

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

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

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

Form C-101

August 1, 2011

Permit 346374

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

1. Operator Name and Address Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024		2. OGRID Number 328947
		3. API Number 30-015-54025
4. Property Code 334569	5. Property Name WELCH CD 28 STATE COM	6. Well No. 090H

7. Surface Location

UL - Lot L	Section 27	Township 17S	Range 28E	Lot Idn	Feet From 2161	N/S Line S	Feet From 612	E/W Line W	County Eddy
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8. Proposed Bottom Hole Location

UL - Lot L	Section 28	Township 17S	Range 28E	Lot Idn L	Feet From 2250	N/S Line S	Feet From 50	E/W Line W	County Eddy
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9. Pool Information

ARTESIA; GLORIETA-YESO (O)	96830
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Additional Well Information

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3681
16. Multiple N	17. Proposed Depth 10337	18. Formation Blinebry	19. Contractor	20. Spud Date 11/20/2023
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ We will be using a closed-loop system in lieu of lined pits

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	12.25	9.625	36	1150	336	0
Prod	8.75	7	32	5050	1635	0
Prod	8.75	5.5	20	10337	1635	0

Casing/Cement Program: Additional Comments

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22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	5	5000	SHAFFER

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒ if applicable.	OIL CONSERVATION DIVISION	
Signature:		
Printed Name: Electronically filed by Sarah Chapman	Approved By: Ward Rikala	
Title: Regulatory Director	Title:	
Email Address: schapman@spurenergy.com	Approved Date: 8/2/2023	Expiration Date: 8/2/2025
Date: 7/31/2023	Phone: 832-930-8613	Conditions of Approval Attached

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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-54025	² Pool Code 96830	³ Pool Name ARTESIA; GLORIETA-YESO (O)
⁴ Property Code 334569	⁵ Property Name WELCH CD 28 STATE COM	⁶ Well Number 90H
⁷ OGRID NO. 328947	⁸ Operator Name SPUR ENERGY PARTNERS LLC.	⁹ Elevation 3681'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
L	27	17S	28E		2161	SOUTH	612	WEST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	28	17S	28E		2250	SOUTH	50	WEST	EDDY
¹² Dedicated Acres 320	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

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

¹⁶ GEODETIC DATA NAD 83 GRID - NM EAST SURFACE LOCATION (SL) N: 656403.0 - E: 591376.6 LAT: 32.8043759° N LONG: 104.1704729° W FIRST TAKE POINT (FTP) 2250' FSL & 100' FEL - SEC 28 N: 656481.8 - E: 590665.3 LAT: 32.8045954° N LONG: 104.1727875° W LAST TAKE POINT (LTP) 2250' FSL & 100' FWL - SEC 28 N: 656355.9 - E: 585669.6 LAT: 32.8042691° N LONG: 104.1890475° W BOTTOM HOLE (BH) N: 656354.6 - E: 585619.6 LAT: 32.8042659° N LONG: 104.1892102° W CORNER DATA NAD 83 GRID - NM EAST A: FOUND BRASS CAP "1941" N: 654104.0 - E: 585547.5 B: FOUND BRASS CAP "1941" N: 656702.1 - E: 585573.1 C: FOUND BRASS CAP "1941" N: 659297.8 - E: 585602.6 D: FOUND BRASS CAP "1941" N: 659377.1 - E: 588198.9 E: FOUND BRASS CAP "1941" N: 659457.7 - E: 590794.9 F: FOUND BRASS CAP "1941" N: 659466.8 - E: 593406.4 G: FOUND BRASS CAP "1941" N: 659475.1 - E: 596017.9 H: FOUND BRASS CAP "1941" N: 656886.5 - E: 595997.7 I: FOUND BRASS CAP "1941" N: 654298.0 - E: 595977.3 J: FOUND BRASS CAP "1941" N: 654266.7 - E: 593360.1 K: FOUND BRASS CAP "1941" N: 654235.0 - E: 590741.9 L: FOUND BRASS CAP "1941" N: 654169.8 - E: 588139.7 M: FOUND BRASS CAP "1941" N: 656846.0 - E: 590769.0	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Sarah Chapman</i> 03/07/2023 Signature Date SARAH CHAPMAN Printed Name SCHAPMAN@SPURENERGY.COM E-mail Address ¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. 12/15/2022 Date of Survey Signature and Seal of Professional Surveyor 14400 Certificate Number DALE E. BELL NEW MEXICO PROFESSIONAL SURVEYOR 14400 01/11/2023 LS22121334
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Santa Fe, NM 87505

Form APD Conditions
Permit 346374

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: Spur Energy Partners LLC [328947] 9655 Katy Freeway Houston, TX 77024	API Number: 30-015-54025
	Well: WELCH CD 28 STATE COM #090H

OCD Reviewer	Condition
ward.rikala	Notify OCD 24 hours prior to casing & cement
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104
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
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
ward.rikala	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing

Intent ☐ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number

Kick Off Point (KOP)

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

First Take Point (FTP)

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

Last Take Point (LTP)

