6,443.67	0.00	0.00	0.00	
10,900.00	89.26	89.27	3,749.83	-640.96	6,552.36	6,543.66	0.00	0.00	0.00	
11,000.00	89.26	89.27	3,751.13	-639.68	6,652.34	6,643.65	0.00	0.00	0.00	
11,100.00	89.26	89.27	3,752.43	-638.40	6,752.32	6,743.64	0.00	0.00	0.00	
11,200.00	89.26	89.27	3,753.72	-637.12	6,852.31	6,843.63	0.00	0.00	0.00	
11,300.00	89.26	89.27	3,755.02	-635.84	6,952.29	6,943.63	0.00	0.00	0.00	
11,400.00	89.26	89.27	3,756.32	-634.56	7,052.28	7,043.62	0.00	0.00	0.00	
11,500.00	89.26	89.27	3,757.62	-633.28	7,152.26	7,143.61	0.00	0.00	0.00	
11,600.00	89.26	89.27	3,758.92	-632.00	7,252.24	7,243.60	0.00	0.00	0.00	
11,700.00	89.26	89.27	3,760.21	-630.72	7,352.23	7,343.59	0.00	0.00	0.00	
11,800.00	89.26	89.27	3,761.51	-629.44	7,452.21	7,443.58	0.00	0.00	0.00	
11,900.00	89.26	89.27	3,762.81	-628.16	7,552.19	7,543.58	0.00	0.00	0.00	
12,000.00	89.26	89.27	3,764.11	-626.88	7,652.18	7,643.57	0.00	0.00	0.00	
12,018.63	89.26	89.27	3,764.35	-626.64	7,670.80	7,662.20	0.00	0.00	0.00	
6. GHOST 21H LTP: 330' FSL, 2503' FWL										
12,068.64	89.26	89.27	3,765.00	-626.00	7,720.80	7,712.20	0.00	0.00	0.00	
7. GHOST 21H BHL: 330' FSL, 2553' FWL										

Planning Report

Database:	EDM 5000.17 Single User Db	Local Co-ordinate Reference:	Well 21H
Company:	SPUR ENERGY PARTNERS, LLC	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Project:	EDDY COUNTY, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site:	GHOST 16-15 STATE COM	North Reference:	Grid
Well:	21H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

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. GHOST 21H SHL: - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	665,651.70	585,678.20	32.82982	-104.18898
2. GHOST 21H SEC 1 - plan hits target center - Point	0.00	0.00	1,118.89	-69.96	-96.92	665,581.74	585,581.28	32.82963	-104.18930
3. GHOST 21H KOP: - plan hits target center - Point	0.00	0.00	2,569.89	-527.89	-731.30	665,123.81	584,946.90	32.82837	-104.19136
4. GHOST 21H SEC 1 - plan hits target center - Point	0.00	0.00	3,654.88	-725.88	-80.81	664,925.82	585,597.39	32.82783	-104.18925
5. GHOST 21H FTP: 1 - plan hits target center - Point	0.00	0.00	3,665.00	-724.60	19.20	664,927.10	585,697.40	32.82783	-104.18892
6. GHOST 21H LTP: 3 - plan misses target center by 0.24usft at 12018.63usft MD (3764.35 TVD, -626.64 N, 7670.80 E) - Point	0.00	0.00	3,764.35	-626.40	7,670.80	665,025.30	593,349.00	32.82807	-104.16401
7. GHOST 21H BHL: 1 - plan hits target center - Point	0.00	0.00	3,765.00	-626.00	7,720.80	665,025.70	593,399.00	32.82807	-104.16385

SPUR ENERGY PARTNERS, LLC

**EDDY COUNTY, NM (NAD 83 - NME)
GHOST 16-15 STATE COM
21H**

**OH
PERMIT**

Anticollision Report

10 April, 2025

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Reference	PERMIT		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 50.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 1,900.00usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	4/9/2025		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	12,068.64	PERMIT (OH)	MWD+IGRF	OWSG MWD + IGRF or WMM	

Summary						
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
GHOST 16-15 STATE COM						
10H - OH - PERMIT	300.00	300.00	40.10	38.09	19.976	CC
10H - OH - PERMIT	350.00	349.85	40.45	38.09	17.162	ES
10H - OH - PERMIT	12,068.64	11,908.71	1,001.51	474.52	1.900	SF
20H - OH - PERMIT	300.00	286.00	919.91	917.95	470.000	CC
20H - OH - PERMIT	350.00	332.64	920.22	917.93	400.762	ES
20H - OH - PERMIT	3,150.00	2,813.50	1,822.29	1,783.17	46.579	SF
70H - OH - PERMIT	300.00	286.00	899.81	897.86	459.733	CC
70H - OH - PERMIT	350.00	337.50	900.03	897.72	389.303	ES
70H - OH - PERMIT	12,068.64	12,401.54	1,575.80	1,076.17	3.154	SF
71H - OH - PERMIT	300.00	300.00	20.10	18.09	10.013	CC
71H - OH - PERMIT	350.00	350.09	20.24	17.89	8.593	ES
71H - OH - PERMIT	12,068.64	12,423.17	706.97	321.73	1.835	SF
OFFSET: HASTIE 'AXH' FEDERAL 1 - OH - OH	1,572.65	1,532.27	931.81	895.73	25.830	CC
OFFSET: HASTIE 'AXH' FEDERAL 1 - OH - OH	1,650.00	1,601.65	932.43	894.39	24.511	ES
OFFSET: HASTIE 'AXH' FEDERAL 1 - OH - OH	4,100.00	3,602.40	1,424.73	1,330.45	15.111	SF
OFFSET: SPURCK '16' STATE COM 1 - OH - OH	7,846.25	3,708.81	1,026.21	820.29	4.983	CC
OFFSET: SPURCK '16' STATE COM 1 - OH - OH	7,850.00	3,708.86	1,026.22	820.18	4.981	ES
OFFSET: SPURCK '16' STATE COM 1 - OH - OH	7,950.00	3,710.19	1,031.44	823.17	4.952	SF
OFFSET: SPURCK 15 STATE COM 2 - OH - OH	10,144.68	3,675.48	1,664.07	1,384.74	5.957	CC
OFFSET: SPURCK 15 STATE COM 2 - OH - OH	10,200.00	3,676.19	1,664.99	1,384.12	5.928	ES
OFFSET: SPURCK 15 STATE COM 2 - OH - OH	10,300.00	3,677.49	1,671.31	1,388.23	5.904	SF
OFFSET: SPURCK 16 STATE COM 2 - OH - OH	6,229.42	3,665.51	1,656.15	1,502.88	10.805	CC
OFFSET: SPURCK 16 STATE COM 2 - OH - OH	6,300.00	3,666.42	1,657.65	1,502.34	10.673	ES
OFFSET: SPURCK 16 STATE COM 2 - OH - OH	6,550.00	3,669.67	1,686.89	1,525.60	10.459	SF
OFFSET: SPURCK F STATE 5 - OH - OH	300.00	264.00	1,079.34	1,067.88	94.198	CC
OFFSET: SPURCK F STATE 5 - OH - OH	450.00	413.93	1,082.92	1,065.00	60.428	ES
OFFSET: SPURCK F STATE 5 - OH - OH	5,250.00	3,610.00	1,686.78	1,491.60	8.642	SF