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

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

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

API #		
Operator Name:	Property Name:	Well Number

KZ 06/29/2018

Spur Energy Partners LLC – Welch CD 28 State Com 90H

1. Geologic Formations

TVD of Target	4,700'
MD at TD	10,337'

Formation	Depth	Lithology	Expected Fluids
Quaternary	0'	Dolomite, other: Caliche	Useable Water
Tansill	415'	Sandstone, Dolomite	None
Yates	495'	Dolomite, Limestone, Shale, Siltstone	None
Seven Rivers	755'	Dolomite, Limestone	Natural Gas, Oil
Queen	1330'	Anhydrite, Dolomite, Sandstone	Natural Gas, Oil
Grayburg	1745'	Anhydrite	Natural Gas, Oil
San Andres	2020'	Dolomite	Natural Gas, Oil
Glorieta	3475'	Dolomite, Siltstone	Natural Gas, Oil
Paddock	3580'	Dolomite, Limestone	Natural Gas, Oil
Upper Blinebry	4085'	Dolomite, Limestone	Natural Gas, Oil
Lower Blinebry	4550'	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

Casing Formation Set Interval	Hole Size (in)	Casing Interval		Csg. Size (in)	Weight (lbs)	Grade	Conn.	SF	SF Burst	Body SF	Joint SF
		From (ft)	To (ft)					Collapse		Tension	Tension
Seven Rivers	12.25	0	1150	9.625	36	J-55	BTC	1.125	1.2	1.4	1.4
N/A	8.75	0	5050	7	32	L-80	BK-HT	1.125	1.2	1.4	1.4
Yeso	8.75	5050	10337	5.5	20	L-80	BK-HT	1.125	1.2	1.4	1.4
SF Values will meet or Exceed											

Spur Energy Partners LLC – Welch CD 28 State Com 90H

	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 (Lead)	0	950	100%
Surface (Tail)	950	1150	100%
Production (Lead)	0	4050	100%
Production (Tail)	4050	10337	25%

Casing String	# Sks	Wt. (lb/gal)	Yld (ft3/sack)	H2O (gal/sk)	500# Comp. Strength (hours)	Slurry Description
Surface (Lead)	259	12	2.4	13.48	8:12	Clas C Premium Plus Cement
Surface (Tail)	77	13.2	1.87	9.92	6:59	Clas C Premium Plus Cement
Production (Lead)	440	11.4	2.42	15.29	N/A	Clas C Premium Plus Cement
Production (Tail)	1195	13.2	1.56	9.81	N/A	Clas C Premium Plus Cement

Spur Energy Partners LLC – Welch CD 28 State Com 90H

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	2210 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	119°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 – Welch CD 28 State Com 90H

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	1150	Water-Based Mud	8.6-8.9	32-36	N/C
1150	10337	Water-Based Mud	8.6-8.9	32-36	N/C

What will be used to monitor the loss or gain of fluid?	PVT/PASON/Visual Monitoring
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Spur Energy Partners LLC – Welch CD 28 State Com 90H

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	SCP - 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: 936.5 bbls.

Spur Energy Partners LLC – Welch CD 28 State Com 90H**9. Other facets of operation**

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

Attachments

- ☒ Directional Plan
☒ H2S Contingency Plan
☒ Akita 57 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

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:** 07 / 31 / 2023

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
WELCH CD 28 SA STATE COM 10H	30-015-	L-27-17S-28E	2124' FSL 598' FWL	262 BBL/D	453 MCF/D	1570 BBL/D
WELCH CD 28 STATE COM 20H	30-015-	L-27-17S-28F	2143' FSL 605' FWL	313 BBL/D	342 MCF/D	1564 BBL/D
WELCH CD 28 STATE COM 70H	30-015-	L-27-17S-28E	2106 FSL 591' FWL	310 BBL/D	500 MCF/D	1242 BBL/D
WELCH CD 28 STATE COM 90H	30-015-	L-27-17S-28F	2161 FSL 612' FWL	310 BBL/D	500 MCF/D	1242 BBL/D

IV. Central Delivery Point Name: WELCH CD 28 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
WELCH CD 28 SA STATE COM 10H	30-015-	10/24/2023	11/01/2023	01/22/2024	02/29/2024	03/28/2024
WELCH CD 28 STATE COM 20H	30-015-	11/02/2023	11/10/2023	01/22/2024	02/29/2024	03/28/2024
WELCH CD 28 STATE COM 70H	30-015-	11/11/2023	11/19/2023	01/22/2024	02/29/2024	03/28/2024
WELCH CD 28 STATE COM 90H	30-015-	11/20/2023	11/28/2023	01/22/2024	02/29/2024	03/28/2024

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:	07/31/2023
Phone:	832-930-8613
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)	
Approved By:	
Title:	
Approval Date:	
Conditions of Approval:	



Permian Drilling

Hydrogen Sulfide Drilling Operations Plan

Welch CD 28 State Com Development

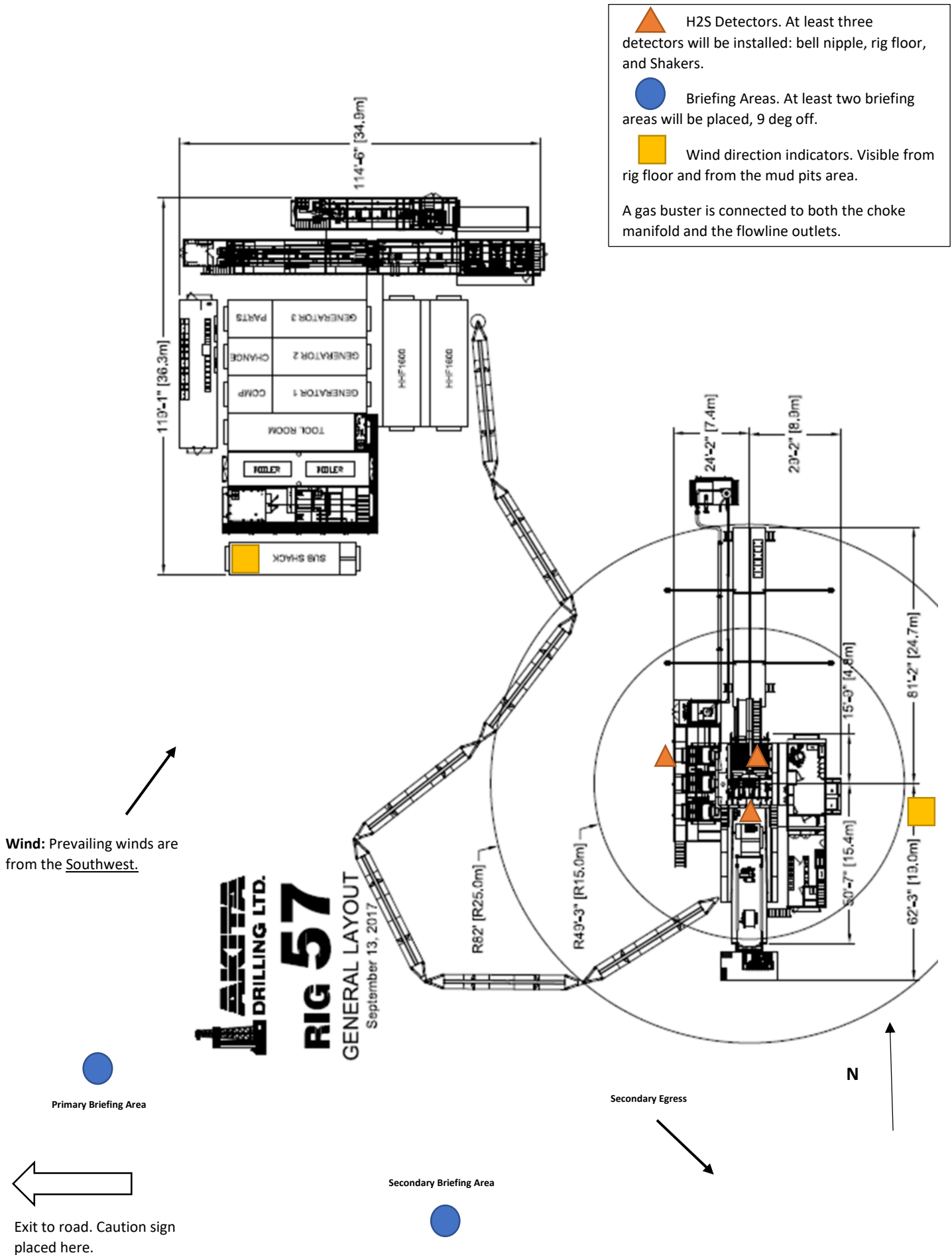
Open drill site. No homes or buildings are near the proposed location.

1. Escape

Personnel shall escape upwind of wellbore in the even 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 secondary egress route should be taken.





SPUR ENERGY PARTNERS, LLC

**EDDY COUNTY, NM (NAD 83 - NME)
WELCH C 28 STATE COM
90H**

**Wellbore #1
PERMIT**

Anticollision Report

13 July, 2023



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 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 + Stations Interval 50.00usft
Depth Range:	Unlimited
Results Limited by:	Maximum separation factor of 55.00
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic
Casing Method:	Not applied