Offset Design:	GHOST 16-15 STATE COM - 10H - OH - PERMIT										Offset Site Error:	0.00 usft
Survey Program:	0-MWD+IGRF										Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis	Reference	Offset	Offset Wellbore Centre	Distance	Rule Assigned:	Offset Site Error:	Offset Well Error:	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference Offset (usft)	Offset (usft)	Offset (usft)	Offset (usft)	Offset (usft)	Offset (usft)	Offset (usft)	Offset (usft)	Offset (usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.10	0.00	40.10			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - 10H - OH - PERMIT													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+IGRF		Offset		Semi Major Axis		Azimuth from North (°)	Offset Wellbore Centre		Rule Assigned: Distance Between Centres		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
50.00	50.00	50.00	50.00	0.29	0.14	0.00	40.10	0.00	40.10	39.67	0.43	93.220	
100.00	100.00	100.00	100.00	0.29	0.29	0.00	40.10	0.00	40.10	39.53	0.57	69.915	
150.00	150.00	150.00	150.00	0.47	0.47	0.00	40.10	0.00	40.10	39.17	0.93	43.025	
200.00	200.00	200.00	200.00	0.65	0.65	0.00	40.10	0.00	40.10	38.81	1.29	31.073	
250.00	250.00	250.00	250.00	0.82	0.82	0.00	40.10	0.00	40.10	38.45	1.65	24.318	
300.00	300.00	300.00	300.00	1.00	1.00	0.00	40.10	0.00	40.10	38.09	2.01	19.976 CC	
350.00	350.00	349.85	349.85	1.18	1.18	-0.10	40.19	-0.42	40.45	38.09	2.36	17.162 ES	
400.00	399.98	399.69	399.67	1.35	1.36	-0.39	40.46	-1.70	41.49	38.78	2.71	15.331	
450.00	449.93	449.50	449.43	1.52	1.53	-0.84	40.91	-3.81	43.22	40.16	3.06	14.142	
500.00	499.84	499.26	499.10	1.70	1.71	-1.40	41.55	-6.77	45.65	42.24	3.41	13.402	
550.00	549.68	548.96	548.65	1.88	1.89	-2.04	42.36	-10.57	48.78	45.01	3.77	12.939	
600.00	599.45	598.59	598.05	2.06	2.08	-2.70	43.35	-15.20	52.61	48.48	4.13	12.727	
650.00	649.13	648.13	647.28	2.25	2.27	-3.36	44.51	-20.66	57.14	52.62	4.51	12.656	
700.00	698.70	697.57	696.30	2.44	2.46	-3.98	45.85	-26.94	62.37	57.47	4.90	12.739	
750.00	748.15	746.89	745.08	2.65	2.67	-4.56	47.36	-34.02	68.29	62.99	5.30	12.886	
800.00	797.47	796.09	793.61	2.86	2.87	-5.07	49.05	-41.90	74.91	69.21	5.70	13.135	
850.00	846.63	845.14	841.85	3.09	3.09	-5.52	50.90	-50.57	82.22	76.09	6.13	13.403	
900.00	895.62	894.03	889.78	3.31	3.31	-5.90	52.92	-60.01	90.22	83.66	6.57	13.740	
950.00	944.44	942.76	937.38	3.56	3.55	-6.22	55.10	-70.22	98.90	91.87	7.03	14.068	
1,000.00	993.06	991.30	984.61	3.81	3.79	-6.48	57.43	-81.17	108.26	100.77	7.50	14.444	
1,050.00	1,041.46	1,039.65	1,031.46	4.08	4.05	-6.68	59.93	-92.86	118.29	110.29	7.99	14.797	
1,100.00	1,089.64	1,087.80	1,077.91	4.35	4.32	-6.83	62.58	-105.27	128.98	120.48	8.50	15.178	
1,150.00	1,137.58	1,135.74	1,123.93	4.65	4.60	-6.94	65.38	-118.37	140.33	131.29	9.04	15.526	
1,200.00	1,185.27	1,183.44	1,169.51	4.95	4.89	-7.00	68.32	-132.16	152.34	142.75	9.58	15.896	
1,250.00	1,232.68	1,230.92	1,214.62	5.27	5.19	-7.03	71.41	-146.62	164.99	154.82	10.17	16.229	
1,300.00	1,279.82	1,278.15	1,259.25	5.60	5.51	-7.02	74.64	-161.73	178.27	167.52	10.76	16.574	
1,350.00	1,326.65	1,325.12	1,303.38	5.96	5.84	-6.98	78.00	-177.46	192.19	180.81	11.38	16.883	
1,400.00	1,373.17	1,371.83	1,347.00	6.31	6.18	-6.91	81.49	-193.81	206.73	194.71	12.02	17.196	
1,450.00	1,419.36	1,418.28	1,390.09	6.70	6.53	-6.81	85.11	-210.75	221.89	209.20	12.70	17.478	
1,500.00	1,465.21	1,464.44	1,432.64	7.09	6.90	-6.70	88.85	-228.27	237.66	224.27	13.38	17.756	
1,550.00	1,510.71	1,510.32	1,474.64	7.52	7.28	-6.56	92.71	-246.34	254.02	239.92	14.10	18.011	
1,600.00	1,555.84	1,555.92	1,516.07	7.94	7.68	-6.40	96.68	-264.94	270.98	256.13	14.84	18.254	
1,650.00	1,600.59	1,601.21	1,556.93	8.40	8.08	-6.22	100.76	-284.06	288.52	272.91	15.61	18.482	
1,700.00	1,644.94	1,646.43	1,597.41	8.86	8.51	-6.04	104.97	-303.77	306.63	290.23	16.40	18.697	
1,750.00	1,688.88	1,692.86	1,638.85	9.35	8.96	-5.90	109.34	-324.24	325.15	307.90	17.25	18.851	
1,800.00	1,732.39	1,739.15	1,680.17	9.85	9.41	-5.65	113.70	-344.66	343.98	325.88	18.10	19.003	
1,850.00	1,775.48	1,785.28	1,721.34	10.37	9.86	-5.31	118.05	-365.00	363.14	344.16	18.98	19.132	
1,900.00	1,818.11	1,831.23	1,762.36	10.91	10.31	-4.90	122.37	-385.26	382.62	362.75	19.87	19.260	
1,950.00	1,860.60	1,877.12	1,803.32	11.46	10.77	-4.49	126.70	-405.50	402.23	381.46	20.76	19.371	
2,000.00	1,903.08	1,923.02	1,844.28	12.01	11.22	-4.12	131.02	-425.74	421.86	400.20	21.66	19.473	
2,050.00	1,945.56	1,968.91	1,885.24	12.56	11.68	-3.79	135.34	-445.98	441.51	418.94	22.57	19.561	
2,100.00	1,988.04	2,014.80	1,926.20	13.12	12.15	-3.48	139.66	-466.22	461.18	437.70	23.48	19.643	
2,150.00	2,030.52	2,060.69	1,967.16	13.68	12.61	-3.20	143.98	-486.45	480.86	456.47	24.39	19.713	
2,200.00	2,073.00	2,106.59	2,008.13	14.25	13.07	-2.94	148.30	-506.69	500.56	475.25	25.31	19.780	
2,250.00	2,115.49	2,152.48	2,049.09	14.81	13.54	-2.70	152.63	-526.93	520.27	494.04	26.23	19.837	
2,300.00	2,157.97	2,198.37	2,090.05	15.38	14.01	-2.48	156.95	-547.17	539.98	512.84	27.15	19.892	
2,350.00	2,200.45	2,244.26	2,131.01	15.95	14.48	-2.27	161.27	-567.40	559.71	531.64	28.07	19.940	
2,400.00	2,242.93	2,290.16	2,171.97	16.52	14.95	-2.08	165.59	-587.64	579.44	550.45	28.99	19.985	
2,450.00	2,285.41	2,336.05	2,212.94	17.09	15.42	-1.90	169.91	-607.88	599.19	569.26	29.92	20.025	
2,500.00	2,327.90	2,381.94	2,253.90	17.66	15.89	-1.74	174.24	-628.12	618.93	588.09	30.85	20.063	
2,550.00	2,370.38	2,427.83	2,294.86	18.24	16.36	-1.58	178.56	-648.36	638.69	606.91	31.78	20.098	
2,600.00	2,412.86	2,473.73	2,335.82	18.81	16.83	-1.43	182.88	-668.59	658.45	625.74	32.71	20.130	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design:GHOST 16-15 STATE COM - 10H - OH - PERMIT													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF		Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Offset Well Error:	0.00 usft	
Reference	Offset	Reference	Offset	Reference	Offset	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	(usft)	(usft)									
2,650.00	2,455.34	2,519.62	2,376.78	19.39	17.31	-1.29	187.20	-688.83	678.22	644.57	33.64	20.159		
2,700.00	2,497.82	2,565.51	2,417.74	19.96	17.78	-1.16	191.52	-709.07	697.99	663.41	34.58	20.187		
2,750.00	2,540.30	2,611.40	2,458.71	20.54	18.26	-1.04	195.84	-729.31	717.76	682.25	35.51	20.213		
2,800.00	2,582.86	2,658.42	2,500.78	21.12	18.73	-0.95	200.27	-749.83	737.53	701.08	36.45	20.232		
2,850.00	2,626.55	2,707.32	2,545.63	21.64	19.18	-0.93	204.88	-768.73	757.22	719.89	37.33	20.282		
2,900.00	2,671.55	2,756.30	2,591.74	22.11	19.56	-0.92	209.49	-784.53	776.74	738.66	38.08	20.395		
2,950.00	2,717.66	2,805.41	2,638.97	22.51	19.88	-0.92	214.07	-797.16	795.99	757.28	38.71	20.565		
3,000.00	2,764.64	2,854.71	2,687.15	22.86	20.13	-0.93	218.61	-806.54	814.87	775.66	39.21	20.784		
3,050.00	2,812.27	2,904.27	2,736.13	23.14	20.32	-0.94	223.10	-812.60	833.28	793.69	39.59	21.047		
3,100.00	2,860.31	2,954.13	2,785.71	23.37	20.46	-0.96	227.51	-815.25	851.14	811.27	39.87	21.350		
3,150.00	2,908.54	3,004.33	2,835.70	23.54	20.55	-0.97	231.83	-814.42	868.36	828.31	40.05	21.684		
3,200.00	2,956.71	3,054.90	2,885.90	23.66	20.60	-0.97	236.03	-810.03	884.84	844.69	40.14	22.041		
3,250.00	3,004.58	3,105.86	2,936.05	23.75	20.61	-0.97	240.10	-802.02	900.51	860.33	40.18	22.414		
3,300.00	3,051.94	3,157.23	2,985.92	23.80	20.61	-0.94	244.00	-790.36	915.28	875.13	40.16	22.792		
3,350.00	3,098.54	3,209.01	3,035.21	23.82	20.58	-0.90	247.71	-775.00	929.09	888.99	40.10	23.168		
3,400.00	3,144.17	3,261.18	3,083.65	23.81	20.55	-0.83	251.22	-755.97	941.85	901.83	40.03	23.531		
3,450.00	3,188.59	3,313.73	3,130.91	23.79	20.51	-0.73	254.48	-733.27	953.51	913.56	39.95	23.869		
3,500.00	3,231.59	3,366.60	3,176.69	23.76	20.49	-0.60	257.48	-707.00	964.00	924.12	39.89	24.168		
3,550.00	3,272.96	3,419.77	3,220.65	23.72	20.49	-0.45	260.19	-677.24	973.28	933.41	39.87	24.412		
3,600.00	3,312.50	3,473.17	3,262.48	23.68	20.54	-0.27	262.59	-644.16	981.28	941.36	39.92	24.584		
3,650.00	3,350.02	3,526.72	3,301.85	23.64	20.63	-0.06	264.66	-607.93	987.97	947.91	40.06	24.663		
3,700.00	3,385.34	3,580.36	3,338.48	23.62	20.79	0.17	266.38	-568.81	993.33	953.00	40.32	24.634		
3,750.00	3,418.27	3,633.99	3,372.10	23.62	21.03	0.41	267.74	-527.05	997.31	956.57	40.74	24.482		
3,800.00	3,448.67	3,687.55	3,402.47	23.65	21.37	0.66	268.73	-482.97	999.91	958.59	41.32	24.199		
3,850.00	3,476.38	3,739.48	3,428.99	23.73	21.80	0.84	269.37	-438.33	1,001.12	959.03	42.09	23.785		
3,900.00	3,501.69	3,789.47	3,453.99	23.86	22.28	0.85	269.92	-395.04	1,001.26	958.25	43.01	23.281		
3,950.00	3,526.69	3,839.47	3,478.99	24.07	22.84	0.85	270.47	-351.74	1,001.26	957.14	44.11	22.698		
4,000.00	3,551.69	3,889.47	3,503.99	24.31	23.42	0.85	271.03	-308.44	1,001.26	956.02	45.24	22.134		
4,027.50	3,565.44	3,916.97	3,517.74	24.49	23.77	0.85	271.33	-284.63	1,001.25	955.32	45.93	21.799		
4,050.00	3,576.69	3,937.59	3,527.76	24.64	24.05	0.76	271.56	-266.61	1,001.27	954.77	46.51	21.530		
4,100.00	3,601.14	3,982.99	3,547.50	25.02	24.73	0.60	272.08	-225.75	1,001.45	953.59	47.85	20.927		
4,150.00	3,622.12	4,028.16	3,563.87	25.52	25.48	0.42	272.62	-183.67	1,001.63	952.25	49.38	20.285		
4,200.00	3,639.07	4,073.14	3,576.82	26.14	26.30	0.19	273.17	-140.61	1,001.80	950.73	51.07	19.617		
4,250.00	3,651.86	4,117.97	3,586.33	26.87	27.18	-0.07	273.73	-96.81	1,001.95	949.04	52.90	18.939		
4,300.00	3,660.38	4,162.67	3,592.38	27.70	28.11	-0.35	274.30	-52.53	1,002.07	947.21	54.86	18.267		
4,350.00	3,664.58	4,207.28	3,594.96	28.62	29.07	-0.66	274.87	-8.01	1,002.16	945.26	56.90	17.613		
4,400.00	3,665.44	4,256.96	3,595.67	29.61	30.20	-0.68	275.50	41.66	1,002.16	943.02	59.14	16.945		
4,450.00	3,666.09	4,306.96	3,596.39	30.68	31.34	-0.68	276.14	91.65	1,002.16	940.70	61.46	16.305		
4,500.00	3,666.74	4,356.96	3,597.10	31.78	32.55	-0.68	276.78	141.64	1,002.15	938.31	63.84	15.698		
4,550.00	3,667.39	4,406.96	3,597.82	32.96	33.77	-0.68	277.42	191.63	1,002.15	935.85	66.29	15.117		
4,600.00	3,668.04	4,456.96	3,598.53	34.15	35.04	-0.68	278.06	241.62	1,002.14	933.35	68.79	14.567		
4,650.00	3,668.69	4,506.96	3,599.24	35.41	36.31	-0.68	278.70	291.61	1,002.14	930.78	71.35	14.045		
4,700.00	3,669.34	4,556.96	3,599.96	36.67	37.62	-0.68	279.34	341.60	1,002.13	928.18	73.95	13.551		
4,750.00	3,669.99	4,606.96	3,600.67	37.98	38.94	-0.68	279.97	391.59	1,002.13	925.53	76.60	13.083		
4,800.00	3,670.64	4,656.96	3,601.39	39.29	40.29	-0.68	280.61	441.58	1,002.12	922.84	79.28	12.641		
4,850.00	3,671.29	4,706.96	3,602.10	40.65	41.65	-0.68	281.25	491.57	1,002.12	920.12	81.99	12.222		
4,900.00	3,671.94	4,756.96	3,602.82	42.00	43.03	-0.68	281.89	541.56	1,002.11	917.37	84.74	11.826		
4,950.00	3,672.58	4,806.96	3,603.53	43.39	44.41	-0.68	282.53	591.55	1,002.10	914.60	87.51	11.451		
5,000.00	3,673.23	4,856.96	3,604.25	44.77	45.82	-0.68	283.17	641.55	1,002.10	911.80	90.30	11.097		
5,050.00	3,673.88	4,906.96	3,604.96	46.19	47.23	-0.68	283.81	691.54	1,002.09	908.97	93.12	10.761		
5,100.00	3,674.53	4,956.96	3,605.67	47.60	48.65	-0.68	284.45	741.53	1,002.09	906.13	95.96	10.443		
5,150.00	3,675.18	5,006.96	3,606.39	49.03	50.08	-0.68	285.09	791.52	1,002.08	903.26	98.82	10.140		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - 10H - OH - PERMIT													Offset Site Error:
Survey Program: 0-MWD+IGRF													Offset Well Error:
Reference	Offset	Semi Major Axis		Azimuth		Offset Wellbore Centre		Rule Assigned:		Distance		Minimum	Separation
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor	Warning
5,200.00	3,675.83	5,056.96	3,607.10	50.47	51.53	-0.68	285.73	841.51	1,002.08	900.38	101.70	9.854	
5,250.00	3,676.48	5,106.96	3,607.82	51.92	52.97	-0.68	286.37	891.50	1,002.07	897.48	104.59	9.581	
5,300.00	3,677.13	5,156.96	3,608.53	53.37	54.43	-0.68	287.00	941.49	1,002.07	894.57	107.49	9.322	
5,350.00	3,677.78	5,206.96	3,609.25	54.83	55.89	-0.68	287.64	991.48	1,002.06	891.65	110.41	9.075	
5,400.00	3,678.43	5,256.96	3,609.96	56.30	57.36	-0.68	288.28	1,041.47	1,002.06	888.71	113.35	8.841	
5,450.00	3,679.08	5,306.96	3,610.67	57.77	58.84	-0.68	288.92	1,091.46	1,002.05	885.76	116.29	8.617	
5,500.00	3,679.73	5,356.96	3,611.39	59.25	60.32	-0.68	289.56	1,141.45	1,002.04	882.80	119.24	8.403	
5,550.00	3,680.37	5,406.96	3,612.10	60.74	61.80	-0.68	290.20	1,191.44	1,002.04	879.83	122.21	8.199	
5,600.00	3,681.02	5,456.96	3,612.82	62.23	63.29	-0.68	290.84	1,241.43	1,002.03	876.85	125.18	8.005	
5,650.00	3,681.67	5,506.96	3,613.53	63.72	64.79	-0.68	291.48	1,291.43	1,002.03	873.87	128.16	7.818	
5,700.00	3,682.32	5,556.96	3,614.25	65.22	66.28	-0.68	292.12	1,341.42	1,002.02	870.87	131.15	7.640	
5,750.00	3,682.97	5,606.96	3,614.96	66.72	67.78	-0.68	292.76	1,391.41	1,002.02	867.87	134.15	7.469	
5,800.00	3,683.62	5,656.96	3,615.68	68.22	69.29	-0.68	293.40	1,441.40	1,002.01	864.86	137.15	7.306	
5,850.00	3,684.27	5,706.96	3,616.39	69.73	70.80	-0.68	294.03	1,491.39	1,002.01	861.84	140.16	7.149	
5,900.00	3,684.92	5,756.96	3,617.10	71.24	72.31	-0.68	294.67	1,541.38	1,002.00	858.82	143.18	6.998	
5,950.00	3,685.57	5,806.96	3,617.82	72.76	73.82	-0.68	295.31	1,591.37	1,002.00	855.80	146.20	6.854	
6,000.00	3,686.22	5,856.96	3,618.53	74.27	75.34	-0.68	295.95	1,641.36	1,001.99	852.76	149.23	6.715	
6,050.00	3,686.87	5,906.96	3,619.25	75.79	76.86	-0.68	296.59	1,691.35	1,001.99	849.73	152.26	6.581	
6,100.00	3,687.51	5,956.96	3,619.96	77.32	78.38	-0.68	297.23	1,741.34	1,001.98	846.68	155.30	6.452	
6,150.00	3,688.16	6,006.96	3,620.68	78.84	79.90	-0.68	297.87	1,791.33	1,001.97	843.64	158.34	6.328	
6,200.00	3,688.81	6,056.96	3,621.39	80.37	81.43	-0.68	298.51	1,841.32	1,001.97	840.59	161.38	6.209	
6,250.00	3,689.46	6,106.96	3,622.11	81.89	82.95	-0.68	299.15	1,891.31	1,001.96	837.53	164.43	6.093	
6,300.00	3,690.11	6,156.96	3,622.82	83.42	84.48	-0.68	299.79	1,941.31	1,001.96	834.47	167.49	5.982	
6,350.00	3,690.76	6,206.96	3,623.53	84.96	86.01	-0.68	300.42	1,991.30	1,001.95	831.41	170.54	5.875	
6,400.00	3,691.41	6,256.96	3,624.25	86.49	87.55	-0.68	301.06	2,041.29	1,001.95	828.34	173.60	5.771	
6,450.00	3,692.06	6,306.96	3,624.96	88.02	89.08	-0.68	301.70	2,091.28	1,001.94	825.28	176.67	5.671	
6,500.00	3,692.71	6,356.96	3,625.68	89.56	90.62	-0.68	302.34	2,141.27	1,001.94	822.20	179.73	5.575	
6,550.00	3,693.36	6,406.96	3,626.39	91.10	92.16	-0.68	302.98	2,191.26	1,001.93	819.13	182.80	5.481	
6,600.00	3,694.01	6,456.96	3,627.11	92.64	93.69	-0.68	303.62	2,241.25	1,001.93	816.05	185.87	5.390	
6,650.00	3,694.65	6,506.96	3,627.82	94.18	95.23	-0.68	304.26	2,291.24	1,001.92	812.97	188.95	5.303	
6,700.00	3,695.30	6,556.96	3,628.53	95.72	96.78	-0.68	304.90	2,341.23	1,001.92	809.89	192.03	5.218	
6,750.00	3,695.95	6,606.96	3,629.25	97.26	98.32	-0.68	305.54	2,391.22	1,001.91	806.80	195.11	5.135	
6,800.00	3,696.60	6,656.96	3,629.96	98.80	99.86	-0.68	306.18	2,441.21	1,001.91	803.72	198.19	5.055	
6,850.00	3,697.25	6,706.96	3,630.68	100.35	101.41	-0.68	306.82	2,491.20	1,001.90	800.63	201.27	4.978	
6,900.00	3,697.90	6,756.96	3,631.39	101.90	102.95	-0.68	307.45	2,541.19	1,001.90	797.54	204.36	4.903	
6,950.00	3,698.55	6,806.96	3,632.11	103.44	104.50	-0.68	308.09	2,591.19	1,001.89	794.44	207.45	4.830	
7,000.00	3,699.20	6,856.96	3,632.82	104.99	106.04	-0.68	308.73	2,641.18	1,001.88	791.35	210.54	4.759	
7,050.00	3,699.85	6,906.96	3,633.54	106.54	107.59	-0.68	309.37	2,691.17	1,001.88	788.25	213.63	4.690	
7,100.00	3,700.50	6,956.96	3,634.25	108.09	109.14	-0.68	310.01	2,741.16	1,001.87	785.15	216.72	4.623	
7,150.00	3,701.15	7,006.96	3,634.96	109.64	110.69	-0.68	310.65	2,791.15	1,001.87	782.05	219.82	4.558	
7,200.00	3,701.79	7,056.96	3,635.68	111.19	112.24	-0.68	311.29	2,841.14	1,001.86	778.95	222.91	4.494	
7,250.00	3,702.44	7,106.96	3,636.39	112.74	113.79	-0.68	311.93	2,891.13	1,001.86	775.85	226.01	4.433	
7,300.00	3,703.09	7,156.96	3,637.11	114.29	115.35	-0.68	312.57	2,941.12	1,001.85	772.74	229.11	4.373	
7,350.00	3,703.74	7,206.96	3,637.82	115.85	116.90	-0.68	313.21	2,991.11	1,001.85	769.64	232.21	4.314	
7,400.00	3,704.39	7,256.96	3,638.54	117.40	118.45	-0.68	313.85	3,041.10	1,001.84	766.53	235.31	4.257	
7,450.00	3,705.04	7,306.96	3,639.25	118.96	120.01	-0.68	314.48	3,091.09	1,001.84	763.42	238.42	4.202	
7,500.00	3,705.69	7,356.96	3,639.97	120.51	121.56	-0.68	315.12	3,141.08	1,001.83	760.31	241.52	4.148	
7,550.00	3,706.34	7,406.96	3,640.68	122.07	123.12	-0.68	315.76	3,191.07	1,001.83	757.20	244.63	4.095	
7,600.00	3,706.99	7,456.96	3,641.39	123.62	124.67	-0.68	316.40	3,241.07	1,001.82	754.08	247.74	4.044	
7,650.00	3,707.64	7,506.96	3,642.11	125.18	126.23	-0.68	317.04	3,291.06	1,001.82	750.97	250.85	3.994	
7,700.00	3,708.29	7,556.96	3,642.82	126.74	127.79	-0.68	317.68	3,341.05	1,001.81	747.86	253.95	3.945	
7,750.00	3,708.93	7,606.96	3,643.54	128.30	129.35	-0.68	318.32	3,391.04	1,001.81	744.74	257.07	3.897	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - 10H - OH - PERMIT													Offset Site Error:
Survey Program: 0-MWD+IGRF													Offset Well Error:
Reference	Offset	Semi Major Axis		Azimuth		Offset Wellbore Centre		Rule Assigned:		Distance		Minimum	Separation
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor	Warning
7,800.00	3,709.58	7,656.96	3,644.25	129.85	130.90	-0.68	318.96	3,441.03	1,001.80	741.62	260.18	3.850	
7,850.00	3,710.23	7,706.96	3,644.97	131.41	132.46	-0.68	319.60	3,491.02	1,001.80	738.51	263.29	3.805	
7,900.00	3,710.88	7,756.96	3,645.68	132.97	134.02	-0.68	320.24	3,541.01	1,001.79	735.39	266.40	3.760	
7,950.00	3,711.53	7,806.96	3,646.39	134.53	135.58	-0.68	320.87	3,591.00	1,001.79	732.27	269.52	3.717	
8,000.00	3,712.18	7,856.96	3,647.11	136.09	137.14	-0.68	321.51	3,640.99	1,001.78	729.15	272.63	3.674	
8,050.00	3,712.83	7,906.96	3,647.82	137.65	138.70	-0.68	322.15	3,690.98	1,001.77	726.03	275.75	3.633	
8,100.00	3,713.48	7,956.96	3,648.54	139.21	140.26	-0.68	322.79	3,740.97	1,001.77	722.90	278.87	3.592	
8,150.00	3,714.13	8,006.96	3,649.25	140.77	141.82	-0.68	323.43	3,790.96	1,001.76	719.78	281.98	3.553	
8,200.00	3,714.78	8,056.96	3,649.97	142.34	143.38	-0.68	324.07	3,840.95	1,001.76	716.66	285.10	3.514	
8,250.00	3,715.43	8,106.96	3,650.68	143.90	144.95	-0.68	324.71	3,890.95	1,001.75	713.53	288.22	3.476	
8,300.00	3,716.08	8,156.96	3,651.40	145.46	146.51	-0.68	325.35	3,940.94	1,001.75	710.41	291.34	3.438	
8,350.00	3,716.72	8,206.96	3,652.11	147.02	148.07	-0.68	325.99	3,990.93	1,001.74	707.28	294.46	3.402	
8,400.00	3,717.37	8,256.96	3,652.82	148.59	149.63	-0.68	326.63	4,040.92	1,001.74	704.16	297.58	3.366	
8,450.00	3,718.02	8,306.96	3,653.54	150.15	151.20	-0.68	327.27	4,090.91	1,001.73	701.03	300.70	3.331	
8,500.00	3,718.67	8,356.96	3,654.25	151.71	152.76	-0.68	327.90	4,140.90	1,001.73	697.90	303.83	3.297	
8,550.00	3,719.32	8,406.96	3,654.97	153.28	154.32	-0.68	328.54	4,190.89	1,001.72	694.77	306.95	3.263	
8,600.00	3,719.97	8,456.96	3,655.68	154.84	155.89	-0.68	329.18	4,240.88	1,001.72	691.64	310.07	3.231	
8,650.00	3,720.62	8,506.96	3,656.40	156.41	157.45	-0.68	329.82	4,290.87	1,001.71	688.51	313.20	3.198	
8,700.00	3,721.27	8,556.96	3,657.11	157.97	159.02	-0.68	330.46	4,340.86	1,001.71	685.38	316.32	3.167	
8,750.00	3,721.92	8,606.96	3,657.82	159.54	160.58	-0.68	331.10	4,390.85	1,001.70	682.25	319.45	3.136	
8,800.00	3,722.57	8,656.96	3,658.54	161.10	162.15	-0.68	331.74	4,440.84	1,001.70	679.12	322.57	3.105	
8,850.00	3,723.22	8,706.96	3,659.25	162.67	163.71	-0.68	332.38	4,490.83	1,001.69	675.99	325.70	3.075	
8,900.00	3,723.86	8,756.96	3,659.97	164.23	165.28	-0.68	333.02	4,540.83	1,001.69	672.86	328.83	3.046	
8,950.00	3,724.51	8,806.96	3,660.68	165.80	166.84	-0.68	333.66	4,590.82	1,001.68	669.73	331.96	3.018	
9,000.00	3,725.16	8,856.96	3,661.40	167.36	168.41	-0.68	334.29	4,640.81	1,001.68	666.59	335.08	2.989	
9,050.00	3,725.81	8,906.96	3,662.11	168.93	169.98	-0.68	334.93	4,690.80	1,001.67	663.46	338.21	2.962	
9,100.00	3,726.46	8,956.96	3,662.83	170.50	171.54	-0.68	335.57	4,740.79	1,001.67	660.33	341.34	2.935	
9,150.00	3,727.11	9,006.96	3,663.54	172.06	173.11	-0.68	336.21	4,790.78	1,001.66	657.19	344.47	2.908	
9,200.00	3,727.76	9,056.96	3,664.25	173.63	174.68	-0.68	336.85	4,840.77	1,001.66	654.06	347.60	2.882	
9,250.00	3,728.41	9,106.96	3,664.97	175.20	176.24	-0.68	337.49	4,890.76	1,001.65	650.92	350.73	2.856	
9,300.00	3,729.06	9,156.96	3,665.68	176.77	177.81	-0.68	338.13	4,940.75	1,001.65	647.79	353.86	2.831	
9,350.00	3,729.71	9,206.96	3,666.40	178.33	179.38	-0.68	338.77	4,990.74	1,001.64	644.65	356.99	2.806	
9,400.00	3,730.36	9,256.96	3,667.11	179.90	180.95	-0.68	339.41	5,040.73	1,001.64	641.51	360.12	2.781	
9,450.00	3,731.01	9,306.96	3,667.83	181.47	182.51	-0.68	340.05	5,090.72	1,001.63	638.38	363.25	2.757	
9,500.00	3,731.65	9,356.96	3,668.54	183.04	184.08	-0.68	340.69	5,140.71	1,001.63	635.24	366.39	2.734	
9,550.00	3,732.30	9,406.96	3,669.26	184.61	185.65	-0.68	341.32	5,190.71	1,001.62	632.10	369.52	2.711	
9,600.00	3,732.95	9,456.96	3,669.97	186.17	187.22	-0.68	341.96	5,240.70	1,001.62	628.96	372.65	2.688	
9,650.00	3,733.60	9,506.96	3,670.68	187.74	188.79	-0.68	342.60	5,290.69	1,001.61	625.83	375.79	2.665	
9,700.00	3,734.25	9,556.96	3,671.40	189.31	190.35	-0.68	343.24	5,340.68	1,001.61	622.69	378.92	2.643	
9,750.00	3,734.90	9,606.96	3,672.11	190.88	191.92	-0.68	343.88	5,390.67	1,001.60	619.55	382.05	2.622	
9,800.00	3,735.55	9,656.96	3,672.83	192.45	193.49	-0.68	344.52	5,440.66	1,001.60	616.41	385.19	2.600	
9,850.00	3,736.20	9,706.96	3,673.54	194.02	195.06	-0.68	345.16	5,490.65	1,001.59	613.27	388.32	2.579	
9,900.00	3,736.85	9,756.96	3,674.26	195.59	196.63	-0.68	345.80	5,540.64	1,001.59	610.13	391.46	2.559	
9,950.00	3,737.50	9,806.96	3,674.97	197.16	198.20	-0.68	346.44	5,590.63	1,001.58	606.99	394.59	2.538	
10,000.00	3,738.14	9,856.96	3,675.68	198.73	199.77	-0.68	347.08	5,640.62	1,001.58	603.85	397.73	2.518	
10,050.00	3,738.79	9,906.96	3,676.40	200.30	201.34	-0.68	347.72	5,690.61	1,001.57	600.71	400.86	2.499	
10,100.00	3,739.44	9,956.96	3,677.11	201.87	202.91	-0.68	348.35	5,740.60	1,001.57	597.57	404.00	2.479	
10,150.00	3,740.09	10,006.96	3,677.83	203.44	204.48	-0.68	348.99	5,790.59	1,001.56	594.43	407.13	2.460	
10,200.00	3,740.74	10,056.96	3,678.54	205.01	206.05	-0.68	349.63	5,840.59	1,001.56	591.28	410.27	2.441	
10,250.00	3,741.39	10,106.96	3,679.26	206.58	207.62	-0.68	350.27	5,890.58	1,001.55	588.14	413.41	2.423	
10,300.00	3,742.04	10,156.96	3,679.97	208.15	209.19	-0.68	350.91	5,940.57	1,001.55	585.00	416.54	2.404	
10,350.00	3,742.69	10,206.96	3,680.69	209.72	210.76	-0.68	351.55	5,990.56	1,001.54	581.86	419.68	2.386	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - 10H - OH - PERMIT													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+IGRF		Offset		Semi Major Axis		Azimuth from North (°)	Offset Wellbore Centre		Rule Assigned: Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,400.00	3,743.34	10,256.96	3,681.40	211.29	212.33	-0.68	352.19	6,040.55	1,001.54	578.72	422.82	2.369	
10,450.00	3,743.99	10,306.96	3,682.11	212.86	213.90	-0.68	352.83	6,090.54	1,001.53	575.57	425.96	2.351	
10,500.00	3,744.64	10,356.96	3,682.83	214.43	215.47	-0.68	353.47	6,140.53	1,001.53	572.43	429.09	2.334	
10,550.00	3,745.28	10,406.96	3,683.54	216.00	217.04	-0.68	354.11	6,190.52	1,001.52	569.29	432.23	2.317	
10,600.00	3,745.93	10,456.96	3,684.26	217.57	218.61	-0.68	354.74	6,240.51	1,001.52	566.14	435.37	2.300	
10,650.00	3,746.58	10,506.96	3,684.97	219.14	220.19	-0.68	355.38	6,290.50	1,001.51	563.00	438.51	2.284	
10,700.00	3,747.23	10,556.96	3,685.69	220.72	221.76	-0.68	356.02	6,340.49	1,001.51	559.86	441.65	2.268	
10,750.00	3,747.88	10,606.96	3,686.40	222.29	223.33	-0.68	356.66	6,390.48	1,001.50	556.71	444.79	2.252	
10,800.00	3,748.53	10,656.96	3,687.12	223.86	224.90	-0.68	357.30	6,440.47	1,001.50	553.57	447.93	2.236	
10,850.00	3,749.18	10,706.96	3,687.83	225.43	226.47	-0.68	357.94	6,490.47	1,001.49	550.42	451.07	2.220	
10,900.00	3,749.83	10,756.96	3,688.54	227.00	228.04	-0.68	358.58	6,540.46	1,001.49	547.28	454.21	2.205	
10,950.00	3,750.48	10,806.96	3,689.26	228.57	229.61	-0.68	359.22	6,590.45	1,001.48	544.13	457.35	2.190	
11,000.00	3,751.13	10,856.96	3,689.97	230.14	231.19	-0.68	359.86	6,640.44	1,001.48	540.99	460.49	2.175	
11,050.00	3,751.78	10,906.96	3,690.69	231.72	232.76	-0.68	360.50	6,690.43	1,001.47	537.84	463.63	2.160	
11,100.00	3,752.43	10,956.96	3,691.40	233.29	234.33	-0.68	361.14	6,740.42	1,001.47	534.70	466.77	2.146	
11,150.00	3,753.07	11,006.96	3,692.12	234.86	235.90	-0.68	361.77	6,790.41	1,001.46	531.55	469.91	2.131	
11,200.00	3,753.72	11,056.96	3,692.83	236.43	237.47	-0.68	362.41	6,840.40	1,001.46	528.41	473.05	2.117	
11,250.00	3,754.37	11,106.96	3,693.54	238.01	239.05	-0.68	363.05	6,890.39	1,001.45	525.26	476.19	2.103	
11,300.00	3,755.02	11,156.96	3,694.26	239.58	240.62	-0.68	363.69	6,940.38	1,001.45	522.12	479.33	2.089	
11,350.00	3,755.67	11,206.96	3,694.97	241.15	242.19	-0.68	364.33	6,990.37	1,001.44	518.97	482.47	2.076	
11,400.00	3,756.32	11,256.96	3,695.69	242.72	243.76	-0.68	364.97	7,040.36	1,001.44	515.82	485.61	2.062	
11,450.00	3,756.97	11,306.96	3,696.40	244.29	245.33	-0.68	365.61	7,090.35	1,001.43	512.68	488.76	2.049	
11,500.00	3,757.62	11,356.96	3,697.12	245.87	246.91	-0.68	366.25	7,140.35	1,001.43	509.53	491.90	2.036	
11,550.00	3,758.27	11,406.96	3,697.83	247.44	248.48	-0.68	366.89	7,190.34	1,001.42	506.38	495.04	2.023	
11,600.00	3,758.92	11,456.96	3,698.55	249.01	250.05	-0.68	367.53	7,240.33	1,001.42	503.24	498.18	2.010	
11,650.00	3,759.57	11,506.96	3,699.26	250.59	251.63	-0.68	368.17	7,290.32	1,001.41	500.09	501.32	1.998	
11,700.00	3,760.21	11,556.96	3,699.97	252.16	253.20	-0.68	368.80	7,340.31	1,001.41	496.94	504.47	1.985	
11,750.00	3,760.86	11,606.96	3,700.69	253.73	254.77	-0.68	369.44	7,390.30	1,001.40	493.79	507.61	1.973	
11,800.00	3,761.51	11,656.96	3,701.40	255.30	256.34	-0.68	370.08	7,440.29	1,001.40	490.65	510.75	1.961	
11,850.00	3,762.16	11,706.96	3,702.12	256.88	257.92	-0.68	370.72	7,490.28	1,001.39	487.50	513.89	1.949	
11,900.00	3,762.81	11,756.96	3,702.83	258.45	259.49	-0.68	371.36	7,540.27	1,001.39	484.35	517.04	1.937	
11,950.00	3,763.46	11,806.96	3,703.55	260.02	261.06	-0.68	372.00	7,590.26	1,001.38	481.20	520.18	1.925	
12,000.00	3,764.11	11,856.96	3,704.26	261.60	262.64	-0.68	372.64	7,640.25	1,001.38	478.05	523.32	1.913	
12,050.00	3,764.76	11,906.96	3,704.97	263.17	264.21	-0.68	373.28	7,690.24	1,001.37	474.91	526.47	1.902	
12,051.85	3,764.78	11,908.71	3,705.00	263.23	264.26	-0.69	373.30	7,692.00	1,001.37	474.79	526.58	1.902	
12,068.64	3,765.00	11,908.71	3,705.00	263.76	264.26	-1.65	373.30	7,692.00	1,001.51	474.52	527.00	1.900 SF	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - 20H - OH - PERMIT													Offset Site Error:	0.00 usft	
Survey Program:		0-MWD+IGRF												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Azimuth		Offset Wellbore Centre		Distance		Rule Assigned:				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
0.00	0.00	0.00	14.00	0.00	0.00	-1.49	919.60	-23.90	920.02						
50.00	50.00	36.00	50.00	0.29	0.10	-1.49	919.60	-23.90	919.91	919.52	0.39	2,358.639			
100.00	100.00	86.00	100.00	0.29	0.25	-1.49	919.60	-23.90	919.91	919.38	0.53	1,724.596			
150.00	150.00	136.00	150.00	0.47	0.42	-1.49	919.60	-23.90	919.91	919.03	0.88	1,043.171			
200.00	200.00	186.00	200.00	0.65	0.60	-1.49	919.60	-23.90	919.91	918.67	1.24	741.677			
250.00	250.00	236.00	250.00	0.82	0.77	-1.49	919.60	-23.90	919.91	918.31	1.60	575.381			
300.00	300.00	286.00	300.00	1.00	0.95	-1.49	919.60	-23.90	919.91	917.95	1.96	470.000	CC		
350.00	350.00	332.64	346.64	1.18	1.12	-1.48	919.66	-24.08	920.22	917.93	2.30	400.762	ES		
400.00	399.98	377.97	391.96	1.35	1.28	-1.46	919.91	-24.91	921.27	918.64	2.63	350.287			
450.00	449.93	423.27	437.23	1.52	1.44	-1.44	920.38	-26.43	923.06	920.10	2.96	311.401			
500.00	499.84	468.53	482.43	1.70	1.60	-1.42	921.07	-28.63	925.60	922.30	3.30	280.576			
550.00	549.68	513.74	527.54	1.88	1.76	-1.40	921.96	-31.51	928.88	925.24	3.64	255.041			
600.00	599.45	558.89	572.54	2.06	1.93	-1.37	923.06	-35.07	932.90	928.91	3.99	233.856			
650.00	649.13	600.00	613.45	2.25	2.08	-1.32	924.24	-38.89	937.67	933.34	4.33	216.563			
700.00	698.70	648.94	662.08	2.44	2.27	-1.31	925.88	-44.18	943.15	938.44	4.71	200.342			
750.00	748.15	693.81	706.57	2.65	2.45	-1.28	927.59	-49.72	949.38	944.30	5.08	186.880			
800.00	797.47	738.57	750.86	2.86	2.63	-1.24	929.51	-55.91	956.34	950.88	5.46	175.089			
850.00	846.63	783.19	794.90	3.09	2.82	-1.19	931.62	-62.73	964.02	958.17	5.86	164.594			
900.00	895.62	827.68	838.70	3.31	3.01	-1.15	933.93	-70.19	972.43	966.17	6.26	155.334			
950.00	944.44	872.00	882.21	3.56	3.21	-1.10	936.43	-78.27	981.56	974.88	6.68	146.883			
1,000.00	993.06	916.17	925.43	3.81	3.42	-1.04	939.12	-86.96	991.40	984.29	7.11	139.430			
1,050.00	1,041.46	960.15	968.32	4.08	3.64	-0.98	941.99	-96.24	1,001.94	994.38	7.56	132.461			
1,100.00	1,089.64	1,000.00	1,007.06	4.35	3.84	-0.86	944.76	-105.19	1,013.20	1,005.21	8.00	126.705			
1,150.00	1,137.58	1,047.54	1,053.09	4.65	4.10	-0.84	948.28	-116.54	1,025.14	1,016.63	8.51	120.468			
1,200.00	1,185.27	1,090.93	1,094.92	4.95	4.33	-0.77	951.68	-127.54	1,037.78	1,028.78	9.00	115.336			
1,250.00	1,232.68	1,134.09	1,136.36	5.27	4.59	-0.69	955.25	-139.08	1,051.10	1,041.58	9.52	110.372			
1,300.00	1,279.82	1,177.03	1,177.40	5.60	4.85	-0.60	958.99	-151.15	1,065.10	1,055.05	10.05	105.973			
1,350.00	1,326.65	1,219.73	1,218.01	5.96	5.11	-0.50	962.88	-163.73	1,079.77	1,069.16	10.61	101.771			
1,400.00	1,373.17	1,262.18	1,258.20	6.31	5.40	-0.40	966.93	-176.81	1,095.10	1,083.93	11.18	97.958			
1,450.00	1,419.36	1,300.00	1,293.82	6.70	5.65	-0.22	970.69	-188.94	1,111.10	1,099.37	11.74	94.672			
1,500.00	1,465.21	1,346.32	1,337.21	7.09	5.99	-0.18	975.47	-204.41	1,127.73	1,115.34	12.39	91.045			
1,550.00	1,510.71	1,387.99	1,376.02	7.52	6.29	-0.06	979.96	-218.90	1,145.01	1,131.99	13.02	87.928			
1,600.00	1,555.84	1,429.38	1,414.35	7.94	6.61	0.06	984.58	-233.82	1,162.91	1,149.24	13.67	85.046			
1,650.00	1,600.59	1,470.49	1,452.20	8.40	6.95	0.20	989.33	-249.17	1,181.45	1,167.09	14.36	82.296			
1,700.00	1,644.94	1,511.31	1,489.54	8.86	7.28	0.34	994.20	-264.91	1,200.59	1,185.55	15.04	79.816			
1,750.00	1,688.88	1,551.84	1,526.38	9.35	7.64	0.48	999.20	-281.05	1,220.34	1,204.57	15.77	77.375			
1,800.00	1,732.39	1,592.07	1,562.71	9.85	7.99	0.64	1,004.31	-297.56	1,240.68	1,224.19	16.50	75.208			
1,850.00	1,775.48	1,632.00	1,598.52	10.37	8.37	0.80	1,009.53	-314.42	1,261.61	1,244.35	17.26	73.076			
1,900.00	1,818.11	1,671.62	1,633.82	10.91	8.74	0.96	1,014.85	-331.63	1,283.11	1,265.08	18.04	71.142			
1,950.00	1,860.60	1,715.85	1,673.04	11.46	9.18	1.03	1,020.90	-351.16	1,304.87	1,285.98	18.89	69.086			
2,000.00	1,903.08	1,760.85	1,712.94	12.01	9.63	1.08	1,027.05	-371.04	1,326.63	1,306.87	19.75	67.158			
2,050.00	1,945.56	1,805.85	1,752.84	12.56	10.08	1.12	1,033.20	-390.92	1,348.38	1,327.76	20.63	65.368			
2,100.00	1,988.04	1,850.86	1,792.74	13.12	10.53	1.17	1,039.36	-410.80	1,370.14	1,348.64	21.51	63.705			
2,150.00	2,030.52	1,895.86	1,832.64	13.68	10.99	1.21	1,045.51	-430.68	1,391.90	1,369.51	22.39	62.158			
2,200.00	2,073.00	1,940.86	1,872.54	14.25	11.45	1.26	1,051.66	-450.55	1,413.66	1,390.38	23.28	60.717			
2,250.00	2,115.49	1,985.86	1,912.44	14.81	11.91	1.30	1,057.82	-470.43	1,435.43	1,411.25	24.18	59.371			
2,300.00	2,157.97	2,030.86	1,952.34	15.38	12.37	1.34	1,063.97	-490.31	1,457.19	1,432.12	25.07	58.114			
2,350.00	2,200.45	2,075.86	1,992.24	15.95	12.84	1.38	1,070.12	-510.19	1,478.95	1,452.98	25.98	56.934			
2,400.00	2,242.93	2,120.86	2,032.14	16.52	13.31	1.41	1,076.28	-530.07	1,500.72	1,473.84	26.88	55.831			
2,450.00	2,285.41	2,165.86	2,072.04	17.09	13.78	1.45	1,082.43	-549.95	1,522.48	1,494.70	27.79	54.790			
2,500.00	2,327.90	2,210.87	2,111.95	17.66	14.25	1.49	1,088.58	-569.83	1,544.25	1,515.56	28.70	53.815			
2,550.00	2,370.38	2,255.87	2,151.85	18.24	14.72	1.52	1,094.74	-589.71	1,566.02	1,536.41	29.61	52.892			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - 20H - OH - PERMIT													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+IGRF													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis	Offset	Reference	Offset	Offset Wellbore Centre	Distance	Rule Assigned:	Minimum	Separation	Warning		
Measured	Vertical	Measured	Vertical	Reference	Offset	Reference	Offset	Between	Between	Separation	Factor		
Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Centres	Ellipses	Separation	Factor		
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)		
2,600.00	2,412.86	2,300.87	2,191.75	18.81	15.19	1.56	1,100.89	-609.58	1,587.79	1,557.27	30.52	52.024	
2,650.00	2,455.34	2,345.87	2,231.65	19.39	15.66	1.59	1,107.04	-629.46	1,609.55	1,578.12	31.44	51.200	
2,700.00	2,497.82	2,390.87	2,271.55	19.96	16.14	1.62	1,113.20	-649.34	1,631.32	1,598.97	32.35	50.423	
2,750.00	2,540.30	2,435.87	2,311.45	20.54	16.61	1.65	1,119.35	-669.22	1,653.09	1,619.82	33.27	49.685	
2,800.00	2,582.86	2,480.87	2,351.35	21.12	17.09	1.68	1,125.50	-689.10	1,674.86	1,640.68	34.19	48.989	
2,850.00	2,626.55	2,525.84	2,391.22	21.64	17.56	1.62	1,131.65	-708.96	1,696.63	1,661.56	35.06	48.387	
2,900.00	2,671.55	2,570.58	2,430.89	22.11	18.03	1.46	1,137.77	-728.73	1,718.30	1,682.42	35.88	47.887	
2,950.00	2,717.66	2,614.87	2,470.16	22.51	18.50	1.20	1,143.82	-748.29	1,739.82	1,703.17	36.64	47.482	
3,000.00	2,764.64	2,659.21	2,509.49	22.86	18.97	0.84	1,149.89	-767.86	1,761.11	1,723.76	37.35	47.154	
3,050.00	2,812.27	2,709.15	2,554.68	23.14	19.46	0.36	1,156.71	-787.97	1,782.05	1,744.00	38.04	46.841	
3,100.00	2,860.31	2,760.53	2,602.52	23.37	19.88	-0.13	1,163.71	-805.29	1,802.47	1,763.84	38.64	46.653	
3,150.00	2,908.54	2,813.50	2,653.04	23.54	20.24	-0.63	1,170.85	-819.48	1,822.29	1,783.17	39.12	46.579 SF	
3,200.00	2,956.71	2,868.24	2,706.23	23.66	20.54	-1.10	1,178.11	-830.15	1,841.40	1,801.90	39.51	46.608	
3,250.00	3,004.58	2,924.93	2,762.02	23.75	20.77	-1.55	1,185.47	-836.85	1,859.70	1,819.90	39.80	46.729	
3,300.00	3,051.94	2,983.72	2,820.29	23.80	20.94	-1.96	1,192.86	-839.09	1,877.08	1,837.08	40.00	46.930	
3,350.00	3,098.54	3,044.76	2,880.80	23.82	21.04	-2.31	1,200.25	-836.31	1,893.44	1,853.32	40.12	47.197	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - 70H - OH - PERMIT													Offset Site Error:
Survey Program: 0-MWD+IGRF													0.00 usft
Rule Assigned:													Offset Well Error:
0.00 usft													0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	14.00	0.00	0.00	-1.52	899.50	-23.80	899.92	899.92			
50.00	50.00	36.00	50.00	0.29	0.10	-1.52	899.50	-23.80	899.81	899.42	0.39	2,307.114	
100.00	100.00	86.00	100.00	0.29	0.25	-1.52	899.50	-23.80	899.81	899.28	0.53	1,686.922	
150.00	150.00	136.00	150.00	0.47	0.42	-1.52	899.50	-23.80	899.81	898.93	0.88	1,020.383	
200.00	200.00	186.00	200.00	0.65	0.60	-1.52	899.50	-23.80	899.81	898.57	1.24	725.474	
250.00	250.00	236.00	250.00	0.82	0.77	-1.52	899.50	-23.80	899.81	898.22	1.60	562.812	
300.00	300.00	286.00	300.00	1.00	0.95	-1.52	899.50	-23.80	899.81	897.86	1.96	459.733	CC
350.00	350.00	337.50	351.50	1.18	1.14	-1.51	899.46	-24.04	900.03	897.72	2.31	389.303	ES
400.00	399.98	389.58	403.57	1.35	1.32	-1.51	899.28	-25.18	900.63	897.96	2.67	337.657	
450.00	449.93	441.66	455.60	1.52	1.50	-1.53	898.96	-27.26	901.60	898.58	3.02	298.278	
500.00	499.84	493.72	507.58	1.70	1.68	-1.56	898.49	-30.27	902.95	899.57	3.38	267.302	
550.00	549.68	545.77	559.47	1.88	1.87	-1.61	897.88	-34.21	904.67	900.92	3.75	241.409	
600.00	599.45	597.79	611.25	2.06	2.06	-1.67	897.13	-39.08	906.77	902.65	4.12	220.200	
650.00	649.13	649.78	662.91	2.25	2.26	-1.74	896.23	-44.87	909.25	904.74	4.51	201.722	
700.00	698.70	701.73	714.42	2.44	2.47	-1.82	895.18	-51.59	912.10	907.20	4.90	186.222	
750.00	748.15	753.64	765.75	2.65	2.68	-1.92	894.00	-59.22	915.32	910.01	5.31	172.273	
800.00	797.47	805.50	816.88	2.86	2.90	-2.03	892.67	-67.76	918.92	913.19	5.73	160.355	
850.00	846.63	857.31	867.80	3.09	3.14	-2.14	891.20	-77.20	922.90	916.72	6.18	149.396	
900.00	895.62	909.06	918.48	3.31	3.38	-2.27	889.60	-87.54	927.25	920.62	6.63	139.888	
950.00	944.44	960.74	968.90	3.56	3.63	-2.41	887.85	-98.76	931.97	924.86	7.11	131.015	
1,000.00	993.06	1,012.36	1,019.04	3.81	3.90	-2.56	885.97	-110.87	937.07	929.47	7.60	123.223	
1,050.00	1,041.46	1,063.89	1,068.87	4.08	4.18	-2.72	883.95	-123.84	942.55	934.41	8.13	115.880	
1,100.00	1,089.64	1,115.35	1,118.39	4.35	4.47	-2.88	881.80	-137.68	948.39	939.72	8.67	109.366	
1,150.00	1,137.58	1,166.72	1,167.56	4.65	4.78	-3.06	879.52	-152.37	954.61	945.36	9.25	103.188	
1,200.00	1,185.27	1,217.71	1,216.10	4.95	5.09	-3.23	877.12	-167.80	961.21	951.37	9.83	97.750	
1,250.00	1,232.68	1,267.17	1,263.09	5.27	5.41	-3.35	874.75	-183.06	968.23	957.79	10.45	92.691	
1,300.00	1,279.82	1,316.59	1,310.04	5.60	5.74	-3.42	872.38	-198.31	975.71	964.65	11.06	88.214	
1,350.00	1,326.65	1,365.96	1,356.93	5.96	6.07	-3.46	870.01	-213.54	983.64	971.93	11.70	84.044	
1,400.00	1,373.17	1,415.25	1,403.76	6.31	6.40	-3.45	867.65	-228.74	992.01	979.66	12.35	80.338	
1,450.00	1,419.36	1,464.46	1,450.51	6.70	6.73	-3.40	865.29	-243.92	1,000.83	987.81	13.02	76.870	
1,500.00	1,465.21	1,513.56	1,497.16	7.09	7.06	-3.31	862.94	-259.07	1,010.09	996.40	13.69	73.778	
1,550.00	1,510.71	1,562.56	1,543.70	7.52	7.40	-3.18	860.59	-274.19	1,019.79	1,005.40	14.39	70.873	
1,600.00	1,555.84	1,611.42	1,590.12	7.94	7.74	-3.02	858.25	-289.26	1,029.94	1,014.86	15.08	68.276	
1,650.00	1,600.59	1,660.13	1,636.40	8.40	8.08	-2.82	855.91	-304.29	1,040.54	1,024.73	15.81	65.827	
1,700.00	1,644.94	1,708.69	1,682.53	8.86	8.41	-2.58	853.58	-319.27	1,051.59	1,035.07	16.53	63.635	
1,750.00	1,688.88	1,757.07	1,728.50	9.35	8.75	-2.32	851.26	-334.20	1,063.10	1,045.83	17.27	61.561	
1,800.00	1,732.39	1,805.26	1,774.28	9.85	9.09	-2.02	848.95	-349.07	1,075.08	1,057.07	18.01	59.702	
1,850.00	1,775.48	1,853.25	1,819.87	10.37	9.43	-1.69	846.65	-363.87	1,087.53	1,068.76	18.77	57.943	
1,900.00	1,818.11	1,901.02	1,865.25	10.91	9.76	-1.34	844.36	-378.61	1,100.45	1,080.92	19.53	56.356	
1,950.00	1,860.60	1,948.72	1,910.56	11.46	10.10	-0.98	842.07	-393.33	1,113.57	1,093.28	20.29	54.871	
2,000.00	1,903.08	1,996.41	1,955.87	12.01	10.44	-0.63	839.79	-408.04	1,126.74	1,105.68	21.06	53.505	
2,050.00	1,945.56	2,044.10	2,001.18	12.56	10.77	-0.29	837.50	-422.76	1,139.95	1,118.12	21.83	52.227	
2,100.00	1,988.04	2,091.80	2,046.49	13.12	11.11	0.05	835.21	-437.47	1,153.21	1,130.62	22.59	51.044	
2,150.00	2,030.52	2,139.49	2,091.80	13.68	11.45	0.38	832.93	-452.19	1,166.51	1,143.15	23.36	49.936	
2,200.00	2,073.00	2,187.19	2,137.11	14.25	11.79	0.70	830.64	-466.90	1,179.85	1,155.73	24.12	48.906	
2,250.00	2,115.49	2,234.88	2,182.42	14.81	12.13	1.01	828.35	-481.61	1,193.23	1,168.34	24.89	47.938	
2,300.00	2,157.97	2,282.57	2,227.73	15.38	12.47	1.32	826.07	-496.33	1,206.65	1,180.99	25.65	47.034	
2,350.00	2,200.45	2,330.27	2,273.04	15.95	12.81	1.62	823.78	-511.04	1,220.11	1,193.69	26.42	46.183	
2,400.00	2,242.93	2,377.96	2,318.35	16.52	13.15	1.91	821.49	-525.76	1,233.60	1,206.42	27.18	45.386	
2,450.00	2,285.41	2,425.66	2,363.66	17.09	13.49	2.19	819.21	-540.47	1,247.12	1,219.18	27.94	44.633	
2,500.00	2,327.90	2,473.35	2,408.97	17.66	13.84	2.47	816.92	-555.19	1,260.68	1,231.98	28.70	43.925	
2,550.00	2,370.38	2,521.05	2,454.28	18.24	14.18	2.75	814.63	-569.90	1,274.28	1,244.82	29.46	43.256	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - 70H - OH - PERMIT													Offset Site Error:
Survey Program: 0-MWD+IGRF													Offset Well Error:
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Rule Assigned: Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,600.00	2,412.86	2,568.74	2,499.59	18.81	14.52	3.02	812.35	-584.62	1,287.90	1,257.68	30.22	42.624	
2,650.00	2,455.34	2,616.43	2,544.90	19.39	14.86	3.28	810.06	-599.33	1,301.55	1,270.58	30.97	42.025	
2,700.00	2,497.82	2,664.13	2,590.21	19.96	15.20	3.54	807.77	-614.05	1,315.24	1,283.51	31.72	41.459	
2,750.00	2,540.30	2,711.82	2,635.52	20.54	15.55	3.79	805.49	-628.76	1,328.95	1,296.47	32.48	40.921	
2,800.00	2,582.86	2,759.54	2,680.85	21.12	15.89	4.03	803.20	-643.48	1,342.67	1,309.45	33.22	40.412	
2,850.00	2,626.55	2,807.60	2,726.50	21.64	16.24	4.16	800.90	-658.31	1,356.06	1,322.11	33.95	39.945	
2,900.00	2,671.55	2,855.90	2,772.39	22.11	16.58	4.15	798.58	-673.21	1,368.93	1,334.29	34.64	39.518	
2,950.00	2,717.66	2,904.22	2,818.30	22.51	16.93	4.01	796.26	-688.12	1,381.22	1,345.92	35.30	39.126	
3,000.00	2,764.64	2,952.31	2,863.99	22.86	17.28	3.73	793.96	-702.96	1,392.91	1,356.97	35.93	38.763	
3,050.00	2,812.27	2,999.95	2,909.25	23.14	17.62	3.33	791.67	-717.65	1,403.97	1,367.43	36.54	38.426	
3,100.00	2,860.31	3,046.91	2,953.85	23.37	17.96	2.80	789.42	-732.14	1,414.44	1,377.33	37.11	38.112	
3,150.00	2,908.54	3,092.94	2,997.58	23.54	18.29	2.15	787.22	-746.34	1,424.35	1,386.69	37.66	37.819	
3,200.00	2,956.71	3,137.83	3,040.23	23.66	18.62	1.39	785.06	-760.19	1,433.76	1,395.57	38.19	37.544	
3,250.00	3,004.58	3,181.37	3,081.59	23.75	18.93	0.53	782.98	-773.62	1,442.76	1,404.07	38.69	37.286	
3,300.00	3,051.94	3,223.33	3,121.46	23.80	19.23	-0.44	780.96	-786.57	1,451.45	1,412.27	39.18	37.044	
3,350.00	3,098.54	3,263.04	3,159.31	23.82	19.51	-1.49	779.07	-798.42	1,459.93	1,420.30	39.63	36.839	
3,400.00	3,144.17	3,303.14	3,198.09	23.81	19.76	-2.58	777.20	-808.39	1,468.28	1,428.23	40.05	36.664	
3,450.00	3,188.59	3,344.66	3,238.78	23.79	19.97	-3.70	775.33	-816.41	1,476.48	1,436.06	40.42	36.526	
3,500.00	3,231.59	3,387.82	3,281.51	23.76	20.15	-4.85	773.46	-822.24	1,484.52	1,443.76	40.76	36.418	
3,550.00	3,272.96	3,432.90	3,326.42	23.72	20.29	-6.00	771.59	-825.56	1,492.38	1,451.31	41.08	36.333	
3,600.00	3,312.50	3,480.21	3,373.68	23.68	20.49	-7.15	769.74	-826.00	1,500.03	1,458.67	41.36	36.269	
3,650.00	3,350.02	3,530.12	3,423.46	23.64	20.47	-8.26	767.90	-823.08	1,507.43	1,465.81	41.62	36.219	
3,700.00	3,385.34	3,583.08	3,475.93	23.62	20.50	-9.31	766.09	-816.20	1,514.55	1,472.68	41.87	36.175	
3,750.00	3,418.27	3,639.61	3,531.21	23.62	20.51	-10.27	764.35	-804.60	1,521.32	1,479.21	42.11	36.131	
3,800.00	3,448.67	3,700.34	3,589.39	23.65	20.49	-11.10	762.69	-787.33	1,527.67	1,485.34	42.34	36.083	
3,850.00	3,476.38	3,765.98	3,650.39	23.73	20.44	-11.75	761.16	-763.20	1,533.52	1,490.96	42.57	36.026	
3,900.00	3,501.69	3,837.78	3,714.28	23.86	20.38	-12.15	759.82	-730.53	1,538.80	1,496.00	42.81	35.949	
3,950.00	3,526.69	3,918.53	3,781.83	24.07	20.34	-12.13	758.75	-686.37	1,543.50	1,500.43	43.08	35.829	
4,000.00	3,551.69	4,008.07	3,850.40	24.31	20.37	-11.62	758.10	-628.88	1,547.29	1,503.92	43.36	35.684	
4,050.00	3,576.69	4,104.72	3,915.75	24.64	20.59	-10.59	758.06	-557.78	1,549.79	1,505.91	43.88	35.322	
4,100.00	3,601.14	4,205.49	3,973.07	25.02	21.10	-9.12	758.75	-475.00	1,550.92	1,506.21	44.71	34.689	
4,150.00	3,622.12	4,259.55	4,000.14	25.52	21.54	-9.07	759.35	-428.21	1,552.19	1,506.42	45.77	33.912	
4,200.00	3,639.07	4,308.75	4,024.74	26.14	21.96	-9.23	759.89	-385.61	1,554.69	1,507.78	46.91	33.139	
4,250.00	3,651.86	4,356.99	4,048.86	26.87	22.47	-9.48	760.43	-343.84	1,558.49	1,510.30	48.19	32.340	
4,300.00	3,660.38	4,403.90	4,072.32	27.70	22.97	-9.80	760.95	-303.21	1,563.65	1,514.16	49.50	31.592	
4,350.00	3,664.58	4,430.49	4,147.50	28.62	26.58	-3.64	763.66	-91.13	1,567.70	1,514.41	53.28	29.423	
4,400.00	3,665.44	4,748.45	4,154.71	29.61	29.04	-1.04	765.16	26.45	1,567.86	1,511.37	56.49	27.754	
4,450.00	3,666.09	4,798.45	4,155.52	30.68	30.13	-1.04	765.80	76.44	1,567.91	1,509.27	58.64	26.738	
4,500.00	3,666.74	4,848.45	4,156.34	31.78	31.30	-1.04	766.44	126.42	1,567.96	1,507.10	60.86	25.764	
4,550.00	3,667.39	4,898.45	4,157.15	32.96	32.47	-1.04	767.08	176.41	1,568.01	1,504.87	63.14	24.833	
4,600.00	3,668.04	4,948.45	4,157.96	34.15	33.70	-1.04	767.72	226.40	1,568.06	1,502.58	65.49	23.945	
4,650.00	3,668.69	4,998.45	4,158.77	35.41	34.94	-1.04	768.36	276.39	1,568.11	1,500.23	67.88	23.101	
4,700.00	3,669.34	5,048.45	4,159.58	36.67	36.23	-1.04	769.00	326.38	1,568.16	1,497.84	70.32	22.299	
4,750.00	3,669.99	5,098.45	4,160.40	37.98	37.51	-1.04	769.64	376.37	1,568.21	1,495.41	72.81	21.539	
4,800.00	3,670.64	5,148.45	4,161.21	39.29	38.84	-1.04	770.27	426.36	1,568.26	1,492.93	75.33	20.819	
4,850.00	3,671.29	5,198.45	4,162.02	40.65	40.17	-1.04	770.91	476.35	1,568.31	1,490.43	77.89	20.136	
4,900.00	3,671.94	5,248.45	4,162.83	42.00	41.53	-1.04	771.55	526.34	1,568.36	1,487.89	80.47	19.489	
4,950.00	3,672.58	5,298.45	4,163.64	43.39	42.90	-1.04	772.19	576.33	1,568.41	1,485.33	83.09	18.877	
5,000.00	3,673.23	5,348.45	4,164.46	44.77	44.29	-1.04	772.83	626.32	1,568.46	1,482.74	85.73	18.296	
5,050.00	3,673.88	5,398.45	4,165.27	46.19	45.68	-1.04	773.47	676.30	1,568.52	1,480.12	88.39	17.745	
5,100.00	3,674.53	5,448.45	4,166.08	47.60	47.09	-1.04	774.11	726.29	1,568.57	1,477.49	91.08	17.223	
5,150.00	3,675.18	5,498.45	4,166.89	49.03	48.51	-1.04	774.75	776.28	1,568.62	1,474.84	93.78	16.727	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - 70H - OH - PERMIT													Offset Site Error:
Survey Program: 0-MWD+IGRF													Offset Well Error:
Reference	Offset	Semi Major Axis		Azimuth		Offset Wellbore Centre		Rule Assigned:		Distance		Minimum	Separation
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor	Warning
5,200.00	3,675.83	5,548.45	4,167.70	50.47	49.94	-1.04	775.39	826.27	1,568.67	1,472.16	96.50	16.255	
5,250.00	3,676.48	5,598.45	4,168.52	51.92	51.37	-1.04	776.03	876.26	1,568.72	1,469.48	99.24	15.808	
5,300.00	3,677.13	5,648.45	4,169.33	53.37	52.82	-1.04	776.67	926.25	1,568.77	1,466.78	101.99	15.381	
5,350.00	3,677.78	5,698.45	4,170.14	54.83	54.27	-1.04	777.31	976.24	1,568.82	1,464.06	104.76	14.976	
5,400.00	3,678.43	5,748.45	4,170.95	56.30	55.73	-1.04	777.94	1,026.23	1,568.87	1,461.33	107.54	14.589	
5,450.00	3,679.08	5,798.45	4,171.76	57.77	57.20	-1.04	778.58	1,076.22	1,568.92	1,458.59	110.33	14.221	
5,500.00	3,679.73	5,848.45	4,172.58	59.25	58.67	-1.04	779.22	1,126.21	1,568.97	1,455.84	113.13	13.869	
5,550.00	3,680.37	5,898.45	4,173.39	60.74	60.14	-1.04	779.86	1,176.20	1,569.02	1,453.08	115.94	13.533	
5,600.00	3,681.02	5,948.45	4,174.20	62.23	61.63	-1.04	780.50	1,226.18	1,569.07	1,450.31	118.76	13.212	
5,650.00	3,681.67	5,998.45	4,175.01	63.72	63.11	-1.04	781.14	1,276.17	1,569.12	1,447.53	121.59	12.905	
5,700.00	3,682.32	6,048.45	4,175.82	65.22	64.61	-1.04	781.78	1,326.16	1,569.17	1,444.75	124.42	12.612	
5,750.00	3,682.97	6,098.45	4,176.64	66.72	66.10	-1.04	782.42	1,376.15	1,569.22	1,441.95	127.27	12.330	
5,800.00	3,683.62	6,148.45	4,177.45	68.22	67.60	-1.04	783.06	1,426.14	1,569.27	1,439.15	130.12	12.060	
5,850.00	3,684.27	6,198.44	4,178.26	69.73	69.10	-1.04	783.70	1,476.13	1,569.32	1,436.35	132.98	11.802	
5,900.00	3,684.92	6,248.44	4,179.07	71.24	70.61	-1.04	784.34	1,526.12	1,569.37	1,433.53	135.84	11.553	
5,950.00	3,685.57	6,298.44	4,179.88	72.76	72.12	-1.04	784.98	1,576.11	1,569.42	1,430.72	138.71	11.315	
6,000.00	3,686.22	6,348.44	4,180.70	74.27	73.63	-1.04	785.62	1,626.10	1,569.47	1,427.89	141.58	11.085	
6,050.00	3,686.87	6,398.44	4,181.51	75.79	75.14	-1.04	786.25	1,676.09	1,569.52	1,425.06	144.46	10.865	
6,100.00	3,687.51	6,448.44	4,182.32	77.32	76.66	-1.04	786.89	1,726.07	1,569.58	1,422.23	147.34	10.652	
6,150.00	3,688.16	6,498.44	4,183.13	78.84	78.18	-1.04	787.53	1,776.06	1,569.63	1,419.39	150.23	10.448	
6,200.00	3,688.81	6,548.44	4,183.94	80.37	79.70	-1.04	788.17	1,826.05	1,569.68	1,416.55	153.13	10.251	
6,250.00	3,689.46	6,598.44	4,184.76	81.89	81.22	-1.04	788.81	1,876.04	1,569.73	1,413.71	156.02	10.061	
6,300.00	3,690.11	6,648.44	4,185.57	83.42	82.75	-1.04	789.45	1,926.03	1,569.78	1,410.86	158.92	9.878	
6,350.00	3,690.76	6,698.44	4,186.38	84.96	84.28	-1.04	790.09	1,976.02	1,569.83	1,408.00	161.83	9.701	
6,400.00	3,691.41	6,748.44	4,187.19	86.49	85.81	-1.04	790.73	2,026.01	1,569.88	1,405.15	164.73	9.530	
6,450.00	3,692.06	6,798.44	4,188.00	88.02	87.34	-1.04	791.37	2,076.00	1,569.93	1,402.29	167.64	9.365	
6,500.00	3,692.71	6,848.44	4,188.82	89.56	88.87	-1.04	792.01	2,125.99	1,569.98	1,399.43	170.55	9.205	
6,550.00	3,693.36	6,898.44	4,189.63	91.10	90.41	-1.04	792.65	2,175.98	1,570.03	1,396.56	173.47	9.051	
6,600.00	3,694.01	6,948.44	4,190.44	92.64	91.94	-1.04	793.29	2,225.97	1,570.08	1,393.69	176.39	8.901	
6,650.00	3,694.65	6,998.44	4,191.25	94.18	93.48	-1.04	793.93	2,275.95	1,570.13	1,390.82	179.31	8.757	
6,700.00	3,695.30	7,048.44	4,192.06	95.72	95.02	-1.04	794.56	2,325.94	1,570.18	1,387.95	182.23	8.616	
6,750.00	3,695.95	7,098.44	4,192.88	97.26	96.56	-1.04	795.20	2,375.93	1,570.23	1,385.08	185.16	8.481	
6,800.00	3,696.60	7,148.44	4,193.69	98.80	98.10	-1.04	795.84	2,425.92	1,570.29	1,382.20	188.08	8.349	
6,850.00	3,697.25	7,198.44	4,194.50	100.35	99.64	-1.04	796.48	2,475.91	1,570.34	1,379.32	191.01	8.221	
6,900.00	3,697.90	7,248.44	4,195.31	101.90	101.18	-1.04	797.12	2,525.90	1,570.39	1,376.44	193.94	8.097	
6,950.00	3,698.55	7,298.44	4,196.12	103.44	102.73	-1.04	797.76	2,575.89	1,570.44	1,373.56	196.88	7.977	
7,000.00	3,699.20	7,348.44	4,196.94	104.99	104.27	-1.04	798.40	2,625.88	1,570.49	1,370.68	199.81	7.860	
7,050.00	3,699.85	7,398.44	4,197.75	106.54	105.82	-1.04	799.04	2,675.87	1,570.54	1,367.79	202.75	7.746	
7,100.00	3,700.50	7,448.44	4,198.56	108.09	107.37	-1.04	799.68	2,725.86	1,570.59	1,364.91	205.68	7.636	
7,150.00	3,701.15	7,498.44	4,199.37	109.64	108.92	-1.04	800.32	2,775.84	1,570.64	1,362.02	208.62	7.529	
7,200.00	3,701.79	7,548.44	4,200.18	111.19	110.47	-1.04	800.96	2,825.83	1,570.69	1,359.13	211.56	7.424	
7,250.00	3,702.44	7,598.44	4,201.00	112.74	112.02	-1.04	801.60	2,875.82	1,570.74	1,356.24	214.51	7.323	
7,300.00	3,703.09	7,648.44	4,201.81	114.29	113.57	-1.04	802.23	2,925.81	1,570.79	1,353.34	217.45	7.224	
7,350.00	3,703.74	7,698.44	4,202.62	115.85	115.12	-1.04	802.87	2,975.80	1,570.85	1,350.45	220.39	7.127	
7,400.00	3,704.39	7,748.44	4,203.43	117.40	116.67	-1.04	803.51	3,025.79	1,570.90	1,347.56	223.34	7.034	
7,450.00	3,705.04	7,798.44	4,204.24	118.96	118.22	-1.04	804.15	3,075.78	1,570.95	1,344.66	226.29	6.942	
7,500.00	3,705.69	7,848.44	4,205.06	120.51	119.78	-1.04	804.79	3,125.77	1,571.00	1,341.76	229.24	6.853	
7,550.00	3,706.34	7,898.44	4,205.87	122.07	121.33	-1.04	805.43	3,175.76	1,571.05	1,338.87	232.18	6.766	
7,600.00	3,706.99	7,948.44	4,206.68	123.62	122.89	-1.04	806.07	3,225.75	1,571.10	1,335.97	235.13	6.682	
7,650.00	3,707.64	7,998.44	4,207.49	125.18	124.44	-1.04	806.71	3,275.74	1,571.15	1,333.07	238.09	6.599	
7,700.00	3,708.29	8,048.44	4,208.30	126.74	126.00	-1.05	807.35	3,325.72	1,571.20	1,330.17	241.04	6.519	
7,750.00	3,708.93	8,098.43	4,209.12	128.30	127.55	-1.05	807.99	3,375.71	1,571.25	1,327.26	243.99	6.440	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - 70H - OH - PERMIT													Offset Site Error:
Survey Program: 0-MWD+IGRF													Offset Well Error:
Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Rule Assigned: Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,800.00	3,709.58	8,148.43	4,209.93	129.85	129.11	-1.05	808.63	3,425.70	1,571.31	1,324.36	246.94	6.363	
7,850.00	3,710.23	8,198.43	4,210.74	131.41	130.67	-1.05	809.27	3,475.69	1,571.36	1,321.46	249.90	6.288	
7,900.00	3,710.88	8,248.43	4,211.55	132.97	132.23	-1.05	809.91	3,525.68	1,571.41	1,318.56	252.85	6.215	
7,950.00	3,711.53	8,298.43	4,212.36	134.53	133.78	-1.05	810.54	3,575.67	1,571.46	1,315.65	255.81	6.143	
8,000.00	3,712.18	8,348.43	4,213.18	136.09	135.34	-1.05	811.18	3,625.66	1,571.51	1,312.75	258.76	6.073	
8,050.00	3,712.83	8,398.43	4,213.99	137.65	136.90	-1.05	811.82	3,675.65	1,571.56	1,309.84	261.72	6.005	
8,100.00	3,713.48	8,448.43	4,214.80	139.21	138.46	-1.05	812.46	3,725.64	1,571.61	1,306.93	264.68	5.938	
8,150.00	3,714.13	8,498.43	4,215.61	140.77	140.02	-1.05	813.10	3,775.63	1,571.66	1,304.03	267.64	5.872	
8,200.00	3,714.78	8,548.43	4,216.42	142.34	141.58	-1.05	813.74	3,825.62	1,571.72	1,301.12	270.60	5.808	
8,250.00	3,715.43	8,598.43	4,217.24	143.90	143.14	-1.05	814.38	3,875.60	1,571.77	1,298.21	273.56	5.746	
8,300.00	3,716.08	8,648.43	4,218.05	145.46	144.70	-1.05	815.02	3,925.59	1,571.82	1,295.30	276.52	5.684	
8,350.00	3,716.72	8,698.43	4,218.86	147.02	146.27	-1.05	815.66	3,975.58	1,571.87	1,292.39	279.48	5.624	
8,400.00	3,717.37	8,748.43	4,219.67	148.59	147.83	-1.05	816.30	4,025.57	1,571.92	1,289.48	282.44	5.566	
8,450.00	3,718.02	8,798.43	4,220.48	150.15	149.39	-1.05	816.94	4,075.56	1,571.97	1,286.57	285.40	5.508	
8,500.00	3,718.67	8,848.43	4,221.30	151.71	150.95	-1.05	817.58	4,125.55	1,572.02	1,283.66	288.36	5.452	
8,550.00	3,719.32	8,898.43	4,222.11	153.28	152.52	-1.05	818.22	4,175.54	1,572.07	1,280.75	291.32	5.396	
8,600.00	3,719.97	8,948.43	4,222.92	154.84	154.08	-1.05	818.85	4,225.53	1,572.13	1,277.84	294.28	5.342	
8,650.00	3,720.62	8,998.43	4,223.73	156.41	155.64	-1.05	819.49	4,275.52	1,572.18	1,274.93	297.25	5.289	
8,700.00	3,721.27	9,048.43	4,224.54	157.97	157.21	-1.05	820.13	4,325.51	1,572.23	1,272.02	300.21	5.237	
8,750.00	3,721.92	9,098.43	4,225.36	159.54	158.77	-1.05	820.77	4,375.49	1,572.28	1,269.11	303.17	5.186	
8,800.00	3,722.57	9,148.43	4,226.17	161.10	160.34	-1.05	821.41	4,425.48	1,572.33	1,266.19	306.14	5.136	
8,850.00	3,723.22	9,198.43	4,226.98	162.67	161.90	-1.05	822.05	4,475.47	1,572.38	1,263.28	309.10	5.087	
8,900.00	3,723.86	9,248.43	4,227.79	164.23	163.47	-1.05	822.69	4,525.46	1,572.43	1,260.37	312.07	5.039	
8,950.00	3,724.51	9,298.43	4,228.60	165.80	165.03	-1.05	823.33	4,575.45	1,572.49	1,257.45	315.03	4.992	
9,000.00	3,725.16	9,348.43	4,229.42	167.36	166.60	-1.05	823.97	4,625.44	1,572.54	1,254.54	318.00	4.945	
9,050.00	3,725.81	9,398.43	4,230.23	168.93	168.16	-1.05	824.61	4,675.43	1,572.59	1,251.63	320.96	4.900	
9,100.00	3,726.46	9,448.43	4,231.04	170.50	169.73	-1.05	825.25	4,725.42	1,572.64	1,248.71	323.93	4.855	
9,150.00	3,727.11	9,498.43	4,231.85	172.06	171.29	-1.05	825.89	4,775.41	1,572.69	1,245.80	326.89	4.811	
9,200.00	3,727.76	9,548.43	4,232.66	173.63	172.86	-1.05	826.52	4,825.40	1,572.74	1,242.88	329.86	4.768	
9,250.00	3,728.41	9,598.43	4,233.48	175.20	174.43	-1.05	827.16	4,875.39	1,572.80	1,239.97	332.83	4.726	
9,300.00	3,729.06	9,648.43	4,234.29	176.77	175.99	-1.05	827.80	4,925.37	1,572.85	1,237.05	335.79	4.684	
9,350.00	3,729.71	9,698.43	4,235.10	178.33	177.56	-1.05	828.44	4,975.36	1,572.90	1,234.14	338.76	4.643	
9,400.00	3,730.36	9,748.43	4,235.91	179.90	179.13	-1.05	829.08	5,025.35	1,572.95	1,231.22	341.73	4.603	
9,450.00	3,731.01	9,798.43	4,236.72	181.47	180.70	-1.05	829.72	5,075.34	1,573.00	1,228.31	344.69	4.563	
9,500.00	3,731.65	9,848.43	4,237.54	183.04	182.26	-1.05	830.36	5,125.33	1,573.05	1,225.39	347.66	4.525	
9,550.00	3,732.30	9,898.43	4,238.35	184.61	183.83	-1.05	831.00	5,175.32	1,573.10	1,222.48	350.63	4.487	
9,600.00	3,732.95	9,948.43	4,239.16	186.17	185.40	-1.05	831.64	5,225.31	1,573.16	1,219.56	353.60	4.449	
9,650.00	3,733.60	9,998.43	4,239.97	187.74	186.97	-1.05	832.28	5,275.30	1,573.21	1,216.64	356.56	4.412	
9,700.00	3,734.25	10,048.43	4,240.78	189.31	188.53	-1.05	832.92	5,325.29	1,573.26	1,213.73	359.53	4.376	
9,750.00	3,734.90	10,098.43	4,241.60	190.88	190.10	-1.05	833.56	5,375.28	1,573.31	1,210.81	362.50	4.340	
9,800.00	3,735.55	10,148.43	4,242.41	192.45	191.67	-1.05	834.20	5,425.26	1,573.36	1,207.90	365.47	4.305	
9,850.00	3,736.20	10,198.43	4,243.22	194.02	193.24	-1.05	834.83	5,475.25	1,573.42	1,204.98	368.44	4.271	
9,900.00	3,736.85	10,248.43	4,244.03	195.59	194.81	-1.05	835.47	5,525.24	1,573.47	1,202.06	371.40	4.237	
9,950.00	3,737.50	10,298.43	4,244.85	197.16	196.38	-1.05	836.11	5,575.23	1,573.52	1,199.15	374.37	4.203	
10,000.00	3,738.14	10,348.43	4,245.66	198.73	197.95	-1.05	836.75	5,625.22	1,573.57	1,196.23	377.34	4.170	
10,050.00	3,738.79	10,398.43	4,246.47	200.30	199.52	-1.05	837.39	5,675.21	1,573.62	1,193.31	380.31	4.138	
10,100.00	3,739.44	10,448.43	4,247.28	201.87	201.09	-1.05	838.03	5,725.20	1,573.67	1,190.40	383.28	4.106	
10,150.00	3,740.09	10,498.43	4,248.09	203.44	202.66	-1.05	838.67	5,775.19	1,573.73	1,187.48	386.25	4.074	
10,200.00	3,740.74	10,548.43	4,248.91	205.01	204.23	-1.05	839.31	5,825.18	1,573.78	1,184.56	389.22	4.043	
10,250.00	3,741.39	10,598.43	4,249.72	206.58	205.80	-1.05	839.95	5,875.17	1,573.83	1,181.65	392.18	4.013	
10,300.00	3,742.04	10,648.43	4,250.53	208.15	207.37	-1.05	840.59	5,925.16	1,573.88	1,178.73	395.15	3.983	
10,350.00	3,742.69	10,698.43	4,251.34	209.72	208.94	-1.05	841.23	5,975.14	1,573.93	1,175.81	398.12	3.953	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - 70H - OH - PERMIT													Offset Site Error:	0.00 usft	
Survey Program: 0-MWD+IGRF		Reference		Offset		Semi Major Axis		Azimuth		Offset Wellbore Centre		Rule Assigned: Distance		Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
10,400.00	3,743.34	10,748.42	4,252.15	211.29	210.51	-1.05	841.87	6,025.13	1,573.99	1,172.90	401.09	3.924			
10,450.00	3,743.99	10,798.42	4,252.97	212.86	212.08	-1.05	842.51	6,075.12	1,574.04	1,169.98	404.06	3.896			
10,500.00	3,744.64	10,848.42	4,253.78	214.43	213.65	-1.05	843.14	6,125.11	1,574.09	1,167.06	407.03	3.867			
10,550.00	3,745.28	10,898.42	4,254.59	216.00	215.22	-1.05	843.78	6,175.10	1,574.14	1,164.14	410.00	3.839			
10,600.00	3,745.93	10,948.42	4,255.40	217.57	216.79	-1.05	844.42	6,225.09	1,574.19	1,161.23	412.97	3.812			
10,650.00	3,746.58	10,998.42	4,256.21	219.14	218.36	-1.05	845.06	6,275.08	1,574.25	1,158.31	415.94	3.785			
10,700.00	3,747.23	11,048.42	4,257.03	220.72	219.93	-1.05	845.70	6,325.07	1,574.30	1,155.39	418.90	3.758			
10,750.00	3,747.88	11,098.42	4,257.84	222.29	221.50	-1.05	846.34	6,375.06	1,574.35	1,152.48	421.87	3.732			
10,800.00	3,748.53	11,148.42	4,258.65	223.86	223.07	-1.05	846.98	6,425.05	1,574.40	1,149.56	424.84	3.706			
10,850.00	3,749.18	11,198.42	4,259.46	225.43	224.64	-1.05	847.62	6,475.03	1,574.45	1,146.64	427.81	3.680			
10,900.00	3,749.83	11,248.42	4,260.27	227.00	226.21	-1.05	848.26	6,525.02	1,574.51	1,143.73	430.78	3.655			
10,950.00	3,750.48	11,298.42	4,261.09	228.57	227.78	-1.05	848.90	6,575.01	1,574.56	1,140.81	433.75	3.630			
11,000.00	3,751.13	11,348.42	4,261.90	230.14	229.36	-1.05	849.54	6,625.00	1,574.61	1,137.89	436.72	3.606			
11,050.00	3,751.78	11,398.42	4,262.71	231.72	230.93	-1.05	850.18	6,674.99	1,574.66	1,134.97	439.69	3.581			
11,100.00	3,752.43	11,448.42	4,263.52	233.29	232.50	-1.05	850.82	6,724.98	1,574.71	1,132.06	442.66	3.557			
11,150.00	3,753.07	11,498.42	4,264.33	234.86	234.07	-1.05	851.45	6,774.97	1,574.77	1,129.14	445.63	3.534			
11,200.00	3,753.72	11,548.42	4,265.15	236.43	235.64	-1.05	852.09	6,824.96	1,574.82	1,126.22	448.59	3.511			
11,250.00	3,754.37	11,598.42	4,265.96	238.01	237.21	-1.05	852.73	6,874.95	1,574.87	1,123.31	451.56	3.488			
11,300.00	3,755.02	11,648.42	4,266.77	239.58	238.79	-1.05	853.37	6,924.94	1,574.92	1,120.39	454.53	3.465			
11,350.00	3,755.67	11,698.42	4,267.58	241.15	240.36	-1.05	854.01	6,974.93	1,574.98	1,117.47	457.50	3.443			
11,400.00	3,756.32	11,748.42	4,268.39	242.72	241.93	-1.05	854.65	7,024.91	1,575.03	1,114.56	460.47	3.420			
11,450.00	3,756.97	11,798.42	4,269.21	244.29	243.50	-1.05	855.29	7,074.90	1,575.08	1,111.64	463.44	3.399			
11,500.00	3,757.62	11,848.42	4,270.02	245.87	245.08	-1.05	855.93	7,124.89	1,575.13	1,108.72	466.41	3.377			
11,550.00	3,758.27	11,898.41	4,270.83	247.44	246.65	-1.05	856.57	7,174.88	1,575.18	1,105.81	469.38	3.356			
11,600.00	3,758.92	11,948.41	4,271.64	249.01	248.22	-1.05	857.21	7,224.87	1,575.24	1,102.89	472.34	3.335			
11,650.00	3,759.57	11,998.41	4,272.45	250.59	249.79	-1.05	857.85	7,274.86	1,575.29	1,099.98	475.31	3.314			
11,700.00	3,760.21	12,048.41	4,273.27	252.16	251.37	-1.05	858.49	7,324.85	1,575.34	1,097.06	478.28	3.294			
11,750.00	3,760.86	12,098.41	4,274.08	253.73	252.94	-1.05	859.12	7,374.84	1,575.39	1,094.14	481.25	3.274			
11,800.00	3,761.51	12,148.41	4,274.89	255.30	254.51	-1.05	859.76	7,424.83	1,575.45	1,091.23	484.22	3.254			
11,850.00	3,762.16	12,198.41	4,275.70	256.88	256.08	-1.05	860.40	7,474.82	1,575.50	1,088.31	487.19	3.234			
11,900.00	3,762.81	12,248.41	4,276.51	258.45	257.66	-1.05	861.04	7,524.81	1,575.55	1,085.40	490.16	3.214			
11,950.00	3,763.46	12,298.41	4,277.33	260.02	259.23	-1.05	861.68	7,574.79	1,575.60	1,082.48	493.12	3.195			
12,000.00	3,764.11	12,348.41	4,278.14	261.60	260.80	-1.05	862.32	7,624.78	1,575.66	1,079.56	496.09	3.176			
12,050.00	3,764.76	12,398.41	4,278.95	263.17	262.37	-1.05	862.96	7,674.77	1,575.71	1,076.65	499.06	3.157			
12,068.64	3,765.00	12,401.54	4,279.00	263.76	262.47	-1.65	863.00	7,677.90	1,575.80	1,076.17	499.64	3.154 SF			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - 71H - OH - PERMIT													Offset Site Error:
Survey Program: 0-MWD+IGRF													Offset Well Error: 0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Rule Assigned: Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	0.29	20.10	0.10	20.10				
50.00	50.00	50.00	50.00	0.29	0.14	0.29	20.10	0.10	20.10	19.67	0.43	46.727	
100.00	100.00	100.00	100.00	0.29	0.29	0.29	20.10	0.10	20.10	19.53	0.57	35.045	
150.00	150.00	150.00	150.00	0.47	0.47	0.29	20.10	0.10	20.10	19.17	0.93	21.566	
200.00	200.00	200.00	200.00	0.65	0.65	0.29	20.10	0.10	20.10	18.81	1.29	15.576	
250.00	250.00	250.00	250.00	0.82	0.82	0.29	20.10	0.10	20.10	18.45	1.65	12.190	
300.00	300.00	300.00	300.00	1.00	1.00	0.29	20.10	0.10	20.10	18.09	2.01	10.013	CC
350.00	350.00	350.09	350.09	1.18	1.18	0.09	19.99	-0.32	20.24	17.89	2.36	8.593	ES
400.00	399.98	400.18	400.16	1.35	1.35	-0.49	19.64	-1.59	20.66	17.96	2.70	7.644	
450.00	449.93	450.27	450.20	1.52	1.53	-1.39	19.07	-3.70	21.37	18.32	3.05	7.005	
500.00	499.84	500.34	500.18	1.70	1.70	-2.56	18.27	-6.66	22.38	18.98	3.40	6.584	
550.00	549.68	550.41	550.09	1.88	1.89	-3.91	17.23	-10.45	23.67	19.91	3.76	6.294	
600.00	599.45	600.46	599.91	2.06	2.07	-5.37	15.98	-15.09	25.28	21.15	4.12	6.128	