Survey Tool Program		Date	07/12/23		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	10,337.14	PERMIT (Wellbore #1)	MWD+IFR1+SAG+FDIR	OWSG MWD + IFR1 + Sag + FDIR Correction	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
HALBERD 27 STATE COM						
51H - Wellbore #1 - Wellbore #1	4,216.14	9,205.79	754.86	680.82	10.195	CC, ES
51H - Wellbore #1 - Wellbore #1	4,300.00	9,247.93	758.37	683.63	10.146	SF
71H - Wellbore #1 - Wellbore #1	4,497.59	9,525.84	215.75	59.51	1.381	Level 3, CC
71H - Wellbore #1 - Wellbore #1	4,500.00	9,527.42	215.75	59.42	1.380	Level 3, ES, SF
WELCH CD 28 STATE COM						
20H - Wellbore #1 - PERMIT	300.00	300.00	20.04	18.32	11.646	CC
20H - Wellbore #1 - PERMIT	350.00	350.00	20.33	18.26	9.803	ES
20H - Wellbore #1 - PERMIT	550.00	549.75	27.37	23.88	7.841	SF
50H - Wellbore #1 - PERMIT	300.00	299.00	19.94	18.23	11.616	CC
50H - Wellbore #1 - PERMIT	350.00	348.68	20.05	17.98	9.668	ES
50H - Wellbore #1 - PERMIT	600.00	596.82	25.71	21.85	6.666	SF
70H - Wellbore #1 - PERMIT	300.00	301.00	60.02	58.30	34.810	CC
70H - Wellbore #1 - PERMIT	350.00	351.00	60.31	58.23	28.958	ES
70H - Wellbore #1 - PERMIT	10,337.14	10,013.29	742.37	621.81	6.158	SF
OFFSET: COLLIER STATE 2 - Wellbore #1 - Wellbore #	550.00	528.70	520.44	510.92	54.635	CC, ES
OFFSET: COLLIER STATE 2 - Wellbore #1 - Wellbore #	900.00	814.00	537.55	521.56	33.629	SF
OFFSET: COLLIER STATE 3 - Wellbore #1 - Wellbore #	300.00	279.00	218.21	214.08	52.800	CC
OFFSET: COLLIER STATE 3 - Wellbore #1 - Wellbore #	450.00	428.93	219.99	212.62	29.842	ES
OFFSET: COLLIER STATE 3 - Wellbore #1 - Wellbore #	900.00	842.00	239.72	223.23	14.535	SF
OFFSET: COLLIER STATE 4 - Wellbore #1 - Wellbore #	881.43	824.00	375.74	359.66	23.360	CC, ES
OFFSET: COLLIER STATE 4 - Wellbore #1 - Wellbore #	900.00	824.00	376.20	360.05	23.292	SF
OFFSET: COLLIER-STATE 1 - Wellbore #1 - Wellbore #	2,046.99	2,018.00	607.36	564.07	14.030	CC
OFFSET: COLLIER-STATE 1 - Wellbore #1 - Wellbore #	2,050.00	2,018.00	607.36	564.06	14.027	ES
OFFSET: COLLIER-STATE 1 - Wellbore #1 - Wellbore #	2,100.00	2,018.00	609.66	566.18	14.022	SF
OFFSET: GERONIMO '28' STATE COM 1 - Wellbore #1	7,017.23	4,753.50	748.22	621.35	5.898	CC, ES
OFFSET: GERONIMO '28' STATE COM 1 - Wellbore #1	7,050.00	4,753.01	748.93	621.76	5.889	SF
OFFSET: GERONIMO 28 STATE SWD 2 - Wellbore #1 -	5,883.68	4,774.25	112.96	0.34	1.003	Level 2, CC, ES, SF
OFFSET: MALOOF STATE 1 - Wellbore #1 - Wellbore #1	1,300.00	1,293.64	1,567.14	1,538.08	53.938	CC, ES
OFFSET: MALOOF STATE 1 - Wellbore #1 - Wellbore #1	3,150.00	3,109.00	1,706.25	1,636.08	24.317	SF
OFFSET: RED LAKE 28 K STATE 1 - Wellbore #1 - Wel	8,771.40	3,755.00	1,131.62	1,063.59	16.635	CC, ES
OFFSET: RED LAKE 28 K STATE 1 - Wellbore #1 - Wel	8,900.00	3,755.00	1,138.90	1,070.01	16.531	SF
OFFSET: Red Lake 28 K State 2 - Wellbore #1 - Wellbor	8,086.17	3,760.00	934.66	913.03	43.209	CC, ES
OFFSET: Red Lake 28 K State 2 - Wellbore #1 - Wellbor	8,250.00	3,760.00	948.91	926.53	42.402	SF
OFFSET: RED LAKE 28 K STATE 3 - Wellbore #1 - Wel	8,743.80	3,950.00	729.44	703.15	27.748	CC
OFFSET: RED LAKE 28 K STATE 3 - Wellbore #1 - Wel	8,750.00	3,950.00	729.47	703.15	27.719	ES
OFFSET: RED LAKE 28 K STATE 3 - Wellbore #1 - Wel	8,850.00	3,950.00	737.13	710.36	27.528	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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
WELCH CD 28 STATE COM						
OFFSET: RED LAKE 28 K STATE 4 - Wellbore #1 - Wel	8,107.94	3,950.00	978.46	910.59	14.416	CC, ES
OFFSET: RED LAKE 28 K STATE 4 - Wellbore #1 - Wel	8,200.00	3,950.00	982.79	914.25	14.340	SF
OFFSET: SUNRAY-STATE 1 - Wellbore #1 - Wellbore #1	2,514.76	2,502.95	601.48	553.81	12.616	CC
OFFSET: SUNRAY-STATE 1 - Wellbore #1 - Wellbore #1	3,800.00	3,800.00	610.03	530.39	7.660	ES
OFFSET: SUNRAY-STATE 1 - Wellbore #1 - Wellbore #1	4,200.00	4,171.49	640.20	548.58	6.988	SF
OFFSET: TIGNER STATE 1 - Wellbore #1 - Wellbore #1	9,410.30	3,550.00	1,119.68	1,092.87	41.770	CC, ES
OFFSET: TIGNER STATE 1 - Wellbore #1 - Wellbore #1	9,600.00	3,550.00	1,135.63	1,107.96	41.038	SF
OFFSET: TIGNER STATE 2 - Wellbore #1 - Wellbore #1	10,045.38	3,535.00	1,287.19	1,218.92	18.855	CC
OFFSET: TIGNER STATE 2 - Wellbore #1 - Wellbore #1	10,050.00	3,535.00	1,287.20	1,218.90	18.847	ES
OFFSET: TIGNER STATE 2 - Wellbore #1 - Wellbore #1	10,200.00	3,535.00	1,296.45	1,227.19	18.720	SF
OFFSET: TIGNER STATE 3 - Wellbore #1 - Wellbore #1	10,069.04	3,665.00	989.47	958.80	32.268	CC, ES
OFFSET: TIGNER STATE 3 - Wellbore #1 - Wellbore #1	10,200.00	3,665.00	998.09	966.83	31.924	SF
OFFSET: TIGNER STATE 4 - Wellbore #1 - Wellbore #1	9,430.97	3,660.00	1,166.42	1,101.03	17.838	CC, ES
OFFSET: TIGNER STATE 4 - Wellbore #1 - Wellbore #1	9,550.00	3,660.00	1,172.48	1,106.34	17.727	SF
SA 10H - Wellbore #1 - PERMIT	300.00	300.00	40.08	38.36	23.291	CC, ES
SA 10H - Wellbore #1 - PERMIT	650.00	646.81	60.59	56.40	14.478	SF