650.00	649.13	650.49	649.61	2.25	2.26	-6.87	14.49	-20.57	27.19	22.68	4.51	6.031	
700.00	698.70	700.50	699.19	2.44	2.46	-8.34	12.78	-26.87	29.41	24.52	4.89	6.011	
750.00	748.15	750.49	748.63	2.65	2.67	-9.76	10.84	-34.01	31.95	26.64	5.30	6.023	
800.00	797.47	800.45	797.91	2.86	2.88	-11.08	8.68	-41.98	34.80	29.08	5.72	6.086	
850.00	846.63	850.38	847.00	3.09	3.10	-12.30	6.29	-50.77	37.97	31.81	6.17	6.159	
900.00	895.62	900.28	895.90	3.31	3.33	-13.41	3.68	-60.37	41.46	34.84	6.61	6.268	
950.00	944.44	950.15	944.58	3.56	3.58	-14.40	0.86	-70.79	45.25	38.15	7.10	6.372	
1,000.00	993.06	999.98	993.03	3.81	3.82	-15.29	-2.19	-82.02	49.36	41.77	7.59	6.501	
1,050.00	1,041.46	1,049.77	1,041.24	4.08	4.10	-16.08	-5.46	-94.05	53.78	45.65	8.13	6.616	
1,100.00	1,089.64	1,099.52	1,089.18	4.35	4.37	-16.78	-8.94	-106.87	58.51	49.84	8.67	6.751	
1,150.00	1,137.58	1,149.22	1,136.84	4.65	4.67	-17.39	-12.63	-120.49	63.54	54.29	9.26	6.865	
1,200.00	1,185.27	1,198.88	1,184.20	4.95	4.97	-17.92	-16.54	-134.88	68.88	59.03	9.85	6.995	
1,250.00	1,232.68	1,248.51	1,231.30	5.27	5.29	-18.36	-20.65	-150.01	74.51	64.02	10.48	7.107	
1,300.00	1,279.82	1,298.17	1,278.35	5.60	5.61	-18.30	-24.80	-165.32	80.39	69.27	11.13	7.226	
1,350.00	1,326.65	1,347.78	1,325.36	5.96	5.95	-17.72	-28.95	-180.61	86.53	74.73	11.80	7.334	
1,400.00	1,373.17	1,397.34	1,372.33	6.31	6.28	-16.73	-33.10	-195.89	92.93	80.47	12.47	7.455	
1,450.00	1,419.36	1,446.83	1,419.23	6.70	6.62	-15.42	-37.24	-211.15	99.64	86.48	13.16	7.573	
1,500.00	1,465.21	1,496.24	1,466.05	7.09	6.96	-13.86	-41.38	-226.38	106.70	92.86	13.84	7.711	
1,550.00	1,510.71	1,545.55	1,512.78	7.52	7.31	-12.11	-45.50	-241.58	114.15	99.62	14.53	7.854	
1,600.00	1,555.84	1,594.75	1,559.40	7.94	7.65	-10.22	-49.62	-256.74	122.07	106.85	15.21	8.024	
1,650.00	1,600.59	1,643.82	1,605.90	8.40	7.99	-8.24	-53.73	-271.87	130.48	114.59	15.90	8.207	
1,700.00	1,644.94	1,692.75	1,652.26	8.86	8.34	-6.21	-57.82	-286.95	139.46	122.90	16.56	8.422	
1,750.00	1,688.88	1,741.52	1,698.48	9.35	8.69	-4.14	-61.90	-301.98	149.03	131.81	17.22	8.653	
1,800.00	1,732.39	1,790.12	1,744.53	9.85	9.03	-2.08	-65.97	-316.97	159.24	141.39	17.86	8.918	
1,850.00	1,775.48	1,838.53	1,790.40	10.37	9.38	-0.04	-70.02	-331.89	170.13	151.64	18.49	9.202	
1,900.00	1,818.11	1,886.74	1,836.09	10.91	9.72	1.97	-74.05	-346.75	181.72	162.63	19.09	9.518	
1,950.00	1,860.60	1,934.88	1,881.71	11.46	10.07	3.79	-78.08	-361.59	193.71	174.02	19.69	9.836	
2,000.00	1,903.08	1,983.02	1,927.32	12.01	10.41	5.41	-82.11	-376.43	205.88	185.60	20.29	10.149	
2,050.00	1,945.56	2,031.15	1,972.94	12.56	10.76	6.85	-86.14	-391.26	218.21	197.34	20.88	10.452	
2,100.00	1,988.04	2,079.29	2,018.56	13.12	11.10	8.14	-90.16	-406.10	230.68	209.21	21.47	10.746	
2,150.00	2,030.52	2,127.43	2,064.17	13.68	11.45	9.29	-94.19	-420.94	243.26	221.20	22.06	11.029	
2,200.00	2,073.00	2,175.57	2,109.79	14.25	11.80	10.34	-98.22	-435.78	255.93	233.29	22.64	11.303	
2,250.00	2,115.49	2,223.71	2,155.41	14.81	12.15	11.28	-102.25	-450.62	268.68	245.45	23.23	11.566	
2,300.00	2,157.97	2,271.85	2,201.02	15.38	12.50	12.15	-106.27	-465.46	281.51	257.69	23.82	11.820	
2,350.00	2,200.45	2,319.98	2,246.64	15.95	12.85	12.93	-110.30	-480.30	294.40	269.99	24.41	12.063	
2,400.00	2,242.93	2,368.12	2,292.26	16.52	13.20	13.65	-114.33	-495.14	307.34	282.35	24.99	12.297	
2,450.00	2,285.41	2,416.26	2,337.87	17.09	13.55	14.32	-118.36	-509.98	320.33	294.75	25.58	12.521	
2,500.00	2,327.90	2,464.40	2,383.49	17.66	13.90	14.93	-122.39	-524.81	333.36	307.19	26.17	12.737	
2,550.00	2,370.38	2,512.54	2,429.11	18.24	14.25	15.50	-126.41	-539.65	346.43	319.67	26.76	12.944	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - 71H - OH - PERMIT													Offset Site Error:
Survey Program: 0-MWD+IGRF													Offset Well Error: 0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre		Rule Assigned: Distance Between Centres (usft)		Minimum Separation (usft)	Separation Factor	Warning
							+N/-S (usft)	+E/-W (usft)					
2,600.00	2,412.86	2,560.68	2,474.72	18.81	14.60	16.03	-130.44	-554.49	359.53	332.18	27.35	13.144	
2,650.00	2,455.34	2,608.81	2,520.34	19.39	14.95	16.52	-134.47	-569.33	372.66	344.72	27.95	13.335	
2,700.00	2,497.82	2,656.95	2,565.96	19.96	15.30	16.97	-138.50	-584.17	385.82	357.28	28.54	13.520	
2,750.00	2,540.30	2,705.09	2,611.57	20.54	15.65	17.40	-142.53	-599.01	399.00	369.87	29.13	13.697	
2,800.00	2,582.86	2,753.25	2,657.21	21.12	16.00	17.78	-146.56	-613.85	412.14	382.42	29.73	13.864	
2,850.00	2,626.55	2,801.75	2,703.17	21.64	16.36	17.82	-150.61	-628.80	424.28	393.91	30.37	13.970	
2,900.00	2,671.55	2,850.48	2,749.35	22.11	16.71	17.44	-154.69	-643.82	435.04	403.97	31.08	13.999	
2,950.00	2,717.66	2,899.22	2,795.53	22.51	17.07	16.68	-158.77	-658.85	444.44	412.59	31.85	13.956	
3,000.00	2,764.64	2,947.72	2,841.49	22.86	17.43	15.56	-162.83	-673.80	452.54	419.87	32.67	13.851	
3,050.00	2,812.27	2,995.75	2,887.00	23.14	17.78	14.09	-166.85	-688.60	459.49	425.94	33.55	13.694	
3,100.00	2,860.31	3,043.07	2,931.85	23.37	18.12	12.29	-170.81	-703.19	465.50	431.01	34.48	13.499	
3,150.00	2,908.54	3,089.46	2,975.81	23.54	18.46	10.17	-174.69	-717.49	470.81	435.35	35.46	13.279	
3,200.00	2,956.71	3,134.69	3,018.66	23.66	18.80	7.75	-178.47	-731.43	475.73	439.27	36.46	13.048	
3,250.00	3,004.58	3,178.53	3,060.21	23.75	19.12	5.04	-182.14	-744.95	480.60	443.12	37.49	12.821	
3,300.00	3,051.94	3,220.78	3,100.25	23.80	19.43	2.06	-185.68	-757.97	485.82	447.30	38.51	12.614	
3,350.00	3,098.54	3,261.06	3,138.43	23.82	19.72	-1.15	-189.05	-770.36	491.77	452.26	39.52	12.445	
3,400.00	3,144.17	3,300.51	3,176.24	23.81	19.99	-4.46	-192.30	-781.12	498.83	458.39	40.44	12.335	
3,450.00	3,188.59	3,341.33	3,215.93	23.79	20.22	-7.82	-195.59	-790.05	507.07	465.81	41.26	12.290	
3,500.00	3,231.59	3,383.76	3,257.66	23.76	20.42	-11.19	-198.92	-796.91	516.45	474.48	41.97	12.306	
3,550.00	3,272.96	3,428.04	3,301.58	23.72	20.59	-14.51	-202.27	-801.42	526.94	484.38	42.56	12.382	
3,600.00	3,312.50	3,474.52	3,347.89	23.68	20.72	-17.73	-205.65	-803.22	538.45	495.44	43.02	12.517	
3,650.00	3,350.02	3,523.57	3,396.80	23.64	20.81	-20.81	-209.04	-801.85	550.89	507.56	43.33	12.712	
3,700.00	3,385.34	3,575.67	3,448.52	23.62	20.87	-23.67	-212.43	-796.73	564.12	520.61	43.51	12.967	
3,750.00	3,418.27	3,631.39	3,503.28	23.62	20.89	-26.26	-215.79	-787.11	577.97	534.45	43.52	13.280	
3,800.00	3,448.67	3,691.40	3,561.25	23.65	20.88	-28.51	-219.09	-772.03	592.25	548.88	43.37	13.654	
3,850.00	3,476.38	3,756.52	3,622.51	23.73	20.84	-30.33	-222.25	-750.23	606.71	563.66	43.05	14.092	
3,900.00	3,501.69	3,828.19	3,687.36	23.86	20.78	-31.56	-225.22	-719.93	620.92	578.38	42.54	14.595	
3,950.00	3,526.69	3,909.66	3,757.00	24.07	20.72	-31.82	-227.89	-677.82	633.73	591.84	41.89	15.130	
4,000.00	3,551.69	4,001.08	3,828.93	24.31	20.71	-30.87	-229.97	-621.52	644.10	603.00	41.10	15.670	
4,050.00	3,576.69	4,100.93	3,898.63	24.64	20.84	-28.52	-231.07	-550.15	651.19	610.74	40.45	16.099	
4,100.00	3,601.14	4,206.04	3,960.59	25.02	21.25	-24.75	-230.91	-465.36	654.71	614.58	40.13	16.314	
4,150.00	3,622.12	4,268.95	3,992.41	25.52	21.68	-23.89	-230.25	-411.10	657.75	617.11	40.64	16.184	
4,200.00	3,639.07	4,318.15	4,017.01	26.14	22.08	-24.32	-229.70	-368.50	663.53	622.24	41.29	16.070	
4,250.00	3,651.86	4,366.39	4,041.13	26.87	22.55	-24.94	-229.17	-326.72	672.21	630.29	41.92	16.037	
4,300.00	3,660.38	4,413.30	4,064.59	27.70	23.02	-25.76	-228.65	-286.10	683.86	641.40	42.46	16.106	
4,350.00	3,664.58	4,460.76	4,130.05	28.62	25.40	-15.28	-226.69	-132.66	695.20	651.98	43.23	16.083	
4,400.00	3,665.44	4,755.09	4,150.49	29.61	28.82	-1.56	-224.48	39.80	696.52	650.75	45.77	15.218	
4,450.00	3,666.09	4,805.09	4,151.24	30.68	29.91	-1.56	-223.84	89.79	696.59	649.16	47.43	14.688	
4,500.00	3,666.74	4,855.09	4,151.98	31.78	31.06	-1.56	-223.20	139.78	696.65	647.52	49.13	14.179	
4,550.00	3,667.39	4,905.09	4,152.73	32.96	32.22	-1.56	-222.56	189.77	696.72	645.83	50.89	13.691	
4,600.00	3,668.04	4,955.09	4,153.48	34.15	33.44	-1.56	-221.92	239.76	696.79	644.10	52.69	13.225	
4,650.00	3,668.69	5,005.09	4,154.22	35.41	34.67	-1.56	-221.28	289.75	696.86	642.33	54.52	12.781	
4,700.00	3,669.34	5,055.09	4,154.97	36.67	35.94	-1.56	-220.64	339.74	696.93	640.53	56.40	12.357	
4,750.00	3,669.99	5,105.09	4,155.72	37.98	37.22	-1.56	-220.00	389.73	696.99	638.69	58.30	11.954	
4,800.00	3,670.64	5,155.09	4,156.46	39.29	38.54	-1.56	-219.36	439.72	697.06	636.82	60.24	11.572	
4,850.00	3,671.29	5,205.09	4,157.21	40.65	39.87	-1.56	-218.72	489.71	697.13	634.93	62.20	11.208	
4,900.00	3,671.94	5,255.09	4,157.96	42.00	41.22	-1.56	-218.08	539.70	697.20	633.01	64.18	10.862	
4,950.00	3,672.58	5,305.09	4,158.70	43.39	42.58	-1.57	-217.44	589.69	697.26	631.07	66.19	10.534	
5,000.00	3,673.23	5,355.09	4,159.45	44.77	43.97	-1.57	-216.80	639.68	697.33	629.11	68.22	10.222	
5,050.00	3,673.88	5,405.08	4,160.20	46.19	45.36	-1.57	-216.17	689.67	697.40	627.14	70.26	9.926	
5,100.00	3,674.53	5,455.08	4,160.94	47.60	46.77	-1.57	-215.53	739.66	697.47	625.14	72.32	9.644	
5,150.00	3,675.18	5,505.08	4,161.69	49.03	48.18	-1.57	-214.89	789.65	697.53	623.14	74.40	9.376	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
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Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - 71H - OH - PERMIT													Offset Site Error:	0.00 usft
Survey Program:		0-MWD+IGRF								Rule Assigned:		Offset Well Error:		0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,200.00	3,675.83	5,555.08	4,162.44	50.47	49.61	-1.57	-214.25	839.65	697.60	621.12	76.49	9.121		
5,250.00	3,676.48	5,605.08	4,163.18	51.92	51.04	-1.57	-213.61	889.64	697.67	619.08	78.59	8.878		
5,300.00	3,677.13	5,655.08	4,163.93	53.37	52.48	-1.57	-212.97	939.63	697.74	617.04	80.70	8.646		
5,350.00	3,677.78	5,705.08	4,164.68	54.83	53.93	-1.57	-212.33	989.62	697.81	614.98	82.82	8.425		
5,400.00	3,678.43	5,755.08	4,165.42	56.30	55.39	-1.57	-211.69	1,039.61	697.87	612.91	84.96	8.214		
5,450.00	3,679.08	5,805.08	4,166.17	57.77	56.85	-1.57	-211.05	1,089.60	697.94	610.84	87.10	8.013		
5,500.00	3,679.73	5,855.08	4,166.92	59.25	58.33	-1.57	-210.41	1,139.59	698.01	608.76	89.25	7.821		
5,550.00	3,680.37	5,905.08	4,167.66	60.74	59.80	-1.57	-209.77	1,189.58	698.08	606.67	91.41	7.637		
5,600.00	3,681.02	5,955.08	4,168.41	62.23	61.28	-1.57	-209.13	1,239.57	698.14	604.57	93.58	7.461		
5,650.00	3,681.67	6,005.08	4,169.16	63.72	62.77	-1.57	-208.49	1,289.56	698.21	602.46	95.75	7.292		
5,700.00	3,682.32	6,055.08	4,169.90	65.22	64.26	-1.57	-207.85	1,339.55	698.28	600.35	97.93	7.131		
5,750.00	3,682.97	6,105.08	4,170.65	66.72	65.75	-1.57	-207.21	1,389.54	698.35	598.24	100.11	6.976		
5,800.00	3,683.62	6,155.08	4,171.40	68.22	67.25	-1.57	-206.57	1,439.53	698.42	596.11	102.30	6.827		
5,850.00	3,684.27	6,205.08	4,172.14	69.73	68.75	-1.57	-205.93	1,489.52	698.48	593.99	104.50	6.684		
5,900.00	3,684.92	6,255.08	4,172.89	71.24	70.25	-1.57	-205.29	1,539.51	698.55	591.86	106.69	6.547		
5,950.00	3,685.57	6,305.08	4,173.64	72.76	71.76	-1.57	-204.65	1,589.50	698.62	589.72	108.90	6.415		
6,000.00	3,686.22	6,355.08	4,174.38	74.27	73.27	-1.57	-204.01	1,639.49	698.69	587.58	111.11	6.288		
6,050.00	3,686.87	6,405.08	4,175.13	75.79	74.79	-1.57	-203.37	1,689.48	698.75	585.44	113.32	6.166		
6,100.00	3,687.51	6,455.08	4,175.88	77.32	76.30	-1.57	-202.74	1,739.47	698.82	583.29	115.53	6.049		
6,150.00	3,688.16	6,505.08	4,176.62	78.84	77.82	-1.57	-202.10	1,789.46	698.89	581.14	117.75	5.935		
6,200.00	3,688.81	6,555.08	4,177.37	80.37	79.34	-1.57	-201.46	1,839.45	698.96	578.99	119.97	5.826		
6,250.00	3,689.46	6,605.08	4,178.12	81.89	80.86	-1.57	-200.82	1,889.44	699.03	576.83	122.20	5.720		
6,300.00	3,690.11	6,655.08	4,178.86	83.42	82.39	-1.57	-200.18	1,939.43	699.09	574.67	124.42	5.619		
6,350.00	3,690.76	6,705.08	4,179.61	84.96	83.92	-1.57	-199.54	1,989.42	699.16	572.51	126.65	5.520		
6,400.00	3,691.41	6,755.08	4,180.36	86.49	85.45	-1.57	-198.90	2,039.41	699.23	570.34	128.89	5.425		
6,450.00	3,692.06	6,805.08	4,181.10	88.02	86.98	-1.57	-198.26	2,089.40	699.30	568.18	131.12	5.333		
6,500.00	3,692.71	6,855.08	4,181.85	89.56	88.51	-1.57	-197.62	2,139.39	699.36	566.01	133.36	5.244		
6,550.00	3,693.36	6,905.08	4,182.60	91.10	90.04	-1.57	-196.98	2,189.38	699.43	563.84	135.60	5.158		
6,600.00	3,694.01	6,955.08	4,183.34	92.64	91.58	-1.57	-196.34	2,239.37	699.50	561.66	137.84	5.075		
6,650.00	3,694.65	7,005.08	4,184.09	94.18	93.12	-1.57	-195.70	2,289.36	699.57	559.49	140.08	4.994		
6,700.00	3,695.30	7,055.08	4,184.84	95.72	94.65	-1.57	-195.06	2,339.35	699.64	557.31	142.32	4.916		
6,750.00	3,695.95	7,105.08	4,185.58	97.26	96.19	-1.57	-194.42	2,389.34	699.70	555.14	144.57	4.840		
6,800.00	3,696.60	7,155.08	4,186.33	98.80	97.73	-1.57	-193.78	2,439.33	699.77	552.96	146.81	4.766		
6,850.00	3,697.25	7,205.08	4,187.08	100.35	99.28	-1.57	-193.14	2,489.32	699.84	550.78	149.06	4.695		
6,900.00	3,697.90	7,255.08	4,187.82	101.90	100.82	-1.57	-192.50	2,539.31	699.91	548.60	151.31	4.626		
6,950.00	3,698.55	7,305.08	4,188.57	103.44	102.36	-1.57	-191.86	2,589.30	699.98	546.41	153.56	4.558		
7,000.00	3,699.20	7,355.08	4,189.32	104.99	103.91	-1.57	-191.22	2,639.29	700.04	544.23	155.82	4.493		
7,050.00	3,699.85	7,405.08	4,190.06	106.54	105.46	-1.57	-190.58	2,689.28	700.11	542.04	158.07	4.429		
7,100.00	3,700.50	7,455.08	4,190.81	108.09	107.00	-1.57	-189.94	2,739.27	700.18	539.86	160.32	4.367		
7,150.00	3,701.15	7,505.08	4,191.56	109.64	108.55	-1.57	-189.31	2,789.26	700.25	537.67	162.58	4.307		
7,200.00	3,701.79	7,555.08	4,192.30	111.19	110.10	-1.57	-188.67	2,839.25	700.32	535.48	164.84	4.249		
7,250.00	3,702.44	7,605.08	4,193.05	112.74	111.65	-1.57	-188.03	2,889.24	700.38	533.29	167.09	4.192		
7,300.00	3,703.09	7,655.08	4,193.80	114.29	113.20	-1.57	-187.39	2,939.24	700.45	531.10	169.35	4.136		
7,350.00	3,703.74	7,705.08	4,194.54	115.85	114.75	-1.57	-186.75	2,989.23	700.52	528.91	171.61	4.082		
7,400.00	3,704.39	7,755.08	4,195.29	117.40	116.30	-1.57	-186.11	3,039.22	700.59	526.72	173.87	4.029		
7,450.00	3,705.04	7,805.08	4,196.04	118.96	117.85	-1.57	-185.47	3,089.21	700.66	524.53	176.13	3.978		
7,500.00	3,705.69	7,855.08	4,196.78	120.51	119.41	-1.57	-184.83	3,139.20	700.72	522.33	178.39	3.928		
7,550.00	3,706.34	7,905.08	4,197.53	122.07	120.96	-1.57	-184.19	3,189.19	700.79	520.14	180.65	3.879		
7,600.00	3,706.99	7,955.08	4,198.28	123.62	122.52	-1.57	-183.55	3,239.18	700.86	517.95	182.91	3.832		
7,650.00	3,707.64	8,005.08	4,199.02	125.18	124.07	-1.57	-182.91	3,289.17	700.93	515.75	185.18	3.785		
7,700.00	3,708.29	8,055.08	4,199.77	126.74	125.63	-1.57	-182.27	3,339.16	701.00	513.56	187.44	3.740		
7,750.00	3,708.93	8,105.08	4,200.52	128.30	127.18	-1.57	-181.63	3,389.15	701.06	511.36	189.70	3.696		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - 71H - OH - PERMIT													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+IGRF		Offset		Semi Major Axis		Azimuth from North (°)	Offset Wellbore Centre		Rule Assigned: Distance Between Centres		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
7,800.00	3,709.58	8,155.08	4,201.26	129.85	128.74	-1.57	-180.99	3,439.14	701.13	509.17	191.97	3.652	
7,850.00	3,710.23	8,205.08	4,202.01	131.41	130.30	-1.57	-180.35	3,489.13	701.20	506.97	194.23	3.610	
7,900.00	3,710.88	8,255.08	4,202.76	132.97	131.86	-1.58	-179.71	3,539.12	701.27	504.77	196.50	3.569	
7,950.00	3,711.53	8,305.08	4,203.50	134.53	133.41	-1.58	-179.07	3,589.11	701.34	502.58	198.76	3.529	
8,000.00	3,712.18	8,355.08	4,204.25	136.09	134.97	-1.58	-178.43	3,639.10	701.41	500.38	201.03	3.489	
8,050.00	3,712.83	8,405.08	4,205.00	137.65	136.53	-1.58	-177.79	3,689.09	701.47	498.18	203.29	3.451	
8,100.00	3,713.48	8,455.08	4,205.74	139.21	138.09	-1.58	-177.15	3,739.08	701.54	495.98	205.56	3.413	
8,150.00	3,714.13	8,505.08	4,206.49	140.77	139.65	-1.58	-176.51	3,789.07	701.61	493.79	207.82	3.376	
8,200.00	3,714.78	8,555.08	4,207.24	142.34	141.21	-1.58	-175.88	3,839.06	701.68	491.59	210.09	3.340	
8,250.00	3,715.43	8,605.08	4,207.98	143.90	142.77	-1.58	-175.24	3,889.05	701.75	489.39	212.36	3.305	
8,300.00	3,716.08	8,655.08	4,208.73	145.46	144.33	-1.58	-174.60	3,939.04	701.81	487.19	214.62	3.270	
8,350.00	3,716.72	8,705.08	4,209.48	147.02	145.90	-1.58	-173.96	3,989.03	701.88	484.99	216.89	3.236	
8,400.00	3,717.37	8,755.08	4,210.22	148.59	147.46	-1.58	-173.32	4,039.02	701.95	482.79	219.16	3.203	
8,450.00	3,718.02	8,805.08	4,210.97	150.15	149.02	-1.58	-172.68	4,089.01	702.02	480.59	221.43	3.170	
8,500.00	3,718.67	8,855.08	4,211.72	151.71	150.58	-1.58	-172.04	4,139.00	702.09	478.39	223.69	3.139	
8,550.00	3,719.32	8,905.08	4,212.46	153.28	152.14	-1.58	-171.40	4,188.99	702.15	476.19	225.96	3.107	
8,600.00	3,719.97	8,955.08	4,213.21	154.84	153.71	-1.58	-170.76	4,238.98	702.22	474.00	228.23	3.077	
8,650.00	3,720.62	9,005.08	4,213.96	156.41	155.27	-1.58	-170.12	4,288.97	702.29	471.80	230.50	3.047	
8,700.00	3,721.27	9,055.08	4,214.70	157.97	156.84	-1.58	-169.48	4,338.96	702.36	469.60	232.76	3.017	
8,750.00	3,721.92	9,105.08	4,215.45	159.54	158.40	-1.58	-168.84	4,388.95	702.43	467.40	235.03	2.989	
8,800.00	3,722.57	9,155.08	4,216.20	161.10	159.96	-1.58	-168.20	4,438.94	702.50	465.20	237.30	2.960	
8,850.00	3,723.22	9,205.08	4,216.94	162.67	161.53	-1.58	-167.56	4,488.93	702.56	463.00	239.57	2.933	
8,900.00	3,723.86	9,255.08	4,217.69	164.23	163.09	-1.58	-166.92	4,538.92	702.63	460.80	241.83	2.905	
8,950.00	3,724.51	9,305.08	4,218.44	165.80	164.66	-1.58	-166.28	4,588.91	702.70	458.60	244.10	2.879	
9,000.00	3,725.16	9,355.08	4,219.18	167.36	166.22	-1.58	-165.64	4,638.90	702.77	456.40	246.37	2.852	
9,050.00	3,725.81	9,405.08	4,219.93	168.93	167.79	-1.58	-165.00	4,688.89	702.84	454.20	248.64	2.827	
9,100.00	3,726.46	9,455.08	4,220.68	170.50	169.35	-1.58	-164.36	4,738.88	702.91	452.00	250.91	2.801	
9,150.00	3,727.11	9,505.08	4,221.42	172.06	170.92	-1.58	-163.72	4,788.87	702.97	449.80	253.17	2.777	
9,200.00	3,727.76	9,555.08	4,222.17	173.63	172.49	-1.58	-163.08	4,838.86	703.04	447.60	255.44	2.752	
9,250.00	3,728.41	9,605.08	4,222.92	175.20	174.05	-1.58	-162.44	4,888.85	703.11	445.40	257.71	2.728	
9,300.00	3,729.06	9,655.08	4,223.66	176.77	175.62	-1.58	-161.81	4,938.84	703.18	443.20	259.98	2.705	
9,350.00	3,729.71	9,705.08	4,224.41	178.33	177.19	-1.58	-161.17	4,988.83	703.25	441.00	262.24	2.682	
9,400.00	3,730.36	9,755.08	4,225.16	179.90	178.75	-1.58	-160.53	5,038.83	703.32	438.80	264.51	2.659	
9,450.00	3,731.01	9,805.08	4,225.90	181.47	180.32	-1.58	-159.89	5,088.82	703.38	436.60	266.78	2.637	
9,500.00	3,731.65	9,855.08	4,226.65	183.04	181.89	-1.58	-159.25	5,138.81	703.45	434.40	269.05	2.615	
9,550.00	3,732.30	9,905.08	4,227.40	184.61	183.46	-1.58	-158.61	5,188.80	703.52	432.21	271.31	2.593	
9,600.00	3,732.95	9,955.08	4,228.14	186.17	185.02	-1.58	-157.97	5,238.79	703.59	430.01	273.58	2.572	
9,650.00	3,733.60	10,005.08	4,228.89	187.74	186.59	-1.58	-157.33	5,288.78	703.66	427.81	275.85	2.551	
9,700.00	3,734.25	10,055.08	4,229.64	189.31	188.16	-1.58	-156.69	5,338.77	703.72	425.61	278.11	2.530	
9,750.00	3,734.90	10,105.08	4,230.38	190.88	189.73	-1.58	-156.05	5,388.76	703.79	423.41	280.38	2.510	
9,800.00	3,735.55	10,155.08	4,231.13	192.45	191.30	-1.58	-155.41	5,438.75	703.86	421.21	282.65	2.490	
9,850.00	3,736.20	10,205.08	4,231.88	194.02	192.87	-1.58	-154.77	5,488.74	703.93	419.02	284.91	2.471	
9,900.00	3,736.85	10,255.08	4,232.62	195.59	194.44	-1.58	-154.13	5,538.73	704.00	416.82	287.18	2.451	
9,950.00	3,737.50	10,305.08	4,233.37	197.16	196.00	-1.58	-153.49	5,588.72	704.07	414.62	289.45	2.432	
10,000.00	3,738.14	10,355.08	4,234.12	198.73	197.57	-1.58	-152.85	5,638.71	704.14	412.42	291.71	2.414	
10,050.00	3,738.79	10,405.08	4,234.86	200.30	199.14	-1.58	-152.21	5,688.70	704.20	410.23	293.98	2.395	
10,100.00	3,739.44	10,455.08	4,235.61	201.87	200.71	-1.58	-151.57	5,738.69	704.27	408.03	296.24	2.377	
10,150.00	3,740.09	10,505.08	4,236.36	203.44	202.28	-1.58	-150.93	5,788.68	704.34	405.83	298.51	2.360	
10,200.00	3,740.74	10,555.08	4,237.10	205.01	203.85	-1.58	-150.29	5,838.67	704.41	403.63	300.77	2.342	
10,250.00	3,741.39	10,605.08	4,237.85	206.58	205.42	-1.58	-149.65	5,888.66	704.48	401.44	303.04	2.325	
10,300.00	3,742.04	10,655.08	4,238.60	208.15	206.99	-1.58	-149.01	5,938.65	704.55	399.24	305.30	2.308	
10,350.00	3,742.69	10,705.08	4,239.34	209.72	208.56	-1.58	-148.38	5,988.64	704.61	397.05	307.57	2.291	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - 71H - OH - PERMIT													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+IGRF		Offset		Semi Major Axis		Azimuth from North (°)	Offset Wellbore Centre		Rule Assigned: Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,400.00	3,743.34	10,755.07	4,240.09	211.29	210.13	-1.58	-147.74	6,038.63	704.68	394.85	309.83	2.274	
10,450.00	3,743.99	10,805.07	4,240.84	212.86	211.70	-1.58	-147.10	6,088.62	704.75	392.65	312.10	2.258	
10,500.00	3,744.64	10,855.07	4,241.58	214.43	213.27	-1.58	-146.46	6,138.61	704.82	390.46	314.36	2.242	
10,550.00	3,745.28	10,905.07	4,242.33	216.00	214.84	-1.58	-145.82	6,188.60	704.89	388.26	316.62	2.226	
10,600.00	3,745.93	10,955.07	4,243.08	217.57	216.41	-1.58	-145.18	6,238.59	704.96	386.07	318.89	2.211	
10,650.00	3,746.58	11,005.07	4,243.82	219.14	217.98	-1.58	-144.54	6,288.58	705.02	383.87	321.15	2.195	
10,700.00	3,747.23	11,055.07	4,244.57	220.72	219.55	-1.58	-143.90	6,338.57	705.09	381.68	323.41	2.180	
10,750.00	3,747.88	11,105.07	4,245.32	222.29	221.12	-1.58	-143.26	6,388.56	705.16	379.48	325.68	2.165	
10,800.00	3,748.53	11,155.07	4,246.06	223.86	222.70	-1.58	-142.62	6,438.55	705.23	377.29	327.94	2.150	
10,850.00	3,749.18	11,205.07	4,246.81	225.43	224.27	-1.58	-141.98	6,488.54	705.30	375.10	330.20	2.136	
10,900.00	3,749.83	11,255.07	4,247.56	227.00	225.84	-1.59	-141.34	6,538.53	705.37	372.90	332.46	2.122	
10,950.00	3,750.48	11,305.07	4,248.30	228.57	227.41	-1.59	-140.70	6,588.52	705.44	370.71	334.73	2.108	
11,000.00	3,751.13	11,355.07	4,249.05	230.14	228.98	-1.59	-140.06	6,638.51	705.50	368.52	336.99	2.094	
11,050.00	3,751.78	11,405.07	4,249.80	231.72	230.55	-1.59	-139.42	6,688.50	705.57	366.32	339.25	2.080	
11,100.00	3,752.43	11,455.07	4,250.54	233.29	232.12	-1.59	-138.78	6,738.49	705.64	364.13	341.51	2.066	
11,150.00	3,753.07	11,505.07	4,251.29	234.86	233.70	-1.59	-138.14	6,788.48	705.71	361.94	343.77	2.053	
11,200.00	3,753.72	11,555.07	4,252.04	236.43	235.27	-1.59	-137.50	6,838.47	705.78	359.75	346.03	2.040	
11,250.00	3,754.37	11,605.07	4,252.78	238.01	236.84	-1.59	-136.86	6,888.46	705.85	357.55	348.29	2.027	
11,300.00	3,755.02	11,655.07	4,253.53	239.58	238.41	-1.59	-136.22	6,938.45	705.92	355.36	350.55	2.014	
11,350.00	3,755.67	11,705.07	4,254.28	241.15	239.98	-1.59	-135.58	6,988.44	705.98	353.17	352.81	2.001	
11,400.00	3,756.32	11,755.07	4,255.02	242.72	241.55	-1.59	-134.95	7,038.43	706.05	350.98	355.07	1.988	
11,450.00	3,756.97	11,805.07	4,255.77	244.29	243.13	-1.59	-134.31	7,088.43	706.12	348.79	357.33	1.976	
11,500.00	3,757.62	11,855.07	4,256.52	245.87	244.70	-1.59	-133.67	7,138.42	706.19	346.60	359.59	1.964	
11,550.00	3,758.27	11,905.07	4,257.26	247.44	246.27	-1.59	-133.03	7,188.41	706.26	344.41	361.85	1.952	
11,600.00	3,758.92	11,955.07	4,258.01	249.01	247.84	-1.59	-132.39	7,238.40	706.33	342.22	364.11	1.940	
11,650.00	3,759.57	12,005.07	4,258.76	250.59	249.42	-1.59	-131.75	7,288.39	706.40	340.03	366.37	1.928	
11,700.00	3,760.21	12,055.07	4,259.50	252.16	250.99	-1.59	-131.11	7,338.38	706.46	337.84	368.62	1.916	
11,750.00	3,760.86	12,105.07	4,260.25	253.73	252.56	-1.59	-130.47	7,388.37	706.53	335.65	370.88	1.905	
11,800.00	3,761.51	12,155.07	4,261.00	255.30	254.13	-1.59	-129.83	7,438.36	706.60	333.46	373.14	1.894	
11,850.00	3,762.16	12,205.07	4,261.74	256.88	255.71	-1.59	-129.19	7,488.35	706.67	331.28	375.40	1.882	
11,900.00	3,762.81	12,255.07	4,262.49	258.45	257.28	-1.59	-128.55	7,538.34	706.74	329.09	377.65	1.871	
11,950.00	3,763.46	12,305.07	4,263.24	260.02	258.85	-1.59	-127.91	7,588.33	706.81	326.90	379.91	1.860	
12,000.00	3,764.11	12,355.07	4,263.98	261.60	260.43	-1.59	-127.27	7,638.32	706.88	324.71	382.16	1.850	
12,050.00	3,764.76	12,405.07	4,264.73	263.17	262.00	-1.59	-126.63	7,688.31	706.94	322.52	384.42	1.839	
12,068.64	3,765.00	12,423.17	4,265.00	263.76	262.57	-1.65	-126.40	7,706.40	706.97	321.73	385.24	1.835 SF	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - OFFSET: HASTIE 'AXH' FEDERAL 1 - OH - OH													Offset Site Error:	0.00 usft
Survey Program: Reference		203-INC-ONLY Offset		Semi Major Axis		Azimuth from North (°)	Offset Wellbore Centre		Rule Assigned: Distance				Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	1.00	0.00	0.00	0.02	-52.44	592.78	-770.84	972.41					
50.00	50.00	51.00	50.00	0.29	0.86	-52.44	592.78	-770.84	972.41	971.26	1.15	848.571		
100.00	100.00	101.00	100.00	0.29	1.70	-52.44	592.78	-770.84	972.41	970.42	1.99	489.077		
150.00	150.00	151.00	150.00	0.47	2.54	-52.44	592.78	-770.84	972.41	969.40	3.01	323.081		
200.00	200.00	201.00	200.00	0.65	3.39	-52.44	592.78	-770.84	972.41	968.38	4.03	241.212		
250.00	250.00	251.00	250.00	0.82	4.33	-52.44	592.78	-770.84	972.41	967.25	5.16	188.554		
300.00	300.00	301.00	300.00	1.00	5.28	-52.44	592.78	-770.84	972.41	966.12	6.29	154.662		
350.00	350.00	351.63	350.63	1.18	6.25	-52.40	593.03	-770.84	972.44	965.01	7.42	130.998		
400.00	399.98	402.73	401.72	1.35	7.22	-52.33	592.92	-770.84	972.00	963.43	8.57	113.446		
450.00	449.93	450.95	449.93	1.52	8.14	-52.22	592.78	-770.84	971.30	961.64	9.66	100.570		
500.00	499.84	500.85	499.84	1.70	9.09	-52.04	592.78	-770.84	970.44	959.66	10.78	90.016		
550.00	549.68	550.70	549.68	1.88	10.03	-51.82	592.78	-770.84	969.35	957.44	11.91	81.392		
600.00	599.45	600.47	599.45	2.06	10.98	-51.55	592.78	-770.84	968.04	955.00	13.04	74.239		
650.00	649.13	650.15	649.13	2.25	11.93	-51.23	592.78	-770.84	966.52	952.34	14.18	68.178		
700.00	698.70	700.12	699.10	2.44	12.88	-50.82	593.54	-770.84	965.29	949.97	15.32	63.004		
750.00	748.15	750.44	749.42	2.65	13.84	-50.40	593.47	-770.84	963.36	946.88	16.48	58.441		
800.00	797.47	800.64	799.61	2.86	14.79	-49.93	593.33	-770.84	961.23	943.58	17.65	54.468		
850.00	846.63	850.70	849.67	3.09	15.75	-49.41	593.12	-770.84	958.92	940.09	18.82	50.942		
900.00	895.62	900.61	899.58	3.31	16.70	-48.84	592.85	-770.84	956.44	936.45	20.00	47.824		
950.00	944.44	945.48	944.44	3.56	17.53	-48.21	592.78	-770.84	954.01	932.93	21.08	45.260		
1,000.00	993.06	994.10	993.06	3.81	18.43	-47.52	592.78	-770.84	951.58	929.35	22.22	42.819		
1,050.00	1,041.46	1,042.51	1,041.46	4.08	19.32	-46.78	592.78	-770.84	949.12	925.73	23.39	40.585		
1,100.00	1,089.64	1,090.69	1,089.64	4.35	20.21	-45.99	592.78	-770.84	946.67	922.12	24.55	38.565		
1,150.00	1,137.58	1,138.63	1,137.58	4.65	21.10	-45.14	592.78	-770.84	944.27	918.54	25.73	36.700		
1,200.00	1,185.27	1,186.80	1,185.75	4.95	21.99	-44.22	593.28	-770.84	942.31	915.39	26.92	35.006		
1,250.00	1,232.68	1,234.83	1,233.78	5.27	22.87	-43.26	593.23	-770.84	940.08	911.95	28.13	33.417		
1,300.00	1,279.82	1,282.59	1,281.54	5.60	23.75	-42.26	593.13	-770.84	938.00	908.65	29.34	31.966		
1,350.00	1,326.65	1,330.06	1,329.01	5.96	24.63	-41.20	592.99	-770.84	936.10	905.52	30.58	30.613		
1,400.00	1,373.17	1,377.25	1,376.19	6.31	25.50	-40.09	592.81	-770.84	934.42	902.61	31.81	29.375		
1,450.00	1,419.36	1,420.43	1,419.36	6.70	26.30	-38.92	592.78	-770.84	933.16	900.17	33.00	28.278		
1,500.00	1,465.21	1,466.28	1,465.21	7.09	27.15	-37.69	592.78	-770.84	932.30	898.06	34.24	27.229		
1,550.00	1,510.71	1,511.78	1,510.71	7.52	27.99	-36.42	592.78	-770.84	931.86	896.35	35.50	26.247		
1,572.65	1,531.20	1,532.27	1,531.20	7.71	28.37	-35.82	592.78	-770.84	931.81	895.73	36.07	25.830 CC		
1,600.00	1,555.84	1,556.90	1,555.84	7.94	28.82	-35.09	592.78	-770.84	931.88	895.12	36.76	25.350		
1,650.00	1,600.59	1,601.65	1,600.59	8.40	29.65	-33.72	592.78	-770.84	932.43	894.39	38.04	24.511 ES		
1,700.00	1,644.94	1,646.33	1,645.27	8.86	30.47	-32.29	593.30	-770.84	934.00	894.68	39.32	23.754		
1,750.00	1,688.88	1,690.93	1,689.87	9.35	31.30	-30.83	593.26	-770.84	935.74	895.12	40.63	23.033		
1,800.00	1,732.39	1,735.13	1,734.07	9.85	32.11	-29.34	593.19	-770.84	938.14	896.22	41.92	22.380		
1,850.00	1,775.48	1,778.91	1,777.85	10.37	32.92	-27.81	593.08	-770.84	941.26	898.02	43.23	21.772		
1,900.00	1,818.11	1,822.27	1,821.20	10.91	33.72	-26.24	592.94	-770.84	945.13	900.60	44.53	21.223		
1,950.00	1,860.60	1,865.50	1,864.43	11.46	34.52	-24.68	592.76	-770.84	949.72	903.88	45.84	20.719		
2,000.00	1,903.08	1,904.16	1,903.08	12.01	35.28	-23.12	592.78	-770.84	955.17	908.07	47.10	20.281		
2,050.00	1,945.56	1,946.64	1,945.56	12.56	36.11	-21.59	592.78	-770.84	961.31	912.89	48.42	19.853		
2,100.00	1,988.04	1,989.31	1,988.23	13.12	36.95	-20.07	593.04	-770.84	968.38	918.64	49.74	19.469		
2,150.00	2,030.52	2,033.26	2,032.18	13.68	37.81	-18.58	593.00	-770.84	975.83	924.75	51.08	19.105		
2,200.00	2,073.00	2,077.26	2,076.17	14.25	38.67	-17.12	592.89	-770.84	983.86	931.46	52.40	18.775		
2,250.00	2,115.49	2,116.59	2,115.49	14.81	39.44	-15.68	592.78	-770.84	992.52	938.90	53.63	18.508		
2,300.00	2,157.97	2,159.07	2,157.97	15.38	40.28	-14.26	592.78	-770.84	1,001.91	947.01	54.90	18.249		
2,350.00	2,200.45	2,201.55	2,200.45	15.95	41.11	-12.87	592.78	-770.84	1,011.90	955.73	56.17	18.016		
2,400.00	2,242.93	2,244.03	2,242.93	16.52	41.94	-11.51	592.78	-770.84	1,022.47	965.05	57.42	17.807		
2,450.00	2,285.41	2,286.52	2,285.41	17.09	42.78	-10.18	592.78	-770.84	1,033.60	974.94	58.66	17.619		
2,500.00	2,327.90	2,329.00	2,327.90	17.66	43.61	-8.88	592.78	-770.84	1,045.28	985.39	59.89	17.453		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - OFFSET: HASTIE 'AXH' FEDERAL 1 - OH - OH													Offset Site Error:
Survey Program: 203-INC-ONLY													Offset Well Error: 0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Rule Assigned: Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,550.00	2,370.38	2,372.28	2,371.16	18.24	44.46	-7.60	593.85	-770.84	1,058.55	997.42	61.13	17.317	
2,600.00	2,412.86	2,416.44	2,415.33	18.81	45.32	-6.35	593.78	-770.84	1,071.21	1,008.84	62.37	17.175	
2,650.00	2,455.34	2,460.66	2,459.55	19.39	46.19	-5.14	593.64	-770.84	1,084.29	1,020.69	63.60	17.048	
2,700.00	2,497.82	2,504.94	2,503.82	19.96	47.06	-3.96	593.43	-770.84	1,097.78	1,032.96	64.83	16.935	
2,750.00	2,540.30	2,549.26	2,548.14	20.54	47.93	-2.81	593.16	-770.84	1,111.66	1,045.62	66.04	16.833	
2,800.00	2,582.86	2,593.71	2,592.58	21.12	48.80	-1.69	592.81	-770.84	1,125.91	1,058.67	67.24	16.744	
2,850.00	2,626.55	2,627.69	2,626.55	21.64	49.47	-0.72	592.78	-770.84	1,140.77	1,072.58	68.19	16.729	
2,900.00	2,671.55	2,672.70	2,671.55	22.11	50.35	0.06	592.78	-770.84	1,155.82	1,086.50	69.32	16.674	
2,950.00	2,717.66	2,718.81	2,717.66	22.51	51.26	0.67	592.78	-770.84	1,170.78	1,100.35	70.43	16.623	
3,000.00	2,764.64	2,765.79	2,764.64	22.86	52.18	1.09	592.78	-770.84	1,185.45	1,113.93	71.52	16.575	