Offset Design HALBERD 27 STATE COM - 51H - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 173-												Offset Well Error:	0.00 usft
Reference	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
900.00	898.71	9,332.45	4,201.77	3.00	60.69	128.154	-661.26	26.57	3,371.20	3,309.68	61.52	54.802	
950.00	948.57	9,329.32	4,201.79	3.18	60.66	127.941	-661.20	29.70	3,322.64	3,260.92	61.72	53.833	
1,000.00	998.43	9,326.18	4,201.81	3.36	60.63	127.727	-661.13	32.84	3,274.12	3,212.20	61.93	52.872	
1,050.00	1,048.29	9,323.03	4,201.83	3.54	60.59	127.512	-661.07	35.99	3,225.65	3,163.52	62.13	51.918	
1,100.00	1,098.15	9,319.86	4,201.86	3.72	60.56	127.295	-661.01	39.16	3,177.21	3,114.88	62.33	50.972	
1,150.00	1,148.01	9,316.67	4,201.88	3.90	60.52	127.077	-660.94	42.35	3,128.83	3,066.29	62.54	50.032	
1,200.00	1,197.86	9,313.47	4,201.91	4.08	60.49	126.857	-660.88	45.55	3,080.48	3,017.75	62.74	49.100	
1,250.00	1,247.72	9,310.26	4,201.93	4.26	60.45	126.635	-660.82	48.76	3,032.19	2,969.25	62.94	48.176	
1,300.00	1,297.58	9,307.03	4,201.96	4.44	60.42	126.412	-660.76	51.99	2,983.95	2,920.81	63.14	47.258	
1,350.00	1,347.44	9,303.79	4,201.98	4.62	60.38	126.188	-660.70	55.23	2,935.77	2,872.43	63.34	46.348	
1,400.00	1,397.30	9,300.53	4,202.01	4.80	60.35	125.961	-660.63	58.49	2,887.64	2,824.10	63.54	45.445	
1,450.00	1,447.16	9,297.25	4,202.04	4.98	60.31	125.734	-660.57	61.76	2,839.58	2,775.84	63.74	44.549	
1,500.00	1,497.02	9,293.96	4,202.07	5.16	60.28	125.504	-660.51	65.05	2,791.57	2,727.63	63.94	43.659	
1,550.00	1,546.88	9,290.66	4,202.10	5.34	60.24	125.273	-660.46	68.35	2,743.64	2,679.50	64.14	42.777	
1,600.00	1,596.74	9,287.34	4,202.13	5.52	60.20	125.041	-660.40	71.67	2,695.77	2,631.43	64.33	41.902	
1,650.00	1,646.59	9,284.01	4,202.16	5.70	60.17	124.807	-660.34	75.00	2,647.98	2,583.44	64.53	41.034	
1,700.00	1,696.45	9,280.66	4,202.19	5.89	60.13	124.571	-660.28	78.35	2,600.26	2,535.53	64.73	40.173	
1,750.00	1,746.31	9,277.29	4,202.23	6.07	60.09	124.333	-660.22	81.72	2,552.63	2,487.71	64.92	39.319	
1,800.00	1,796.17	9,267.00	4,202.33	6.25	59.98	123.604	-660.05	92.01	2,505.09	2,439.95	65.14	38.457	
1,850.00	1,846.03	9,267.00	4,202.33	6.43	59.98	123.604	-660.05	92.01	2,457.63	2,392.31	65.32	37.624	
1,900.00	1,895.89	9,267.00	4,202.33	6.61	59.98	123.604	-660.05	92.01	2,410.27	2,344.77	65.50	36.798	
1,950.00	1,945.75	9,267.00	4,202.33	6.79	59.98	123.604	-660.05	92.01	2,363.02	2,297.34	65.68	35.977	
2,000.00	1,995.61	9,267.00	4,202.33	6.97	59.98	123.604	-660.05	92.01	2,315.88	2,250.02	65.86	35.163	
2,050.00	2,045.47	9,267.00	4,202.33	7.15	59.98	123.604	-660.05	92.01	2,268.87	2,202.83	66.04	34.355	
2,100.00	2,095.32	9,267.00	4,202.33	7.33	59.98	123.604	-660.05	92.01	2,221.98	2,155.76	66.22	33.553	
2,150.00	2,145.18	9,267.00	4,202.33	7.51	59.98	123.604	-660.05	92.01	2,175.24	2,108.84	66.40	32.758	
2,200.00	2,195.04	9,267.00	4,202.33	7.69	59.98	123.604	-660.05	92.01	2,128.64	2,062.06	66.58	31.969	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 173-												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