3,050.00	2,812.27	2,813.42	2,812.27	23.14	53.12	1.34	592.78	-770.84	1,199.69	1,127.10	72.59	16.526	
3,100.00	2,860.31	2,862.04	2,860.89	23.37	54.07	1.43	593.30	-770.84	1,213.91	1,140.24	73.66	16.479	
3,150.00	2,908.54	2,911.38	2,910.23	23.54	55.04	1.35	593.25	-770.84	1,226.93	1,152.20	74.73	16.418	
3,200.00	2,956.71	2,960.68	2,959.53	23.66	56.01	1.12	593.16	-770.84	1,239.24	1,163.45	75.78	16.352	
3,250.00	3,004.58	3,009.71	3,008.56	23.75	56.97	0.73	593.03	-770.84	1,250.81	1,173.98	76.83	16.281	
3,300.00	3,051.94	3,058.22	3,057.07	23.80	57.93	0.20	592.85	-770.84	1,261.64	1,183.78	77.86	16.204	
3,350.00	3,098.54	3,099.73	3,098.54	23.82	58.77	-0.47	592.78	-770.84	1,271.92	1,193.13	78.79	16.143	
3,400.00	3,144.17	3,145.36	3,144.17	23.81	59.73	-1.27	592.78	-770.84	1,281.69	1,201.85	79.84	16.053	
3,450.00	3,188.59	3,189.78	3,188.59	23.79	60.66	-2.21	592.78	-770.84	1,290.95	1,210.07	80.88	15.961	
3,500.00	3,231.59	3,232.78	3,231.59	23.76	61.56	-3.26	592.78	-770.84	1,299.80	1,217.88	81.92	15.867	
3,550.00	3,272.96	3,274.15	3,272.96	23.72	62.43	-4.44	592.78	-770.84	1,308.36	1,225.41	82.95	15.773	
3,600.00	3,312.50	3,313.73	3,312.53	23.68	63.25	-5.72	593.82	-770.84	1,317.78	1,233.81	83.97	15.693	
3,650.00	3,350.02	3,353.16	3,351.96	23.64	64.08	-7.10	593.79	-770.84	1,326.11	1,241.07	85.03	15.595	
3,700.00	3,385.34	3,390.28	3,389.08	23.62	64.86	-8.58	593.71	-770.84	1,334.50	1,248.40	86.09	15.501	
3,750.00	3,418.27	3,424.91	3,423.70	23.62	65.58	-10.15	593.59	-770.84	1,343.09	1,255.94	87.15	15.412	
3,800.00	3,448.67	3,456.87	3,455.66	23.65	66.25	-11.79	593.44	-770.84	1,352.04	1,263.84	88.20	15.329	
3,850.00	3,476.38	3,486.01	3,484.80	23.73	66.86	-13.50	593.27	-770.84	1,361.47	1,272.22	89.25	15.255	
3,900.00	3,501.69	3,512.61	3,511.40	23.86	67.42	-15.26	593.09	-770.84	1,371.59	1,281.30	90.29	15.192	
3,950.00	3,526.69	3,538.89	3,537.68	24.07	67.97	-17.00	592.88	-770.84	1,382.90	1,291.53	91.37	15.136	
4,000.00	3,551.69	3,562.95	3,551.69	24.31	68.26	-18.71	592.78	-770.84	1,395.51	1,303.36	92.15	15.145	
4,050.00	3,576.69	3,577.95	3,576.69	24.64	68.81	-20.38	592.78	-770.84	1,409.47	1,316.25	93.23	15.119	
4,100.00	3,601.14	3,602.40	3,601.14	25.02	69.34	-22.04	592.78	-770.84	1,424.73	1,330.45	94.28	15.111 SF	
4,150.00	3,622.12	3,623.38	3,622.12	25.52	69.79	-23.72	592.78	-770.84	1,441.83	1,346.52	95.31	15.128	
4,200.00	3,639.07	3,640.33	3,639.07	26.14	70.16	-25.41	592.78	-770.84	1,460.83	1,364.55	96.28	15.173	
4,250.00	3,651.86	3,653.12	3,651.86	26.87	70.44	-27.11	592.78	-770.84	1,481.66	1,384.48	97.18	15.247	
4,300.00	3,660.38	3,661.64	3,660.38	27.70	70.62	-28.79	592.78	-770.84	1,504.19	1,406.21	97.98	15.352	
4,350.00	3,664.58	3,665.84	3,664.58	28.62	70.71	-30.44	592.78	-770.84	1,528.25	1,429.57	98.68	15.487	
4,400.00	3,665.44	3,666.71	3,665.44	29.61	70.73	-32.04	592.78	-770.84	1,553.63	1,454.35	99.28	15.648	
4,450.00	3,666.09	3,667.36	3,666.09	30.68	70.75	-33.59	592.78	-770.84	1,580.19	1,480.31	99.88	15.820	
4,500.00	3,666.74	3,668.00	3,666.74	31.78	70.76	-35.09	592.78	-770.84	1,607.86	1,507.43	100.44	16.009	
4,550.00	3,667.39	3,668.65	3,667.39	32.96	70.78	-36.53	592.78	-770.84	1,636.60	1,535.60	101.00	16.205	
4,600.00	3,668.04	3,669.30	3,668.04	34.15	70.79	-37.93	592.78	-770.84	1,666.34	1,564.82	101.51	16.415	
4,650.00	3,668.69	3,669.95	3,668.69	35.41	70.80	-39.27	592.78	-770.84	1,697.03	1,595.00	102.03	16.633	
4,700.00	3,669.34	3,670.60	3,669.34	36.67	70.82	-40.57	592.78	-770.84	1,728.62	1,626.11	102.51	16.863	
4,750.00	3,669.99	3,671.25	3,669.99	37.98	70.83	-41.82	592.78	-770.84	1,761.06	1,658.08	102.98	17.101	
4,800.00	3,670.64	3,671.90	3,670.64	39.29	70.85	-43.02	592.78	-770.84	1,794.32	1,690.89	103.42	17.349	
4,850.00	3,671.29	3,672.55	3,671.29	40.65	70.86	-44.18	592.78	-770.84	1,828.33	1,724.48	103.85	17.605	
4,900.00	3,671.94	3,673.20	3,671.94	42.00	70.87	-45.30	592.78	-770.84	1,863.07	1,758.81	104.26	17.870	
4,950.00	3,672.58	3,673.85	3,672.58	43.39	70.89	-46.37	592.78	-770.84	1,898.48	1,793.84	104.65	18.142	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - OFFSET: SPURCK '16' STATE COM 1 - OH - OH													Offset Site Error:
Survey Program: 269-INC-ONLY													Offset Well Error:
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Rule Assigned: Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,250.00	3,689.46	3,687.55	3,691.19	81.89	74.23	56.53	346.11	3,485.95	1,897.55	1,775.16	122.38	15.505	
6,300.00	3,690.11	3,688.21	3,691.86	83.42	74.24	55.69	346.11	3,485.95	1,855.69	1,731.56	124.12	14.950	
6,350.00	3,690.76	3,688.88	3,692.52	84.96	74.26	54.82	346.11	3,485.95	1,814.24	1,688.30	125.94	14.405	
6,400.00	3,691.41	3,689.54	3,693.19	86.49	74.27	53.90	346.11	3,485.95	1,773.24	1,645.40	127.84	13.871	
6,450.00	3,692.06	3,690.21	3,693.86	88.02	74.28	52.95	346.11	3,485.95	1,732.71	1,602.89	129.82	13.347	
6,500.00	3,692.71	3,690.88	3,694.52	89.56	74.29	51.95	346.11	3,485.95	1,692.68	1,560.80	131.88	12.835	
6,550.00	3,693.36	3,691.54	3,695.19	91.10	74.31	50.89	346.11	3,485.95	1,653.20	1,519.17	134.03	12.334	
6,600.00	3,694.01	3,692.21	3,695.86	92.64	74.32	49.79	346.11	3,485.95	1,614.30	1,478.03	136.27	11.846	
6,650.00	3,694.65	3,692.88	3,696.52	94.18	74.33	48.64	346.11	3,485.95	1,576.03	1,437.43	138.61	11.371	
6,700.00	3,695.30	3,693.54	3,697.19	95.72	74.35	47.43	346.10	3,485.95	1,538.43	1,397.40	141.03	10.908	
6,750.00	3,695.95	3,694.21	3,697.85	97.26	74.36	46.15	346.10	3,485.95	1,501.55	1,358.00	143.55	10.460	
6,800.00	3,696.60	3,694.87	3,698.52	98.80	74.37	44.82	346.10	3,485.95	1,465.45	1,319.28	146.17	10.026	
6,850.00	3,697.25	3,695.54	3,699.19	100.35	74.39	43.41	346.10	3,485.95	1,430.19	1,281.31	148.88	9.606	
6,900.00	3,697.90	3,696.21	3,699.85	101.90	74.40	41.94	346.10	3,485.95	1,395.83	1,244.14	151.69	9.202	
6,950.00	3,698.55	3,696.87	3,700.52	103.44	74.41	40.40	346.10	3,485.95	1,362.44	1,207.85	154.59	8.813	
7,000.00	3,699.20	3,697.54	3,701.18	104.99	74.43	38.77	346.10	3,485.95	1,330.08	1,172.51	157.57	8.441	
7,050.00	3,699.85	3,698.21	3,701.85	106.54	74.44	37.07	346.10	3,485.95	1,298.85	1,138.21	160.64	8.086	
7,100.00	3,700.50	3,698.87	3,702.52	108.09	74.45	35.29	346.09	3,485.95	1,268.82	1,105.04	163.77	7.747	
7,150.00	3,701.15	3,699.54	3,703.18	109.64	74.46	33.42	346.09	3,485.95	1,240.07	1,073.10	166.97	7.427	
7,200.00	3,701.79	3,700.20	3,703.85	111.19	74.48	31.46	346.09	3,485.95	1,212.71	1,042.49	170.22	7.124	
7,250.00	3,702.44	3,700.87	3,704.51	112.74	74.49	29.42	346.09	3,485.95	1,186.83	1,013.33	173.50	6.840	
7,300.00	3,703.09	3,701.54	3,705.18	114.29	74.50	27.29	346.09	3,485.95	1,162.52	985.72	176.79	6.576	
7,350.00	3,703.74	3,702.20	3,705.85	115.85	74.52	25.07	346.09	3,485.95	1,139.88	959.80	180.08	6.330	
7,400.00	3,704.39	3,702.87	3,706.51	117.40	74.53	22.77	346.09	3,485.95	1,119.02	935.69	183.33	6.104	
7,450.00	3,705.04	3,703.53	3,707.18	118.96	74.54	20.38	346.08	3,485.95	1,100.04	913.52	186.52	5.898	
7,500.00	3,705.69	3,704.20	3,707.84	120.51	74.56	17.91	346.08	3,485.95	1,083.04	893.42	189.61	5.712	
7,550.00	3,706.34	3,704.86	3,708.51	122.07	74.57	15.37	346.08	3,485.95	1,068.11	875.52	192.59	5.546	
7,600.00	3,706.99	3,705.53	3,709.18	123.62	74.58	12.76	346.08	3,485.95	1,055.34	859.94	195.40	5.401	
7,650.00	3,707.64	3,706.20	3,709.84	125.18	74.60	10.09	346.08	3,485.95	1,044.80	846.78	198.02	5.276	
7,700.00	3,708.29	3,706.86	3,710.51	126.74	74.61	7.38	346.08	3,485.95	1,036.58	836.15	200.42	5.172	
7,750.00	3,708.93	3,707.53	3,711.17	128.30	74.62	4.62	346.08	3,485.95	1,030.71	828.14	202.57	5.088	
7,800.00	3,709.58	3,708.19	3,711.84	129.85	74.64	1.85	346.07	3,485.95	1,027.25	822.80	204.45	5.024	
7,846.25	3,710.18	3,708.81	3,712.45	131.30	74.65	-0.74	346.07	3,485.95	1,026.21	820.29	205.92	4.983 CC	
7,850.00	3,710.23	3,708.86	3,712.50	131.41	74.65	-0.94	346.07	3,485.95	1,026.22	820.18	206.03	4.981 ES	
7,900.00	3,710.88	3,709.52	3,713.17	132.97	74.66	-3.73	346.07	3,485.95	1,027.61	820.31	207.31	4.957	
7,950.00	3,711.53	3,710.19	3,713.84	134.53	74.67	-6.51	346.07	3,485.95	1,031.44	823.17	208.27	4.952 SF	
8,000.00	3,712.18	3,710.86	3,714.50	136.09	74.69	-9.26	346.07	3,485.95	1,037.66	828.74	208.92	4.967	
8,050.00	3,712.83	3,711.52	3,715.17	137.65	74.70	-11.96	346.07	3,485.95	1,046.24	836.97	209.26	5.000	
8,100.00	3,713.48	3,712.19	3,715.83	139.21	74.71	-14.62	346.07	3,485.95	1,057.11	847.80	209.31	5.050	
8,150.00	3,714.13	3,712.85	3,716.50	140.77	74.73	-17.22	346.06	3,485.95	1,070.21	861.13	209.08	5.119	
8,200.00	3,714.78	3,713.52	3,717.16	142.34	74.74	-19.75	346.06	3,485.95	1,085.46	876.86	208.60	5.204	
8,250.00	3,715.43	3,714.18	3,717.83	143.90	74.75	-22.21	346.06	3,485.95	1,102.76	894.88	207.89	5.305	
8,300.00	3,716.08	3,714.85	3,718.49	145.46	74.77	-24.59	346.06	3,485.95	1,122.03	915.06	206.97	5.421	
8,350.00	3,716.72	3,715.51	3,719.16	147.02	74.78	-26.88	346.06	3,485.95	1,143.16	937.29	205.87	5.553	
8,400.00	3,717.37	3,716.18	3,719.83	148.59	74.79	-29.08	346.06	3,485.95	1,166.06	961.44	204.62	5.699	
8,450.00	3,718.02	3,716.85	3,720.49	150.15	74.81	-31.20	346.05	3,485.95	1,190.61	987.37	203.24	5.858	
8,500.00	3,718.67	3,717.51	3,721.16	151.71	74.82	-33.23	346.05	3,485.95	1,216.72	1,014.96	201.76	6.031	
8,550.00	3,719.32	3,718.18	3,721.82	153.28	74.83	-35.17	346.05	3,485.95	1,244.30	1,044.10	200.20	6.215	
8,600.00	3,719.97	3,718.84	3,722.49	154.84	74.84	-37.03	346.05	3,485.95	1,273.24	1,074.67	198.57	6.412	
8,650.00	3,720.62	3,719.51	3,723.15	156.41	74.86	-38.80	346.05	3,485.95	1,303.46	1,106.56	196.90	6.620	
8,700.00	3,721.27	3,720.17	3,723.82	157.97	74.87	-40.49	346.05	3,485.95	1,334.87	1,139.66	195.21	6.838	
8,750.00	3,721.92	3,720.84	3,724.48	159.54	74.88	-42.10	346.04	3,485.95	1,367.38	1,173.88	193.49	7.067	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - OFFSET: SPURCK '16' STATE COM 1 - OH - OH												Offset Site Error:	0.00 usft
Survey Program: 269-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis	Reference	Offset	Azimuth	Offset Wellbore Centre	Distance	Rule Assigned:	Minimum	Separation	Warning		
Measured	Vertical	Measured	Vertical	Reference	Offset	from North	+N-S	+E-W	Between	Between	Separation		
Depth	Depth	Depth	Depth	Reference	Offset	from North	+N-S	+E-W	Centres	Ellipses	Separation		
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
8,800.00	3,722.57	3,721.50	3,725.15	161.10	74.90	-43.64	346.04	3,485.95	1,400.92	1,209.14	191.78	7.305	
8,850.00	3,723.22	3,722.17	3,725.81	162.67	74.91	-45.10	346.04	3,485.95	1,435.42	1,245.35	190.07	7.552	
8,900.00	3,723.86	3,722.83	3,726.48	164.23	74.92	-46.49	346.04	3,485.95	1,470.82	1,282.44	188.38	7.808	
8,950.00	3,724.51	3,723.50	3,727.14	165.80	74.94	-47.82	346.04	3,485.95	1,507.04	1,320.33	186.70	8.072	
9,000.00	3,725.16	3,724.16	3,727.81	167.36	74.95	-49.08	346.04	3,485.95	1,544.02	1,358.97	185.06	8.344	
9,050.00	3,725.81	3,724.83	3,728.47	168.93	74.96	-50.29	346.03	3,485.95	1,581.73	1,398.29	183.44	8.623	
9,100.00	3,726.46	3,725.49	3,729.14	170.50	74.98	-51.43	346.03	3,485.95	1,620.10	1,438.24	181.86	8.909	
9,150.00	3,727.11	3,726.16	3,729.80	172.06	74.99	-52.53	346.03	3,485.95	1,659.09	1,478.78	180.31	9.201	
9,200.00	3,727.76	3,726.82	3,730.47	173.63	75.00	-53.57	346.03	3,485.95	1,698.65	1,519.85	178.80	9.500	
9,250.00	3,728.41	3,727.49	3,731.13	175.20	75.01	-54.56	346.03	3,485.95	1,738.76	1,561.42	177.33	9.805	
9,300.00	3,729.06	3,728.15	3,731.80	176.77	75.03	-55.51	346.03	3,485.95	1,779.36	1,603.45	175.91	10.115	
9,350.00	3,729.71	3,728.82	3,732.46	178.33	75.04	-56.42	346.02	3,485.95	1,820.43	1,645.91	174.52	10.431	
9,400.00	3,730.36	3,729.48	3,733.13	179.90	75.05	-57.29	346.02	3,485.95	1,861.94	1,688.77	173.17	10.752	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - OFFSET: SPURCK 15 STATE COM 2 - OH - OH												Offset Site Error:	0.00 usft
Survey Program: 250-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Azimuth		Offset Wellbore Centre		Rule Assigned:		Minimum	Separation	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)		
9,250.00	3,728.41	3,663.86	3,728.41	175.20	75.85	27.53	1,013.31	5,775.86	1,889.30	1,657.55	231.75	8.152	
9,300.00	3,729.06	3,664.51	3,729.06	176.77	75.87	26.18	1,013.31	5,775.86	1,866.15	1,631.16	234.99	7.941	
9,350.00	3,729.71	3,665.16	3,729.71	178.33	75.88	24.79	1,013.31	5,775.86	1,844.06	1,605.83	238.22	7.741	
9,400.00	3,730.36	3,665.81	3,730.36	179.90	75.89	23.37	1,013.31	5,775.86	1,823.07	1,581.64	241.43	7.551	
9,450.00	3,731.00	3,666.46	3,731.00	181.47	75.91	21.92	1,013.31	5,775.86	1,803.23	1,558.62	244.61	7.372	
9,500.00	3,731.65	3,667.11	3,731.65	183.04	75.92	20.44	1,013.31	5,775.86	1,784.57	1,536.81	247.75	7.203	
9,550.00	3,732.30	3,667.76	3,732.30	184.61	75.93	18.93	1,013.31	5,775.86	1,767.12	1,516.28	250.84	7.045	
9,600.00	3,732.95	3,668.41	3,732.95	186.17	75.94	17.39	1,013.31	5,775.86	1,750.93	1,497.07	253.86	6.897	
9,650.00	3,733.60	3,669.05	3,733.60	187.74	75.96	15.82	1,013.31	5,775.86	1,736.03	1,479.23	256.80	6.760	
9,700.00	3,734.25	3,669.70	3,734.25	189.31	75.97	14.23	1,013.31	5,775.86	1,722.45	1,462.79	259.66	6.633	
9,750.00	3,734.90	3,670.35	3,734.90	190.88	75.98	12.61	1,013.31	5,775.86	1,710.23	1,447.82	262.41	6.517	
9,800.00	3,735.55	3,671.00	3,735.55	192.45	75.99	10.97	1,013.31	5,775.86	1,699.39	1,434.33	265.06	6.411	
9,850.00	3,736.20	3,671.65	3,736.20	194.02	76.01	9.31	1,013.31	5,775.86	1,689.96	1,422.39	267.57	6.316	
9,900.00	3,736.85	3,672.30	3,736.85	195.59	76.02	7.63	1,013.31	5,775.86	1,681.96	1,412.01	269.95	6.231	
9,950.00	3,737.50	3,672.95	3,737.50	197.16	76.03	5.94	1,013.31	5,775.86	1,675.42	1,403.23	272.19	6.155	
10,000.00	3,738.14	3,673.60	3,738.14	198.73	76.05	4.24	1,013.31	5,775.86	1,670.35	1,396.08	274.27	6.090	
10,050.00	3,738.79	3,674.25	3,738.79	200.30	76.06	2.52	1,013.31	5,775.86	1,666.76	1,390.58	276.18	6.035	
10,100.00	3,739.44	3,674.90	3,739.44	201.87	76.07	0.80	1,013.31	5,775.86	1,664.67	1,386.75	277.92	5.990	
10,144.68	3,740.02	3,675.48	3,740.02	203.27	76.08	-0.73	1,013.31	5,775.86	1,664.07	1,384.74	279.33	5.957 CC	
10,150.00	3,740.09	3,675.55	3,740.09	203.44	76.08	-0.92	1,013.31	5,775.86	1,664.08	1,384.59	279.49	5.954	
10,200.00	3,740.74	3,676.19	3,740.74	205.01	76.10	-2.64	1,013.31	5,775.86	1,664.99	1,384.12	280.87	5.928 ES	
10,250.00	3,741.39	3,676.84	3,741.39	206.58	76.11	-4.35	1,013.31	5,775.86	1,667.40	1,385.34	282.07	5.911	
10,300.00	3,742.04	3,677.49	3,742.04	208.15	76.12	-6.07	1,013.31	5,775.86	1,671.31	1,388.23	283.08	5.904 SF	
10,350.00	3,742.69	3,678.14	3,742.69	209.72	76.13	-7.77	1,013.31	5,775.86	1,676.69	1,392.79	283.90	5.906	
10,400.00	3,743.34	3,678.79	3,743.34	211.29	76.15	-9.46	1,013.31	5,775.86	1,683.54	1,399.01	284.54	5.917	
10,450.00	3,743.99	3,679.44	3,743.99	212.86	76.16	-11.13	1,013.31	5,775.86	1,691.85	1,406.86	284.99	5.936	
10,500.00	3,744.64	3,680.09	3,744.64	214.43	76.17	-12.79	1,013.31	5,775.86	1,701.58	1,416.31	285.27	5.965	
10,550.00	3,745.28	3,680.74	3,745.28	216.00	76.19	-14.42	1,013.31	5,775.86	1,712.72	1,427.35	285.37	6.002	
10,600.00	3,745.93	3,681.39	3,745.93	217.57	76.20	-16.03	1,013.31	5,775.86	1,725.23	1,439.93	285.30	6.047	
10,650.00	3,746.58	3,682.04	3,746.58	219.14	76.21	-17.62	1,013.31	5,775.86	1,739.09	1,454.02	285.08	6.100	
10,700.00	3,747.23	3,682.69	3,747.23	220.72	76.22	-19.19	1,013.31	5,775.86	1,754.27	1,469.57	284.70	6.162	
10,750.00	3,747.88	3,683.33	3,747.88	222.29	76.24	-20.72	1,013.31	5,775.86	1,770.73	1,486.55	284.18	6.231	
10,800.00	3,748.53	3,683.98	3,748.53	223.86	76.25	-22.23	1,013.31	5,775.86	1,788.44	1,504.91	283.53	6.308	
10,850.00	3,749.18	3,684.63	3,749.18	225.43	76.26	-23.70	1,013.31	5,775.86	1,807.36	1,524.60	282.75	6.392	
10,900.00	3,749.83	3,685.28	3,749.83	227.00	76.27	-25.14	1,013.31	5,775.86	1,827.45	1,545.58	281.86	6.484	
10,950.00	3,750.48	3,685.93	3,750.48	228.57	76.29	-26.56	1,013.31	5,775.86	1,848.67	1,567.80	280.86	6.582	
11,000.00	3,751.13	3,686.58	3,751.13	230.14	76.30	-27.93	1,013.31	5,775.86	1,870.99	1,591.21	279.77	6.688	
11,050.00	3,751.78	3,687.23	3,751.78	231.72	76.31	-29.28	1,013.31	5,775.86	1,894.36	1,615.77	278.60	6.800	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - OFFSET: SPURCK 16 STATE COM 2 - OH - OH												Offset Site Error:	0.00 usft
Survey Program: 201-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis	Rule Assigned:										
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Azimuth from North (°)	Offset Wellbore Centre		Distance Between Centres (usft)		Minimum Separation (usft)	Separation Factor	Warning
							+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Ellipses (usft)			
5,300.00	3,677.13	3,653.44	3,677.13	53.37	71.74	28.57	955.27	1,861.35	1,899.08	1,779.90	119.18	15.935	
5,350.00	3,677.78	3,654.09	3,677.78	54.83	71.75	27.23	955.27	1,861.35	1,875.12	1,754.09	121.03	15.493	
5,400.00	3,678.43	3,654.74	3,678.43	56.30	71.77	25.87	955.27	1,861.35	1,852.20	1,729.30	122.90	15.070	
5,450.00	3,679.08	3,655.39	3,679.08	57.77	71.78	24.47	955.27	1,861.35	1,830.36	1,705.56	124.80	14.666	
5,500.00	3,679.73	3,656.04	3,679.73	59.25	71.80	23.03	955.27	1,861.35	1,809.64	1,682.92	126.72	14.281	
5,550.00	3,680.37	3,656.69	3,680.37	60.74	71.82	21.57	955.27	1,861.35	1,790.07	1,661.42	128.65	13.914	
5,600.00	3,681.02	3,657.33	3,681.02	62.23	71.83	20.07	955.27	1,861.35	1,771.70	1,641.11	130.59	13.567	
5,650.00	3,681.67	3,657.98	3,681.67	63.72	71.85	18.55	955.27	1,861.35	1,754.57	1,622.02	132.54	13.238	
5,700.00	3,682.32	3,658.63	3,682.32	65.22	71.86	16.99	955.27	1,861.35	1,738.70	1,604.22	134.47	12.930	
5,750.00	3,682.97	3,659.28	3,682.97	66.72	71.88	15.41	955.27	1,861.35	1,724.13	1,587.73	136.40	12.640	
5,800.00	3,683.62	3,659.93	3,683.62	68.22	71.89	13.80	955.27	1,861.35	1,710.91	1,572.58	138.32	12.369	
5,850.00	3,684.27	3,660.58	3,684.27	69.73	71.91	12.17	955.27	1,861.35	1,699.05	1,558.83	140.22	12.117	
5,900.00	3,684.92	3,661.23	3,684.92	71.24	71.92	10.52	955.27	1,861.35	1,688.59	1,546.50	142.09	11.884	
5,950.00	3,685.57	3,661.88	3,685.57	72.76	71.94	8.84	955.27	1,861.35	1,679.55	1,535.63	143.93	11.670	
6,000.00	3,686.22	3,662.53	3,686.22	74.27	71.95	7.15	955.27	1,861.35	1,671.96	1,526.24	145.72	11.474	
6,050.00	3,686.87	3,663.18	3,686.87	75.79	71.97	5.45	955.27	1,861.35	1,665.84	1,518.37	147.47	11.296	
6,100.00	3,687.51	3,663.83	3,687.51	77.32	71.98	3.73	955.27	1,861.35	1,661.20	1,512.03	149.17	11.137	
6,150.00	3,688.16	3,664.47	3,688.16	78.84	72.00	2.01	955.27	1,861.35	1,658.05	1,507.25	150.80	10.995	
6,200.00	3,688.81	3,665.12	3,688.81	80.37	72.01	0.28	955.27	1,861.35	1,656.41	1,504.03	152.38	10.870	
6,229.42	3,689.19	3,665.51	3,689.19	81.26	72.02	-0.73	955.27	1,861.35	1,656.15	1,502.88	153.27	10.805 CC	
6,250.00	3,689.46	3,665.77	3,689.46	81.89	72.03	-1.45	955.27	1,861.35	1,656.28	1,502.39	153.88	10.763	
6,300.00	3,690.11	3,666.42	3,690.11	83.42	72.04	-3.17	955.27	1,861.35	1,657.65	1,502.34	155.32	10.673 ES	
6,350.00	3,690.76	3,667.07	3,690.76	84.96	72.06	-4.90	955.27	1,861.35	1,660.53	1,503.86	156.67	10.599	
6,400.00	3,691.41	3,667.72	3,691.41	86.49	72.07	-6.61	955.27	1,861.35	1,664.91	1,506.96	157.95	10.541	
6,450.00	3,692.06	3,668.37	3,692.06	88.02	72.09	-8.32	955.27	1,861.35	1,670.77	1,511.63	159.14	10.498	
6,500.00	3,692.71	3,669.02	3,692.71	89.56	72.10	-10.01	955.27	1,861.35	1,678.10	1,517.85	160.26	10.471	
6,550.00	3,693.36	3,669.67	3,693.36	91.10	72.12	-11.69	955.27	1,861.35	1,686.89	1,525.60	161.28	10.459 SF	
6,600.00	3,694.01	3,670.32	3,694.01	92.64	72.13	-13.35	955.27	1,861.35	1,697.10	1,534.87	162.23	10.461	
6,650.00	3,694.65	3,670.97	3,694.65	94.18	72.15	-14.98	955.27	1,861.35	1,708.71	1,545.62	163.09	10.477	
6,700.00	3,695.30	3,671.61	3,695.30	95.72	72.16	-16.59	955.27	1,861.35	1,721.70	1,557.83	163.86	10.507	
6,750.00	3,695.95	3,672.26	3,695.95	97.26	72.18	-18.18	955.27	1,861.35	1,736.03	1,571.47	164.56	10.550	
6,800.00	3,696.60	3,672.91	3,696.60	98.80	72.19	-19.74	955.27	1,861.35	1,751.67	1,586.49	165.18	10.605	
6,850.00	3,697.25	3,673.56	3,697.25	100.35	72.21	-21.27	955.27	1,861.35	1,768.58	1,602.87	165.72	10.672	
6,900.00	3,697.90	3,674.21	3,697.90	101.90	72.22	-22.78	955.27	1,861.35	1,786.74	1,620.56	166.18	10.752	
6,950.00	3,698.55	3,674.86	3,698.55	103.44	72.24	-24.25	955.27	1,861.35	1,806.10	1,639.52	166.58	10.842	
7,000.00	3,699.20	3,675.51	3,699.20	104.99	72.25	-25.68	955.27	1,861.35	1,826.62	1,659.71	166.91	10.944	
7,050.00	3,699.85	3,676.16	3,699.85	106.54	72.27	-27.09	955.27	1,861.35	1,848.26	1,681.09	167.17	11.056	
7,100.00	3,700.50	3,676.81	3,700.50	108.09	72.28	-28.46	955.27	1,861.35	1,870.99	1,703.62	167.38	11.178	
7,150.00	3,701.15	3,677.46	3,701.15	109.64	72.30	-29.80	955.27	1,861.35	1,894.77	1,727.24	167.53	11.310	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - OFFSET: SPURCK F STATE 5 - OH - OH													Offset Site Error:	0.00 usft
Survey Program: Reference		400-UNKNOWN Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned: Distance				Offset Well Error:		0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.00	36.00	0.00	0.00	30.09	933.88	541.14	1,079.94					
50.00	50.00	14.00	50.00	0.29	0.55	30.09	933.88	541.14	1,079.34	1,078.49	0.84	1,283.124		
100.00	100.00	64.00	100.00	0.29	2.53	30.09	933.88	541.14	1,079.34	1,076.51	2.82	382.583		
150.00	150.00	114.00	150.00	0.47	4.51	30.09	933.88	541.14	1,079.34	1,074.35	4.98	216.716		
200.00	200.00	164.00	200.00	0.65	6.49	30.09	933.88	541.14	1,079.34	1,072.20	7.14	151.175		
250.00	250.00	214.00	250.00	0.82	8.47	30.09	933.88	541.14	1,079.34	1,070.04	9.30	116.071		
300.00	300.00	264.00	300.00	1.00	10.45	30.09	933.88	541.14	1,079.34	1,067.88	11.46	94.198	CC	
350.00	350.00	314.00	350.00	1.18	12.43	30.10	933.88	541.14	1,079.73	1,066.12	13.61	79.326		
400.00	399.98	363.98	399.98	1.35	14.41	30.13	933.88	541.14	1,080.93	1,065.16	15.76	68.569		
450.00	449.93	413.93	449.93	1.52	16.40	30.18	933.88	541.14	1,082.92	1,065.00	17.92	60.428	ES	
500.00	499.84	463.84	499.84	1.70	18.39	30.24	933.88	541.14	1,085.71	1,065.62	20.09	54.042		
550.00	549.68	513.68	549.68	1.88	20.39	30.32	933.88	541.14	1,089.30	1,067.03	22.26	48.929		
600.00	599.45	563.45	599.45	2.06	22.38	30.43	933.88	541.14	1,093.68	1,069.25	24.43	44.768		
650.00	649.13	613.13	649.13	2.25	24.37	30.54	933.88	541.14	1,098.86	1,072.26	26.60	41.312		
700.00	698.70	662.70	698.70	2.44	26.35	30.68	933.88	541.14	1,104.85	1,076.08	28.76	38.412		
750.00	748.15	712.15	748.15	2.65	28.33	30.83	933.88	541.14	1,111.63	1,080.70	30.93	35.943		
800.00	797.47	761.47	797.47	2.86	30.30	31.00	933.88	541.14	1,119.21	1,086.13	33.08	33.829		
850.00	846.63	810.63	846.63	3.09	32.27	31.18	933.88	541.14	1,127.59	1,092.35	35.24	31.996		
900.00	895.62	859.62	895.62	3.31	34.22	31.38	933.88	541.14	1,136.77	1,099.39	37.39	30.404		
950.00	944.44	908.44	944.44	3.56	36.18	31.59	933.88	541.14	1,146.76	1,107.22	39.54	29.005		
1,000.00	993.06	957.06	993.06	3.81	38.12	31.81	933.88	541.14	1,157.54	1,115.87	41.67	27.776		
1,050.00	1,041.46	1,005.46	1,041.46	4.08	40.06	32.04	933.88	541.14	1,169.13	1,125.32	43.81	26.686		
1,100.00	1,089.64	1,053.64	1,089.64	4.35	41.99	32.29	933.88	541.14	1,181.52	1,135.58	45.93	25.722		
1,150.00	1,137.58	1,101.58	1,137.58	4.65	43.90	32.54	933.88	541.14	1,194.71	1,146.65	48.06	24.861		
1,200.00	1,185.27	1,149.27	1,185.27	4.95	45.81	32.80	933.88	541.14	1,208.70	1,158.53	50.16	24.095		
1,250.00	1,232.68	1,196.68	1,232.68	5.27	47.71	33.07	933.88	541.14	1,223.48	1,171.21	52.27	23.407		
1,300.00	1,279.82	1,243.82	1,279.82	5.60	49.59	33.35	933.88	541.14	1,239.07	1,184.71	54.36	22.793		
1,350.00	1,326.65	1,290.65	1,326.65	5.96	51.47	33.64	933.88	541.14	1,255.45	1,199.00	56.45	22.241		
1,400.00	1,373.17	1,337.17	1,373.17	6.31	53.33	33.93	933.88	541.14	1,272.63	1,214.11	58.52	21.747		
1,450.00	1,419.36	1,383.36	1,419.36	6.70	55.17	34.22	933.88	541.14	1,290.59	1,230.01	60.59	21.302		
1,500.00	1,465.21	1,429.21	1,465.21	7.09	57.01	34.52	933.88	541.14	1,309.35	1,246.72	62.63	20.905		
1,550.00	1,510.71	1,474.71	1,510.71	7.52	58.83	34.82	933.88	541.14	1,328.90	1,264.22	64.67	20.547		
1,600.00	1,555.84	1,519.84	1,555.84	7.94	60.63	35.12	933.88	541.14	1,349.22	1,282.53	66.70	20.229		
1,650.00	1,600.59	1,564.59	1,600.59	8.40	62.42	35.43	933.88	541.14	1,370.33	1,301.62	68.71	19.943		
1,700.00	1,644.94	1,608.94	1,644.94	8.86	64.20	35.73	933.88	541.14	1,392.21	1,321.51	70.71	19.690		
1,750.00	1,688.88	1,652.88	1,688.88	9.35	65.96	36.04	933.88	541.14	1,414.86	1,342.17	72.69	19.464		
1,800.00	1,732.39	1,696.39	1,732.39	9.85	67.70	36.34	933.88	541.14	1,438.28	1,363.63	74.66	19.265		
1,850.00	1,775.48	1,739.48	1,775.48	10.37	69.42	36.65	933.88	541.14	1,462.46	1,385.85	76.61	19.090		
1,900.00	1,818.11	1,782.11	1,818.11	10.91	71.12	36.95	933.88	541.14	1,487.38	1,408.84	78.54	18.937		
1,950.00	1,860.60	1,824.60	1,860.60	11.46	72.82	37.25	933.88	541.14	1,512.59	1,432.12	80.47	18.797		
2,000.00	1,903.08	1,867.08	1,903.08	12.01	74.52	37.53	933.88	541.14	1,537.83	1,455.44	82.39	18.665		
2,050.00	1,945.56	1,909.56	1,945.56	12.56	76.22	37.81	933.88	541.14	1,563.11	1,478.80	84.32	18.539		
2,100.00	1,988.04	1,952.04	1,988.04	13.12	77.92	38.08	933.88	541.14	1,588.43	1,502.19	86.24	18.419		
2,150.00	2,030.52	1,994.52	2,030.52	13.68	79.62	38.34	933.88	541.14	1,613.78	1,525.62	88.16	18.305		
2,200.00	2,073.00	2,037.00	2,073.00	14.25	81.32	38.59	933.88	541.14	1,639.17	1,549.08	90.08	18.196		
2,250.00	2,115.49	2,079.49	2,115.49	14.81	83.02	38.83	933.88	541.14	1,664.58	1,572.57	92.01	18.092		
2,300.00	2,157.97	2,121.97	2,157.97	15.38	84.72	39.07	933.88	541.14	1,690.02	1,596.09	93.93	17.993		
2,350.00	2,200.45	2,164.45	2,200.45	15.95	86.42	39.30	933.88	541.14	1,715.49	1,619.64	95.85	17.897		
2,400.00	2,242.93	2,206.93	2,242.93	16.52	88.12	39.52	933.88	541.14	1,740.99	1,643.22	97.77	17.806		
2,450.00	2,285.41	2,249.41	2,285.41	17.09	89.82	39.74	933.88	541.14	1,766.51	1,666.82	99.70	17.719		
2,500.00	2,327.90	2,291.90	2,327.90	17.66	91.52	39.95	933.88	541.14	1,792.06	1,690.44	101.62	17.635		
2,550.00	2,370.38	2,334.38	2,370.38	18.24	93.22	40.15	933.88	541.14	1,817.63	1,714.09	103.54	17.555		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GHOST 16-15 STATE COM - OFFSET: SPURCK F STATE 5 - OH - OH													Offset Site Error: 0.00 usft
Survey Program: 400-UNKNOWN		Offset		Semi Major Axis		Azimuth from North (°)	Offset Wellbore Centre		Rule Assigned: Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
2,600.00	2,412.86	2,376.86	2,412.86	18.81	94.91	40.35	933.88	541.14	1,843.23	1,737.76	105.46	17.478	
2,650.00	2,455.34	2,419.34	2,455.34	19.39	96.61	40.54	933.88	541.14	1,868.84	1,761.46	107.38	17.403	
2,700.00	2,497.82	2,461.82	2,497.82	19.96	98.31	40.73	933.88	541.14	1,894.48	1,785.17	109.30	17.332	
3,950.00	3,526.69	3,490.69	3,526.69	24.07	139.47	28.62	933.88	541.14	1,894.93	1,737.97	156.97	12.072	
4,000.00	3,551.69	3,515.69	3,551.69	24.31	140.47	27.46	933.88	541.14	1,874.09	1,715.37	158.72	11.808	
4,050.00	3,576.69	3,540.69	3,576.69	24.64	141.47	26.29	933.88	541.14	1,854.02	1,693.45	160.57	11.547	
4,100.00	3,601.14	3,565.14	3,601.14	25.02	142.45	25.07	933.88	541.14	1,834.62	1,672.18	162.43	11.294	
4,150.00	3,622.12	3,586.12	3,622.12	25.52	143.28	23.78	933.88	541.14	1,815.33	1,651.05	164.28	11.050	
4,200.00	3,639.07	3,603.07	3,639.07	26.14	143.96	22.42	933.88	541.14	1,796.33	1,630.25	166.07	10.816	
4,250.00	3,651.86	3,610.00	3,646.00	26.87	144.24	20.99	933.88	541.14	1,777.89	1,610.34	167.55	10.611	
4,300.00	3,660.38	3,610.00	3,646.00	27.70	144.24	19.50	933.88	541.14	1,760.31	1,591.49	168.82	10.427	
4,350.00	3,664.58	3,610.00	3,646.00	28.62	144.24	17.96	933.88	541.14	1,743.75	1,573.60	170.15	10.248	
4,400.00	3,665.44	3,610.00	3,646.00	29.61	144.24	16.39	933.88	541.14	1,728.39	1,556.86	171.53	10.076	
4,450.00	3,666.09	3,610.00	3,646.00	30.68	144.24	14.79	933.88	541.14	1,714.34	1,541.37	172.97	9.911	
4,500.00	3,666.74	3,610.00	3,646.00	31.78	144.24	13.17	933.88	541.14	1,701.65	1,527.25	174.40	9.757	
4,550.00	3,667.39	3,610.00	3,646.00	32.96	144.24	11.53	933.88	541.14	1,690.34	1,514.46	175.88	9.611	
4,600.00	3,668.04	3,610.00	3,646.00	34.15	144.24	9.86	933.88	541.14	1,680.45	1,503.10	177.34	9.476	
4,650.00	3,668.69	3,610.00	3,646.00	35.41	144.24	8.18	933.88	541.14	1,671.99	1,493.14	178.84	9.349	
4,700.00	3,669.34	3,610.00	3,646.00	36.67	144.24	6.48	933.88	541.14	1,664.99	1,484.67	180.32	9.234	
4,750.00	3,669.99	3,610.00	3,646.00	37.98	144.24	4.76	933.88	541.14	1,659.46	1,477.65	181.81	9.127	
4,800.00	3,670.64	3,610.00	3,646.00	39.29	144.24	3.04	933.88	541.14	1,655.43	1,472.16	183.27	9.033	
4,850.00	3,671.29	3,610.00	3,646.00	40.65	144.24	1.31	933.88	541.14	1,652.91	1,468.17	184.74	8.947	
4,900.00	3,671.94	3,610.00	3,646.00	42.00	144.24	-0.42	933.88	541.14	1,651.89	1,465.73	186.16	8.873	
4,908.60	3,672.05	3,610.00	3,646.00	42.24	144.24	-0.72	933.88	541.14	1,651.87	1,465.46	186.41	8.862	
4,950.00	3,672.58	3,610.00	3,646.00	43.39	144.24	-2.16	933.88	541.14	1,652.39	1,464.82	187.57	8.809	
5,000.00	3,673.23	3,610.00	3,646.00	44.77	144.24	-3.89	933.88	541.14	1,654.40	1,465.46	188.94	8.756	
5,050.00	3,673.88	3,610.00	3,646.00	46.19	144.24	-5.61	933.88	541.14	1,657.91	1,467.63	190.28	8.713	
5,100.00	3,674.53	3,610.00	3,646.00	47.60	144.24	-7.33	933.88	541.14	1,662.92	1,471.35	191.57	8.681	
5,150.00	3,675.18	3,610.00	3,646.00	49.03	144.24	-9.04	933.88	541.14	1,669.41	1,476.59	192.82	8.658	
5,200.00	3,675.83	3,610.00	3,646.00	50.47	144.24	-10.73	933.88	541.14	1,677.37	1,483.35	194.02	8.645	
5,250.00	3,676.48	3,610.00	3,646.00	51.92	144.24	-12.40	933.88	541.14	1,686.78	1,491.60	195.18	8.642 SF	
5,300.00	3,677.13	3,610.00	3,646.00	53.37	144.24	-14.05	933.88	541.14	1,697.61	1,501.32	196.28	8.649	
5,350.00	3,677.78	3,610.00	3,646.00	54.83	144.24	-15.68	933.88	541.14	1,709.83	1,512.49	197.34	8.664	
5,400.00	3,678.43	3,610.00	3,646.00	56.30	144.24	-17.29	933.88	541.14	1,723.41	1,525.08	198.33	8.689	
5,450.00	3,679.08	3,610.00	3,646.00	57.77	144.24	-18.87	933.88	541.14	1,738.33	1,539.05	199.28	8.723	
5,500.00	3,679.73	3,610.00	3,646.00	59.25	144.24	-20.42	933.88	541.14	1,754.55	1,554.38	200.17	8.765	
5,550.00	3,680.37	3,610.00	3,646.00	60.74	144.24	-21.94	933.88	541.14	1,772.02	1,571.02	201.01	8.816	
5,600.00	3,681.02	3,610.00	3,646.00	62.23	144.24	-23.44	933.88	541.14	1,790.73	1,588.94	201.79	8.874	
5,650.00	3,681.67	3,610.00	3,646.00	63.72	144.24	-24.90	933.88	541.14	1,810.62	1,608.11	202.51	8.941	
5,700.00	3,682.32	3,610.00	3,646.00	65.22	144.24	-26.32	933.88	541.14	1,831.66	1,628.46	203.21	9.014	
5,750.00	3,682.97	3,610.00	3,646.00	66.72	144.24	-27.72	933.88	541.14	1,853.82	1,649.96	203.85	9.094	
5,800.00	3,683.62	3,610.00	3,646.00	68.22	144.24	-29.08	933.88	541.14	1,877.04	1,672.61	204.43	9.182	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Reference Site:	GHOST 16-15 STATE COM	MD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Reference Depths are relative to RKB = 20' @ 3600.00usft (AKITA 57) Coordinates are relative to: 21H