2,250.00	2,244.90	9,267.00	4,202.33	7.87	59.98	123.604	-660.05	92.01	2,082.21	2,015.44	66.76	31.187	
2,300.00	2,294.76	9,244.59	4,202.63	8.05	59.74	122.001	-659.67	114.41	2,035.76	1,968.76	67.00	30.385	
2,350.00	2,344.62	9,241.54	4,202.68	8.23	59.71	121.782	-659.61	117.46	1,989.61	1,922.43	67.18	29.615	
2,400.00	2,394.48	9,238.43	4,202.74	8.41	59.67	121.558	-659.55	120.57	1,943.65	1,876.29	67.37	28.852	
2,450.00	2,444.34	9,235.26	4,202.80	8.59	59.64	121.329	-659.49	123.74	1,897.89	1,830.34	67.55	28.096	
2,500.00	2,494.20	9,232.03	4,202.86	8.78	59.60	121.095	-659.43	126.97	1,852.34	1,784.61	67.73	27.348	
2,550.00	2,544.05	9,228.73	4,202.93	8.96	59.57	120.856	-659.37	130.26	1,807.01	1,739.10	67.91	26.608	
2,600.00	2,593.91	9,225.37	4,203.00	9.14	59.53	120.613	-659.30	133.62	1,761.93	1,693.84	68.09	25.875	
2,650.00	2,643.77	9,221.95	4,203.08	9.32	59.50	120.363	-659.23	137.05	1,717.11	1,648.84	68.27	25.151	
2,700.00	2,693.63	9,218.45	4,203.16	9.50	59.46	120.109	-659.16	140.54	1,672.58	1,604.13	68.45	24.435	
2,750.00	2,743.49	9,214.88	4,203.24	9.68	59.42	119.849	-659.08	144.11	1,628.36	1,559.73	68.63	23.728	
2,800.00	2,793.35	9,211.24	4,203.33	9.86	59.38	119.583	-659.00	147.75	1,584.46	1,515.66	68.80	23.029	
2,850.00	2,843.21	9,207.52	4,203.43	10.04	59.34	119.311	-658.92	151.47	1,540.93	1,471.95	68.98	22.340	
2,900.00	2,893.07	9,203.72	4,203.53	10.22	59.30	119.033	-658.84	155.27	1,497.79	1,428.64	69.15	21.660	
2,950.00	2,942.93	9,199.84	4,203.64	10.40	59.26	118.749	-658.75	159.14	1,455.07	1,385.75	69.32	20.990	
3,000.00	2,992.78	9,195.88	4,203.76	10.58	59.21	118.458	-658.66	163.10	1,412.82	1,343.33	69.49	20.331	
3,050.00	3,042.64	9,191.83	4,203.88	10.76	59.17	118.160	-658.56	167.15	1,371.08	1,301.42	69.66	19.683	
3,100.00	3,092.50	9,187.69	4,204.01	10.94	59.12	117.855	-658.46	171.29	1,329.89	1,260.06	69.83	19.046	
3,150.00	3,142.36	9,183.46	4,204.15	11.12	59.08	117.543	-658.36	175.51	1,289.31	1,219.32	69.99	18.421	
3,200.00	3,192.22	9,179.13	4,204.29	11.30	59.03	117.224	-658.25	179.84	1,249.39	1,179.24	70.15	17.810	
3,250.00	3,242.08	9,174.70	4,204.44	11.49	58.98	116.897	-658.14	184.26	1,210.20	1,139.89	70.31	17.212	
3,300.00	3,291.94	9,170.18	4,204.61	11.67	58.93	116.561	-658.02	188.78	1,171.82	1,101.34	70.47	16.629	
3,350.00	3,341.80	9,165.54	4,204.78	11.85	58.88	116.218	-657.90	193.41	1,134.31	1,063.69	70.63	16.061	
3,400.00	3,391.66	9,160.80	4,204.96	12.03	58.83	115.866	-657.78	198.15	1,097.79	1,027.01	70.78	15.510	
3,450.00	3,441.51	9,155.95	4,205.15	12.21	58.78	115.505	-657.65	203.00	1,062.33	991.40	70.93	14.978	
3,500.00	3,491.37	9,150.97	4,205.36	12.39	58.73	115.135	-657.51	207.96	1,028.06	956.99	71.07	14.465	
3,550.00	3,541.23	9,140.00	4,205.83	12.57	58.61	114.317	-657.20	218.92	995.11	923.94	71.17	13.982	
3,600.00	3,591.09	9,140.00	4,205.83	12.75	58.61	114.317	-657.20	218.92	963.57	892.21	71.35	13.504	
3,650.00	3,640.95	9,135.10	4,206.05	12.93	58.55	113.951	-657.06	223.82	933.62	862.12	71.49	13.059	
3,700.00	3,690.81	9,129.47	4,206.31	13.11	58.49	113.530	-656.89	229.44	905.40	833.78	71.62	12.641	
3,712.87	3,703.64	9,128.02	4,206.37	13.16	58.48	113.422	-656.85	230.89	898.44	826.79	71.66	12.538	
3,750.00	3,740.71	9,124.52	4,206.53	13.29	58.44	129.660	-656.75	234.38	879.05	807.29	71.76	12.249	
3,800.00	3,790.69	9,122.01	4,206.64	13.46	58.41	-138.671	-656.68	236.89	854.67	782.80	71.87	11.892	
3,850.00	3,840.62	9,122.05	4,206.64	13.63	58.41	-108.350	-656.68	236.85	832.51	760.55	71.96	11.569	
3,900.00	3,890.35	9,124.66	4,206.52	13.79	58.44	-102.026	-656.75	234.24	812.83	740.76	72.07	11.278	
3,950.00	3,939.77	9,129.85	4,206.29	13.95	58.50	-99.574	-656.90	229.06	795.84	723.61	72.23	11.018	
4,000.00	3,988.72	9,137.62	4,205.94	14.10	58.58	-98.151	-657.13	221.29	781.70	709.26	72.45	10.790	
4,050.00	4,037.07	9,148.33	4,205.47	14.26	58.70	-96.961	-657.43	210.60	770.54	697.81	72.73	10.595	
4,100.00	4,084.70	9,162.07	4,204.91	14.41	58.85	-95.709	-657.81	196.88	762.40	689.33	73.07	10.433	
4,150.00	4,131.47	9,178.84	4,204.30	14.56	59.03	-94.276	-658.24	180.13	757.26	683.79	73.47	10.307	
4,200.00	4,177.26	9,198.71	4,203.67	14.71	59.24	-92.605	-658.72	160.28	755.00	681.10	73.90	10.216	
4,216.14	4,191.80	9,205.79	4,203.48	14.76	59.32	-92.011	-658.88	153.20	754.86	680.82	74.04	10.195 CC, ES	
4,250.00	4,221.93	9,221.73	4,203.08	14.86	59.49	-90.679	-659.22	137.27	755.46	681.12	74.34	10.163	
4,300.00	4,265.37	9,247.93	4,202.58	15.01	59.78	-88.505	-659.73	111.07	758.37	683.63	74.75	10.146 SF	
4,350.00	4,307.45	9,275.82	4,202.24	15.15	60.08	-86.205	-660.20	83.19	763.46	688.37	75.09	10.168	
4,400.00	4,348.07	9,303.25	4,201.99	15.31	60.38	-83.926	-660.69	55.76	770.50	695.17	75.33	10.228	
4,450.00	4,387.11	9,332.82	4,201.77	15.46	60.70	-81.532	-661.27	26.21	779.23	703.75	75.48	10.324	
4,500.00	4,424.45	9,364.43	4,201.58	15.61	61.04	-79.065	-661.97	-5.40	789.31	713.80	75.51	10.453	
4,550.00	4,460.01	9,398.25	4,201.45	15.77	61.41	-76.558	-662.80	-39.21	800.45	725.02	75.43	10.611	
4,600.00	4,493.69	9,435.78	4,201.35	15.94	61.81	-73.984	-663.74	-76.72	812.26	737.02	75.24	10.796	
4,650.00	4,525.38	9,475.09	4,201.26	16.11	62.24	-71.481	-664.70	-116.03	824.41	749.47	74.93	11.002	
4,700.00	4,555.01	9,516.09	4,201.20	16.29	62.69	-69.085	-665.67	-157.01	836.61	762.06	74.54	11.223	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 173-												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
4,750.00	4,582.49	9,556.65	4,201.14	16.47	63.13	-66.897	-666.64	-197.56	848.64	774.53	74.11	11.451	
4,780.77	4,598.30	9,582.16	4,201.11	16.59	63.40	-65.630	-667.28	-223.06	855.90	782.07	73.83	11.593	
4,800.00	4,607.92	9,598.25	4,201.08	16.66	63.58	-65.126	-667.71	-239.15	860.43	786.61	73.82	11.656	
4,850.00	4,632.92	9,640.09	4,201.01	16.87	64.03	-63.838	-668.85	-280.97	872.65	798.87	73.78	11.828	