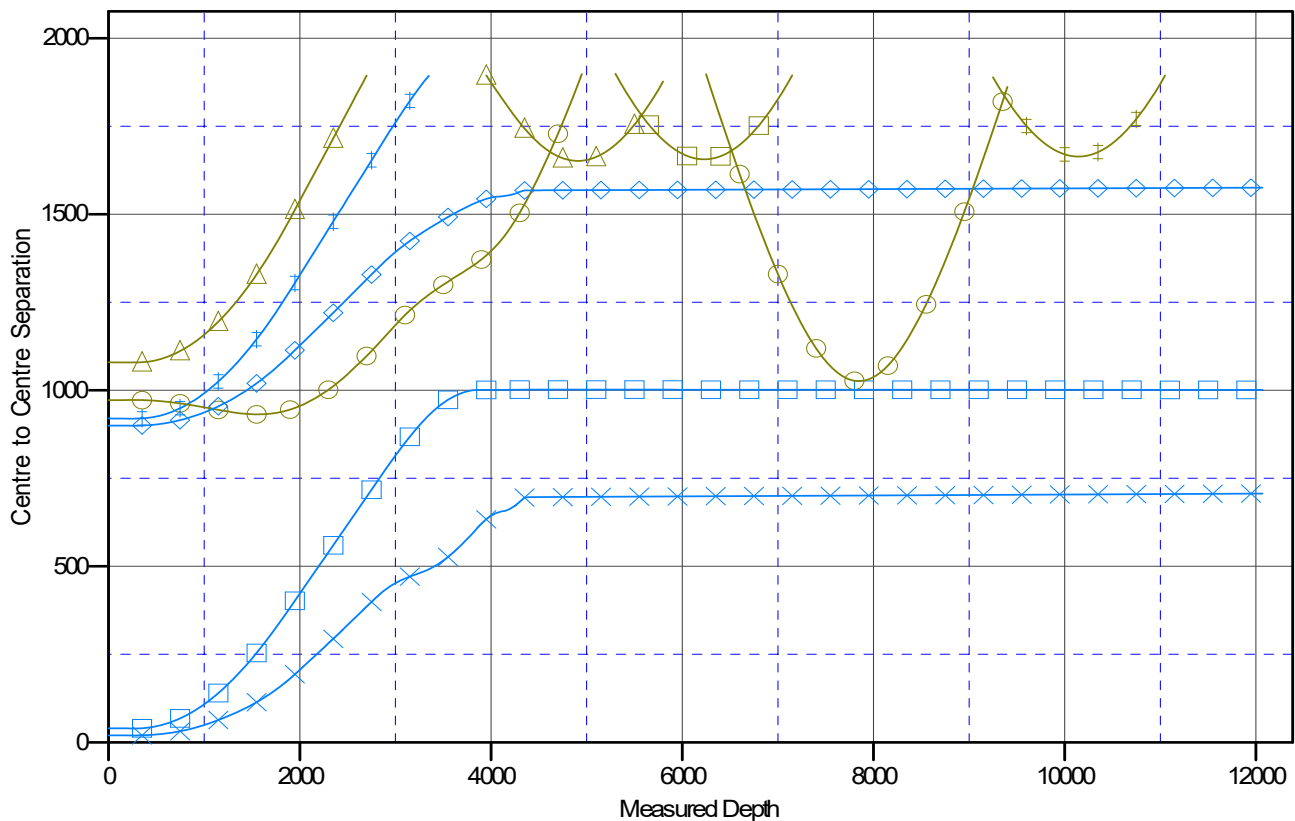
Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Central Meridian is -104.33334

Grid Convergence at Surface is: 0.08°

Ladder Plot



LEGEND

20H, OH, PERMIT V0	OFFSET: HASTE 'AXH' FEDERAL 1, OH, OH V0	OFFSET: SPURCK 15 STATE COM 2, OH, OH V0
OFFSET: SPURCK 16 STATE COM 2, OH, OH V0	OFFSET: SPURCK F STATE 5, OH, OH V0	OFFSET: SPURCK '16' STATE COM 1, OH, OH V0
10H, OH, PERMIT V0	70H, OH, PERMIT V0	71H, OH, PERMIT V0

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3600.00usft (AKITA 57)
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Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
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Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Reference Depths are relative to RKB = 20' @ 3600.00usft (AKITA 57) Coordinates are relative to: 21H

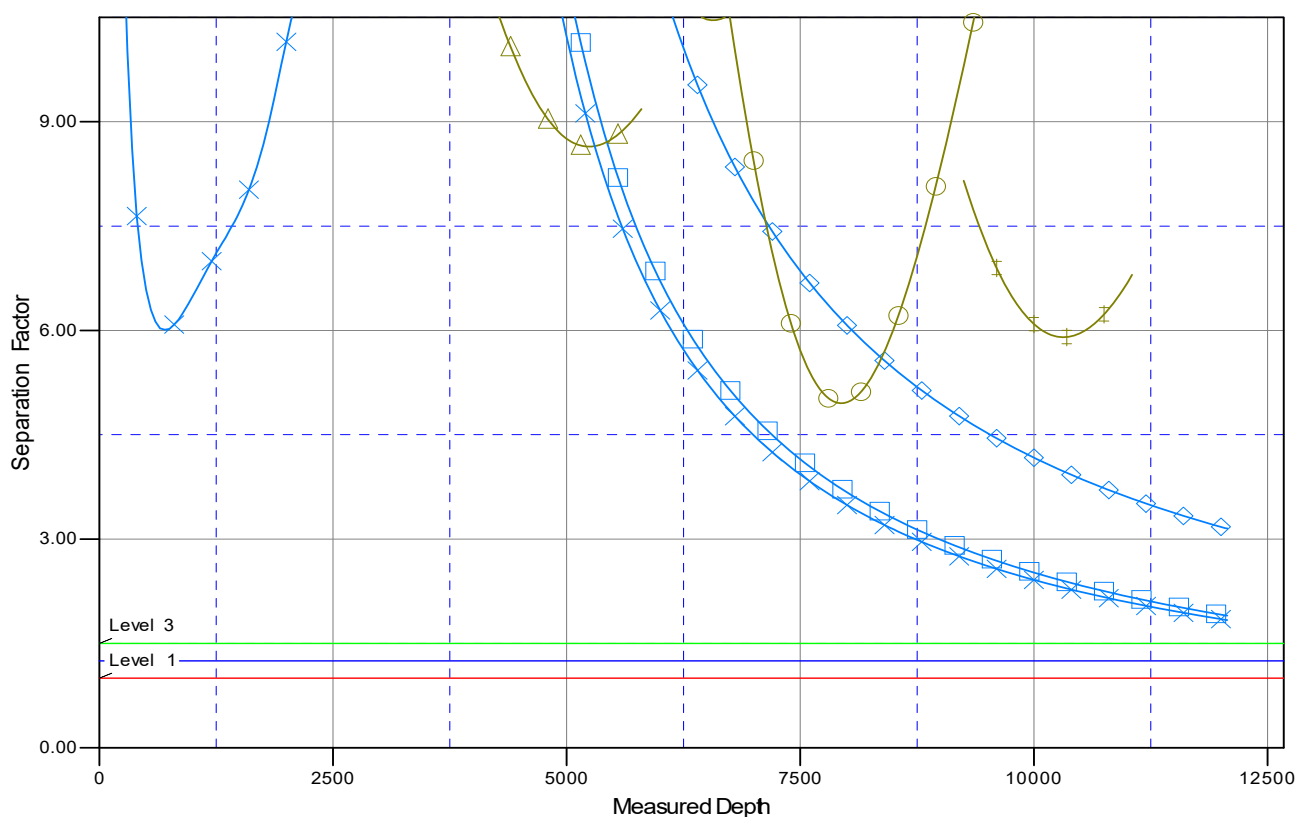
Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Central Meridian is -104.33334

Grid Convergence at Surface is: 0.08°

Separation Factor Plot



LEGEND

20H, OH, PERMIT V0	OFFSET: HASTIE 'AXH' FEDERAL 1, OH, OH V0	OFFSET: SPURCK 15 STATE COM 2, OH, OH V0
OFFSET: SPURCK 16 STATE COM 2, OH, OH V0	OFFSET: SPURCK F STATE 5, OH, OH V0	OFFSET: SPURCK '16' STATE COM 1, OH, OH V0
10H, OH, PERMIT V0	70H, OH, PERMIT V0	71H, OH, PERMIT V0

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Pecos District

Application for Permit to Drill

Conditions of Approval

Geology Concerns

Potash	☒ None	☐ Secretary	☐ R-111-P
Cave/Karst	☐ Medium	☒ High	☐ Critical
H2S	☒ None	☐ Below 100 PPM	☐ Above 100 PPM
Other	☐ 4 String Area	☐ Capitan Reef	☐ SWD Well

Note: The geology of the area where the well is being drilled determines the COAs that apply, not the above table.

Additional Engineering Requirements

Surface casing must be set at: 450 feet

Intermediate casing must be set at: 2,116 feet

General Requirements

1. Changes to the approved APD casing program need prior approval.
2. The Bureau of Land Management (BLM) will be notified in advance for a representative to witness:
 - a. Well spudding (minimum of 24 hours notice)
 - b. Setting and/or cementing of all casing strings (minimum of 4 hours notice)
 - c. BOPE tests (minimum of 4 hours notice)

Eddy County

620 East Greene Street, Carlsbad, NM 88220

(575) 361-2822

BLM_NM_CFO_DrillingNotifications@BLM.GOV

Lea County

414 West Taylor, Hobbs, NM 88240

(575) 689-5981

3. The initial wellhead installed on the well will remain on the well with spools used as needed.
4. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

- a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig:
 - i. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with a Spudder Rig:
 - i. Notify the BLM when moving in and removing the Spudder Rig.
 - ii. Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - iii. BOP/BOPE test to be conducted per 43 CFR 3172.6 as soon as 2nd Rig is rigged up on well.
5. Floor controls are required for 3M or greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller, and will always be operational during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table or the area immediately above the substructure on which the draw works are located (this does not include the doghouse or stairway area).
6. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

Pressure Control

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in 43 CFR 3172.6 and API STD 53 Sec. 5.3.
2. 5M or higher systems require an HCR valve, remote kill line, and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE, and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
 - b. The results of the test shall be reported to the appropriate BLM office.
 - c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

- d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
 - e. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per 43 CFR 3172.6(b)(9).
 - f. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - g. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, no tests shall commence until the cement has had a minimum of 24 hours setup time.
 - h. The tests shall be done by an independent service company utilizing a test plug, not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to 43 CFR 3172 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
4. If the operator has proposed using a 5,000 (5M) Annular on a 10M BOP:
- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 10,000 (10M) psi.
5. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
- a. Wellhead shall be installed by manufacturer's representatives (submit documentation with subsequent sundry).

- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172 must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed, and another wellhead installed.
6. If a variance is approved for break testing the BOPE, the following requirements apply:
- a. BOPE break testing is only approved for a BOP rated at 5M or less.
 - b. Approval is only for the intermediate hole sections, so long as those sections do not go deeper than the Bone Springs formation.
 - c. The Annular Preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP.
 - d. A full BOP test shall be performed every 21 days (at a minimum).
 - e. A full BOP test is required prior to drilling the first intermediate hole section (if applicable). If any subsequent intermediate hole interval is deeper than the first, a full BOP test shall be required (a maximum 200 foot difference in true vertical depth (TVD) is allowed).
 - f. BOPE break testing is not permitted for drilling the production hole section.
 - g. While in transfer, the BOP shall be secured by the hydraulic carrier or cradle.
 - h. If any repairs or replacements of the BOPE is required, the BOPE shall be tested as required by 43 CFR 3172.
 - i. Pressure tests shall be performed on any BOPE components that have been disconnected. A low pressure (250-300 psi) and a high pressure (BOP max pressure rating) test are required.
 - j. If a testing plug is used, pressure shall be maintained for at least 10 minutes. If there is any bleed off in pressure, the test shall be considered to have failed.
 - k. If no testing plug is used, pressure shall be maintained for at least 30 minutes. If there is a decline in pressure of more than 10 percent, the test shall be considered to have failed.
 - l. The appropriate Bureau of Land Management (BLM) office shall be notified a minimum of 4 hours before testing occurs.
 - m. Any well control event while drilling require notification to the BLM Petroleum Engineer (575-706-2779) prior to the commencement of any BOPE Break Testing operations.
 - n. If break testing is not used, then a full BOPE test shall be conducted.
7. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply:
- a. The flex line must meet the requirements of API 16C.

- b. Check condition of flexible line from BOP to choke manifold (replace if exterior is damaged or if line fails test).
- c. Line is to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements.
- d. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating.
- e. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, shall be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

Casing and Cement

1. Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).
2. On any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. The formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
3. Provide compressive strengths (including hours to reach required 500 pounds compressive strength) prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
4. The surface casing shall be set at a minimum of 25 feet into the Rustler Anhydrite and 80 feet above the salt and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of 8 hours (or 24 hours in the Potash Area) or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

5. Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.
6. Intermediate casing must be cemented to surface. For medium/high cave/karst, potash, and Capitan Reef, wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.
7. The production cement should tie-back at least 200 feet (500 feet in Secretary Potash, surface in R-111-P potash) into previous casing string. Operator shall provide method of verification.
8. Production liner cement should tie-back at least 100 feet into previous casing string. Operator shall provide verification of cement top.
9. In WIPP Areas, cement must come to surface on the first three casing strings.
10. If cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
11. No pea gravel permitted for remedial cement or fall back remedial cement without prior authorization from a BLM petroleum engineer.
12. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
13. DV tools:
 - a. First stage to DV tool (The DV tool may be cancelled if cement circulates to surface on the first stage):
 - i. Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool:
 - i. For intermediate casing, cement to surface.
 - ii. For production casing, cement should tie-back at least 200 feet (500 feet in Secretary Potash, surface in R-111-P potash) into previous casing string. Operator shall provide method of verification.
 - iii. If cement does not circulate, contact the appropriate BLM office.

14. Potash Areas:

- a. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.
- b. After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met:
 - i. Cement reaches a minimum compressive strength of 500 psi for all cement blends
 - ii. Until cement has been in place at least 24 hours.
- c. WOC time will be recorded in the driller's log.
- d. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.
- e. In R111 Potash Areas, if cement does not circulate to surface on the first two salt protection casing strings, the cement on the 3rd casing salt string must come to surface.
- f. In Secretary Potash Areas, if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

15. Wait on cement (WOC) for Water Basin:

- a. After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met:
 - i. Cement reaches a minimum compressive strength of 500 psi at the shoe
 - ii. Until cement has been in place at least 8 hours.
- b. WOC time will be recorded in the driller's log.

16. Medium/High/Critical Cave/Karst Areas:

- a. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.
- b. In Critical Cave/Karst Areas cement must come to surface on the first three casing strings.
- c. In Medium and High Cave/Karst Areas, if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
- d. In Critical Cave/Karst Areas, if cement does not circulate to surface on the first three casing strings, the cement on the 4th casing string must come to surface.

Drilling Mud

1. Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation and shall be used until production casing is run and cemented.

Waste Material and Fluids

1. All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and

disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

2. Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

Special Requirements

1. Communitization Agreement
 - a. The operator will submit a Communitization Agreement to the Santa Fe Office (301 Dinosaur Trail, Santa Fe, NM 87508), at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division.
 - b. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
 - i. The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in 43 CFR 3171 and 3172.
 - ii. If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
 - c. In addition, the well sign shall include the surface and bottom hole lease numbers.
 - i. When the Communitization Agreement number is known, it shall also be on the sign.
2. Unit Wells
 - a. The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers.
 - i. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.
 - b. Commercial Well Determination
 - i. A commercial well determination shall be submitted after production has been established for at least six months (this is not necessary for secondary recovery unit wells).
3. Hydrogen Sulfide (H₂S)
 - a. If H₂S is encountered, provide measured values and formations to the BLM.
 - b. An H₂S area must meet 43 CFR 3176 requirements, which includes equipment and personnel/public protection items.

- c. An H2S Drilling Plan shall be activated 500 feet prior to drilling into any formation designated as having H2S.
 - d. Hydrogen Sulfide monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet 43 CFR 3176 requirements, which includes equipment and personnel/public protection items.
4. Capitan Reef
- a. If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following (Use this for 3 string wells in the Capitan Reef, if it is a 4 string well ensure fresh water based mud is used across the Capitan interval):
 - i. Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.
 - ii. Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports.
 - iii. The daily drilling report should show mud volume per shift/tour.
 - iv. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval.
 - v. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.
5. Salt Water Disposal Wells
- a. The operator shall supply the BLM with a copy of a mudlog over the permitted disposal interval and estimated in situ water salinity based on open-hole logs.
 - b. If hydrocarbons are encountered while drilling, the operator shall notify the BLM.
 - c. The operator shall provide to the BLM a summary of formation depth picks based on mudlog and geophysical logs along with a copy of the mudlog and open-hole logs from total depth to top of Devonian.
 - d. An NOI sundry with the completion procedure for this well shall be submitted and approved prior to commencing completion work. The procedure will be reviewed to verify that the completion proposal will allow the operator to:
 - i. Properly evaluate the injection zone utilizing open-hole logs, swab testing and/or any other method to confirm that hydrocarbons cannot be produced in paying quantities. This evaluation shall be reviewed by the BLM prior to injection commencing.
 - ii. Restrict the injection fluid to the approved formation.
 - iii. If a step rate test will be run, an NOI sundry shall be submitted to the BLM for approval.

- e. If off-lease water will be disposed in this well, the operator shall provide proof of right-of-way approval.
6. WIPP Requirements
- a. If the proposed surface well or bottom hole is located within 330 feet of the WIPP Land Withdrawal Area boundary:
 - i. Daily drilling reports, logs, and deviation survey information are required to be submitted to the Bureau of Land Management Engineering Department and the U.S. Department of Energy (per requirements of the Joint Powers Agreement) until a total vertical depth of 7,000 feet is reached. These reports will have at a minimum the rate of penetration and a clearly marked section showing the deviation for each 500-foot interval. Operator may be required to do more frequent deviation surveys based on the daily information submitted and may be required to take other corrective measures.
 - ii. Information will also be provided to the New Mexico Oil Conservation Division after drilling activities have been completed.
 - iii. Upon completion of the well, the operator shall submit a complete directional survey.
 - iv. Any future entry into the well for purposes of completing additional drilling will require supplemental information.
 - b. Required information shall be emailed to OilGasReports@wipp.ws.
 - i. Attached files must not be greater than 20 MB.
 - ii. Call WIPP Tech Support at 575-234-7422, during the hours of 7:00am to 4:30pm, if there are any issues sending to this address.



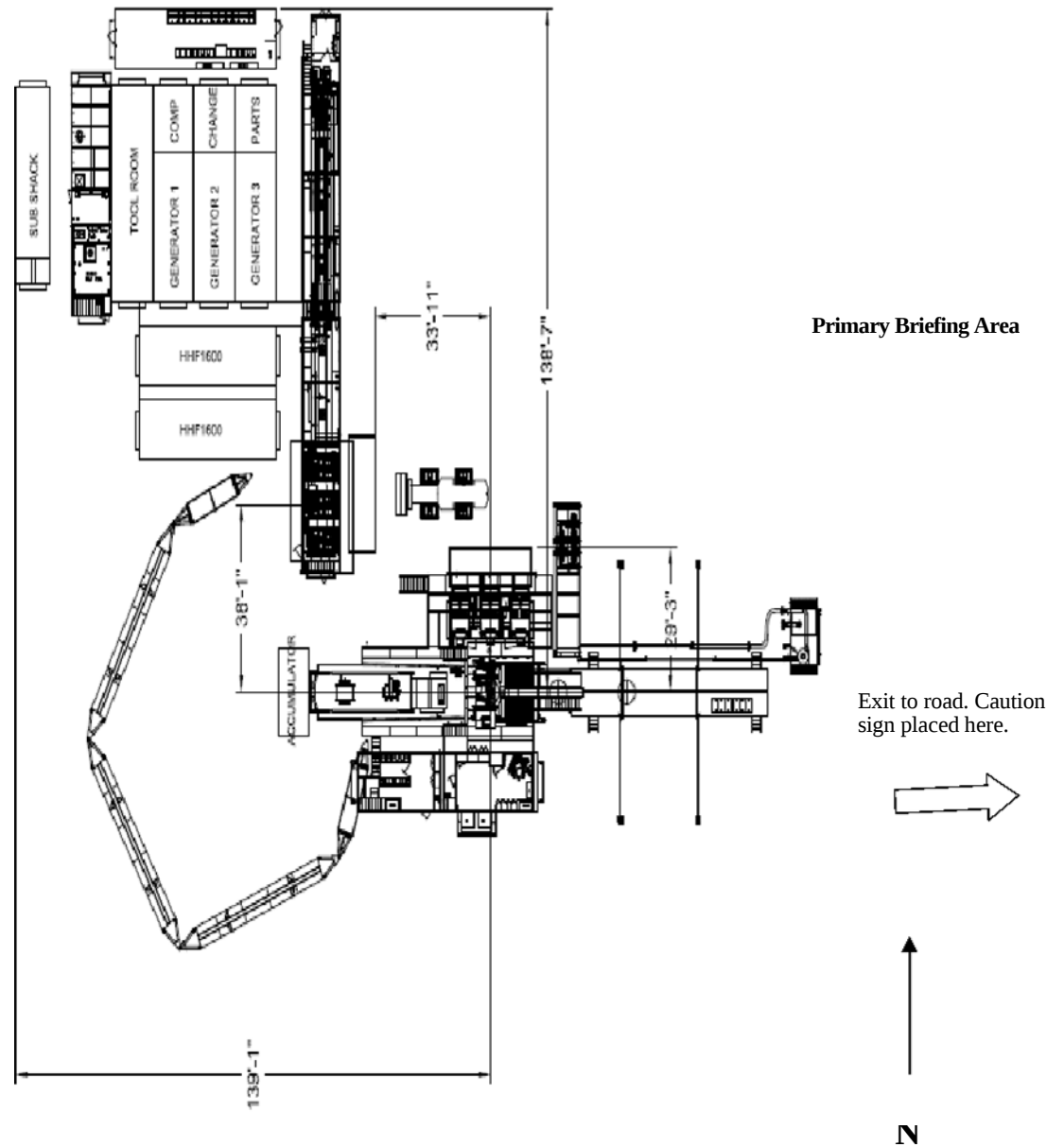
Permian Drilling Hydrogen Sulfide Drilling Operations Plan Ghost 16 15 State Com Development

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.

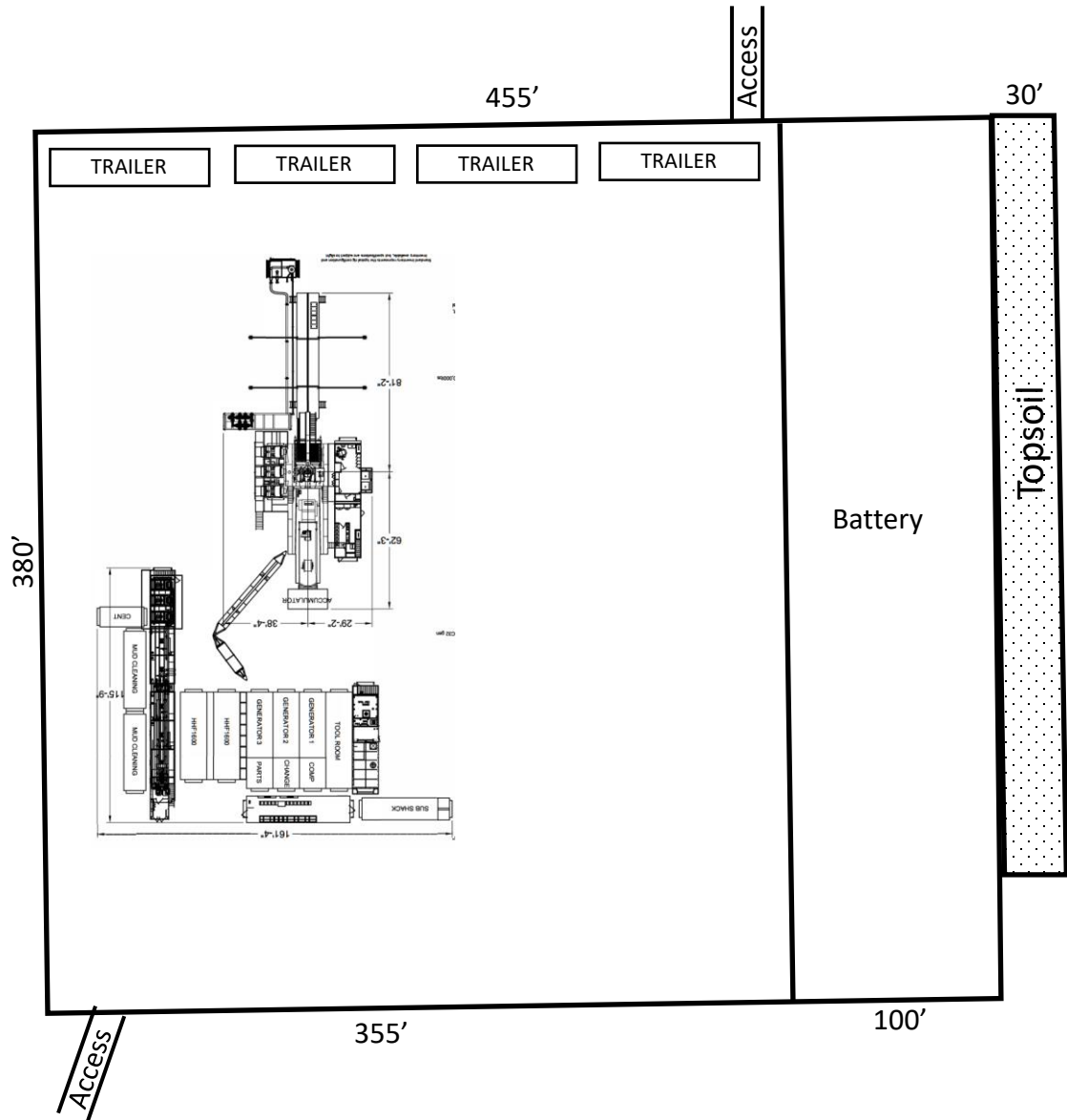
Secondary Briefing Area



WIND: Prevailing winds are from the Southwest

Secondary Egress

Spur Energy Partners, LLC
 Ghost 16 15 State Com
 South Pad
 Rig Diagram



NORTH

* Not to scale



RIG # 57_{1,150 HP Double Mast Drilling Rig}

SUBSTRUCTURE

One Piece Step Down

Floor Height: 18' 9" (on 4' pony sub moving system)

Clear Height (beneath rotary beams): 15' 5"

Rotary Capacity: 400,000 lbf

Max Pipe Setback: 400,000 lbf

Note: All floor heights above are based on the substructure sitting on 6" mats & 4' pony sub moving system

MAST

106' telescoping, Drill Line: 1-1/8"

Static Hook Load: 440,000 lbf

Racking Capacity: 18,000' of 4" DP, 12,500' of 5" DP

DRAWWORKS

TSM 850 425,000lbs w/ 10 Lines

Input Power: 1,150 hp AC traction motor

Main Brake: 1,150 hp AC traction motor (Dynamic)

Aux Parking Brake: Eaton brake & drum / band brake system

TOP DRIVE

Tesco EXI 600 AC 350 Ton: Max speed 220 rpm,

Continuous Drill Torque: 30,000 ft-lbs

Max Torque (Make / Break): 45,000 ft-lbs

600 hp AC induction motor & drive system with PLC

250 Ton 5 x 36" Becket Block Assembly

IRON ROUGHNECK

NOV ST-90C Conn Range: 4 1/4" to 8 1/2"

Spin Speed: 75 rpm nominal on 5" drill pipe

Spin Torque: 1,750 ft-lbs

Maximum Make-up torque: 60,000 ft-lbs

Maximum Break-out torque: 80,000 ft-lbs

ROTARY TABLE

National 27 1/2" 500 Ton with hydraulic drive to position tools only

27 1/2" Diameter opening

POWER SYSTEM

VFD, MCC, Eaton Drives, Current Power Systems Controls, three Caterpillar C32 gen

sets, 1220 BHP.

MUD PUMP #1

HHF1600 Triplex Rated Power: 1600 hp

Stroke: 12"

Input Power: 1500 hp AC traction motor

Pressure Rating: 5000 psi

MUD PUMP #2

HHF1600 Triplex Rated Power: 1600 hp

Stroke: 12"

Input Power: 1500 hp AC traction motor

Pressure Rating: 5000 psi

MUD TANKS

Two Tank system w/ 1200 bbls total capacity

Shakers: Three MI Swaco Mongoose 4 panel dual motion

Mud Gas Separator: MI Swaco 4' OD x 12' tall

Pill Tank: 54 bbls

MUD SYSTEM

5000 psi Max Pressure

5" Main plumbing and standpipe

SCALPING TANK

Main Tank: 186 bbls capacity

Trip Tank: 24 bbls capacity

Shakers: Three NOV Venom shakers dual motion

BOP (NACE)

11" x 5000 psi WP Spherical Annular

11" x 5000 psi WP Double Ram

11" x 5000 psi WP Single Ram (Optional)

MANIFOLD

3-1/8" 5,000 psi c/w two 3 1/8" manual chokes

ACCUMULATOR

CTI: 160 gal 6 station 3000 psi, c/w N2 Backup & electric triplex pump

CATWALK

Ja-co Power Catwalk, tubular max length 47' 6", max OD 13 5/8", max weight 10,000lbs

TUBULARS

Drill Pipe: Supplied as needed, per availability

Drill Collars & heavywate: Supplied as needed, per availability

MISC.

Water Tank: 409 bbls; Fuel Tank 189 bbls; Screw Compressor

Boiler: 125 hp with Full Winterization

MOVING SYSTEM:

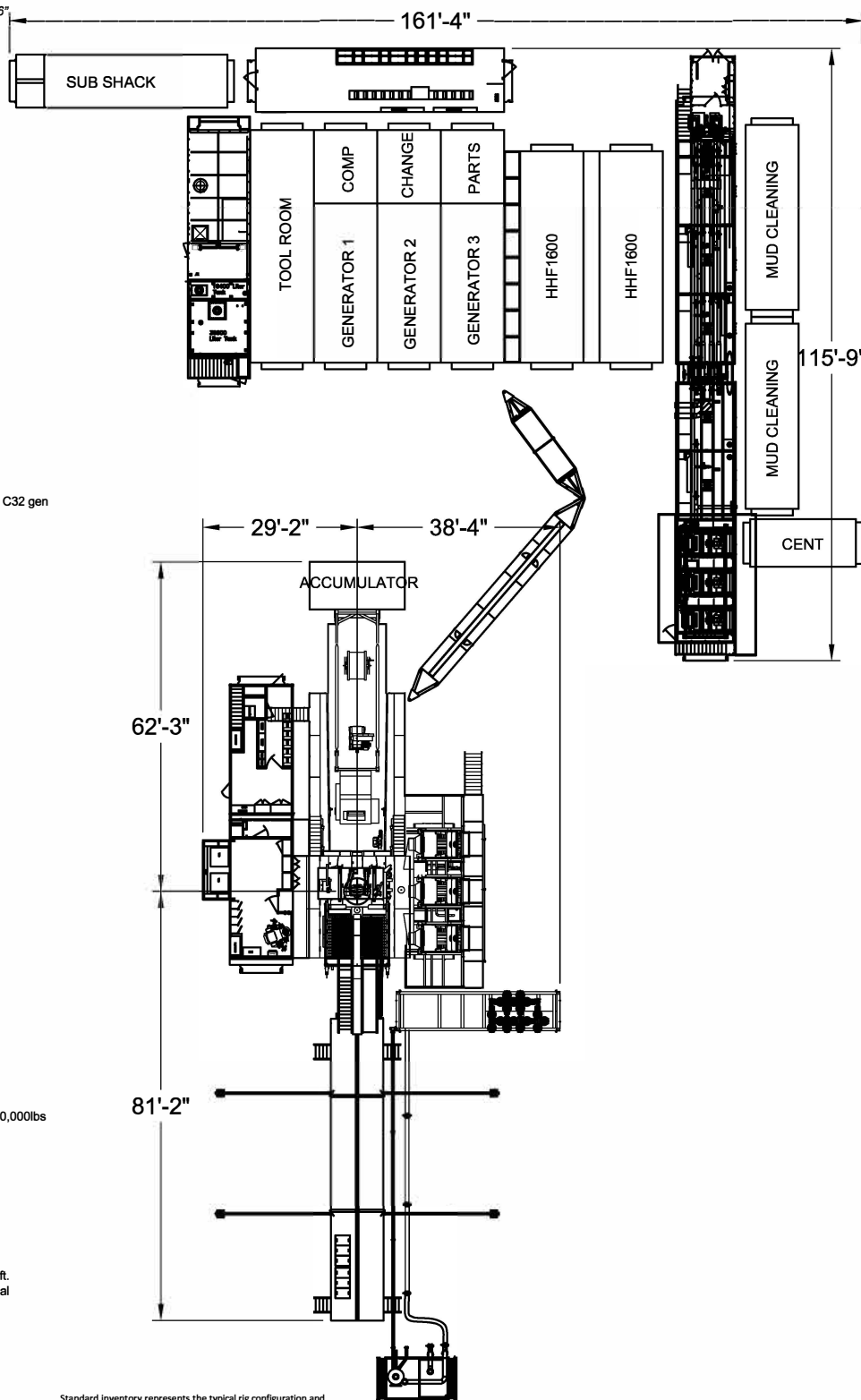
Walking beam hydraulic pony sub moving system for linear motion & side shift.

350' of Utility Suitcase style [50' lengths] connection for hydraulic and electrical supply.

TOOL/ STORAGE/ CAMP

Parts Storage Room and Tool House Room

Rig Manage Trailer: 14' x 44' skid mounted

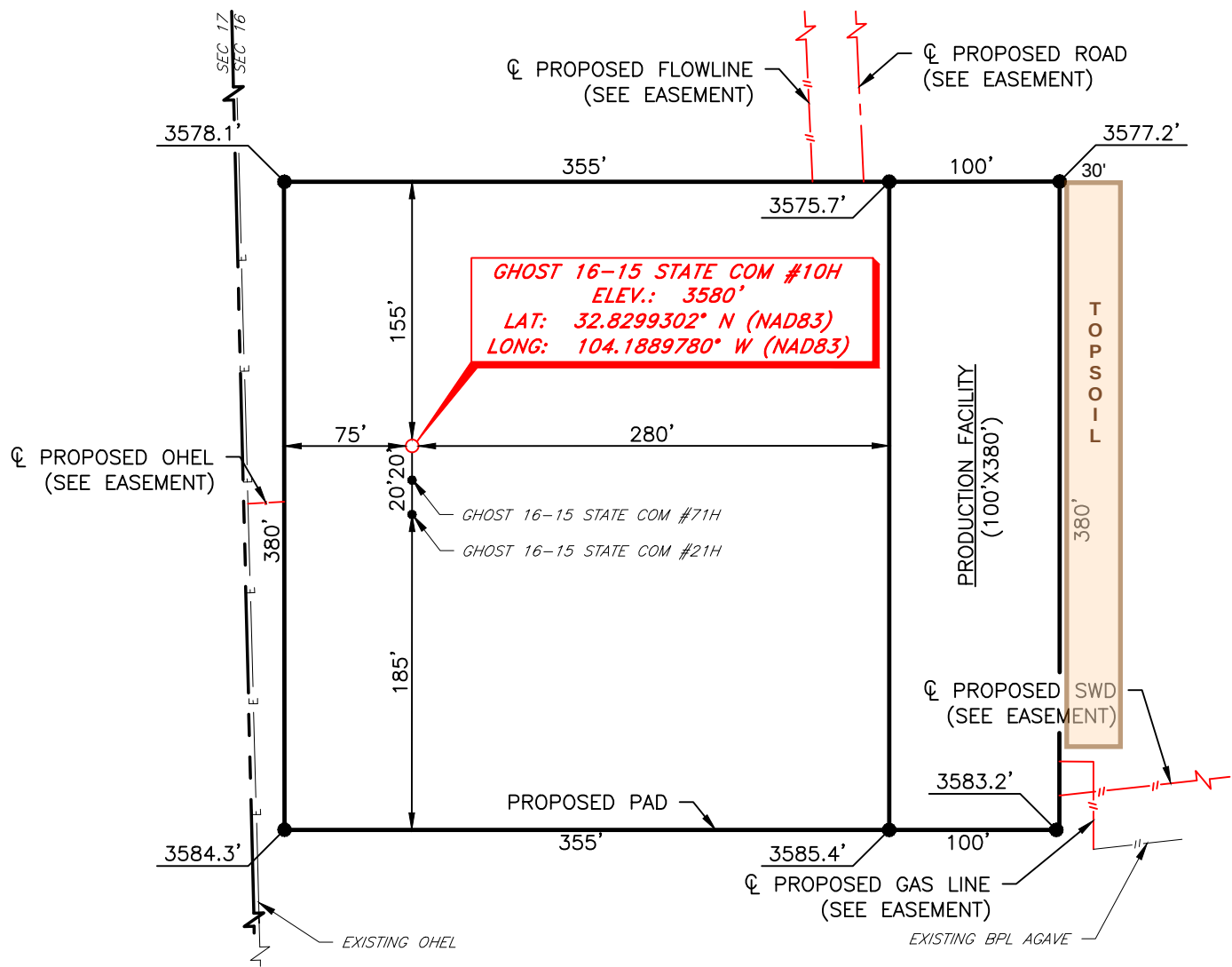


Standard inventory represents the typical rig configuration and inventory available, but specifications are subject to slight modifications from time to time due to customer requirements.

All ratings quoted herein are manufacturer specifications. AKITA's normal operating parameters are 90% of manufacturer mast ratings and 80% of mud pump manufacturer pressure rating. Operation of rig equipment beyond these parameters requires approval from AKITA field office management.

© AKITA DRILLING August, 2020

SPUR ENERGY PARTNERS LLC.
GHOST 16-15 STATE COM #10H
(1095' FSL & 100' FWL)
SECTION 16, T17S, R28E
N. M. P. M., EDDY CO., NEW MEXICO



DIRECTIONS TO LOCATION

From the intersection of U.S. Hwy 82 (Lovington Hwy) & N. M. 360 (Bluestem Rd.);
Go West on U.S. HWY 82 approx. 1.0 miles to a lease road on the right;
Turn right and go North approx. 1.1 miles to a "Y";
Keep left at "Y" Northwest approx. 1.3 miles to a proposed road on the right;
Turn right and go East approx. 0.3 miles to location on the left.

THIS IS NOT A BOUNDARY SURVEY, APPARENT PROPERTY CORNERS AND
PROPERTY LINES ARE SHOWN FOR INFORMATION ONLY.



SCALE: 1" = 100'
0 50 100
BEARINGS ARE
NAD 83 GRID - NM EAST
DISTANCES ARE
GROUND.

I, Dale E. Bell, New Mexico Professional Surveyor No. 14400, do hereby certify that this Plat and the actual survey on the ground upon which it is based were performed by me or under my direct supervision; that I am responsible for this survey, said survey and plat meets the Minimum Standards for Land Surveying in the State of New Mexico and that it is true and correct to the best of my knowledge and belief.

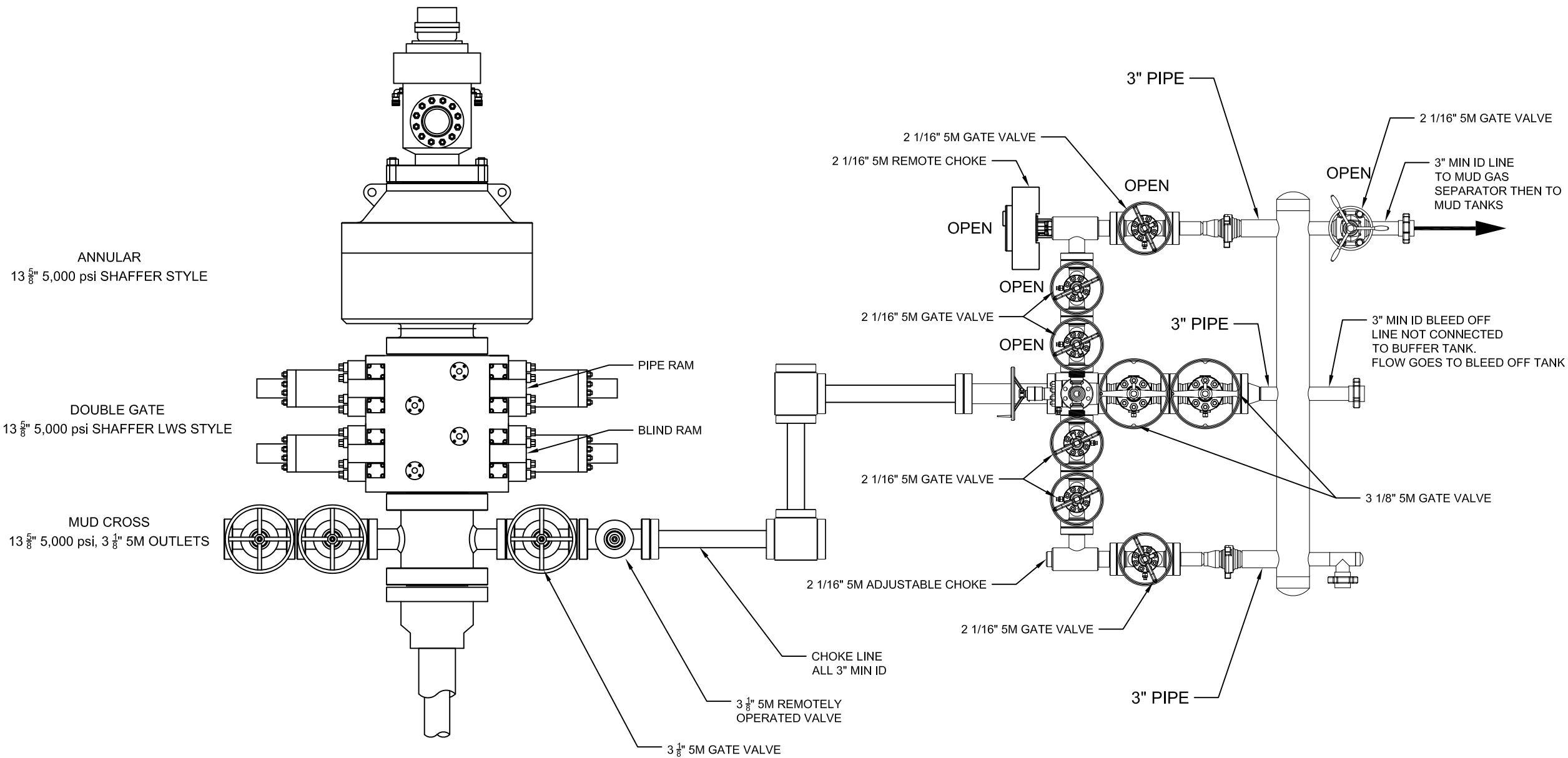
Dale E. Bell NM PS 14400



NO.	REVISION	DATE
JOB NO.: LS25020152		
DWG. NO.: 25020152-5		



SCALE: 1" = 100'
DATE: 03/25/2025
SURVEYED BY: RG/HA
DRAWN BY: RQ
APPROVED BY: DEB
SHEET: 1 OF 1



Notes
-
-
-

No.	Revision	Date



AKITA
DRILLING LTD.
2302 8th Street, Nisku Alberta
T9E 7Z2 Tel: (780) 955-6700

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Date	5-6-2021	Scale	NTS
Des / Chk'd By	BG	File Name	R57 13 5M dou..
Project	R57		

RIG 57 BOP SCHEMATIC

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

ACKNOWLEDGMENTS

Action 514055

ACKNOWLEDGMENTS

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID: 328947
	Action Number: 514055
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

ACKNOWLEDGMENTS

☒	I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well.
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Sante Fe Main Office
Phone: (505) 476-3441

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Phone: (505) 629-6116

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

CONDITIONS

Action 514055

CONDITIONS

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID: 328947
	Action Number: 514055
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
schapman01	Cement is required to circulate on both surface and intermediate1 strings of casing.	10/10/2025
schapman01	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	10/10/2025
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	10/29/2025
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	10/29/2025
ward.rikala	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.	10/29/2025
ward.rikala	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.	10/29/2025