4,900.00	4,657.92	9,676.20	4,200.78	17.08	64.43	-62.742	-669.92	-317.06	885.59	811.84	73.75	12.008	
4,950.00	4,682.92	9,710.65	4,200.09	17.31	64.80	-61.696	-671.02	-351.49	899.47	825.75	73.72	12.201	
4,980.77	4,698.30	9,731.57	4,199.44	17.45	65.03	-61.061	-671.73	-372.39	908.47	834.78	73.69	12.328	
5,000.00	4,707.64	9,744.67	4,198.94	17.54	65.17	-60.161	-672.19	-385.47	914.12	840.84	73.29	12.473	
5,050.00	4,729.21	9,780.82	4,197.23	17.78	65.57	-57.992	-673.53	-421.56	927.96	855.69	72.26	12.842	
5,100.00	4,746.78	9,824.03	4,194.94	18.02	66.04	-56.043	-675.22	-464.67	940.12	868.79	71.33	13.179	
5,150.00	4,760.20	9,869.66	4,192.43	18.27	66.53	-54.474	-677.09	-510.19	950.26	879.64	70.61	13.457	
5,200.00	4,769.38	9,918.20	4,189.74	18.52	67.06	-53.298	-679.09	-558.62	958.05	887.89	70.16	13.656	
5,250.00	4,774.24	9,926.00	4,189.30	18.76	67.15	-52.736	-679.42	-566.40	964.21	894.42	69.79	13.816	
5,289.28	4,775.00	9,926.00	4,189.30	18.95	67.15	-52.354	-679.42	-566.40	968.98	899.48	69.50	13.942	
5,300.00	4,774.84	9,926.00	4,189.30	19.01	67.15	-52.354	-679.42	-566.40	970.34	900.79	69.55	13.952	
5,350.00	4,774.10	9,926.00	4,189.30	19.27	67.15	-52.354	-679.42	-566.40	978.18	908.41	69.77	14.020	
5,400.00	4,773.36	9,926.00	4,189.30	19.53	67.15	-52.354	-679.42	-566.40	988.49	918.49	69.99	14.123	
5,450.00	4,772.61	9,926.00	4,189.30	19.82	67.15	-52.354	-679.42	-566.40	1,001.19	930.95	70.24	14.254	
5,500.00	4,771.87	9,926.00	4,189.30	20.10	67.15	-52.354	-679.42	-566.40	1,016.20	945.71	70.48	14.418	
5,550.00	4,771.13	9,926.00	4,189.30	20.41	67.15	-52.354	-679.42	-566.40	1,033.41	962.66	70.74	14.608	
5,600.00	4,770.38	9,926.00	4,189.30	20.72	67.15	-52.354	-679.42	-566.40	1,052.71	981.70	71.01	14.825	
5,650.00	4,769.64	9,926.00	4,189.30	21.05	67.15	-52.354	-679.42	-566.40	1,074.00	1,002.71	71.29	15.066	
5,700.00	4,768.90	9,926.00	4,189.30	21.38	67.15	-52.354	-679.42	-566.40	1,097.16	1,025.59	71.57	15.330	
5,750.00	4,768.15	9,926.00	4,189.30	21.73	67.15	-52.354	-679.42	-566.40	1,122.06	1,050.20	71.86	15.614	
5,800.00	4,767.41	9,926.00	4,189.30	22.08	67.15	-52.354	-679.42	-566.40	1,148.61	1,076.45	72.16	15.917	
5,850.00	4,766.67	9,926.00	4,189.30	22.45	67.15	-52.354	-679.42	-566.40	1,176.68	1,104.21	72.47	16.237	
5,900.00	4,765.93	9,926.00	4,189.30	22.81	67.15	-52.354	-679.42	-566.40	1,206.17	1,133.39	72.78	16.573	
5,950.00	4,765.18	9,926.00	4,189.30	23.20	67.15	-52.354	-679.42	-566.40	1,236.98	1,163.88	73.10	16.921	
6,000.00	4,764.44	9,926.00	4,189.30	23.58	67.15	-52.354	-679.42	-566.40	1,269.02	1,195.59	73.43	17.283	
6,050.00	4,763.70	9,926.00	4,189.30	23.97	67.15	-52.354	-679.42	-566.40	1,302.18	1,228.42	73.76	17.654	
6,100.00	4,762.95	9,926.00	4,189.30	24.37	67.15	-52.354	-679.42	-566.40	1,336.39	1,262.30	74.09	18.037	
6,150.00	4,762.21	9,926.00	4,189.30	24.78	67.15	-52.354	-679.42	-566.40	1,371.58	1,297.14	74.44	18.426	
6,200.00	4,761.47	9,926.00	4,189.30	25.18	67.15	-52.354	-679.42	-566.40	1,407.66	1,332.88	74.78	18.824	
6,250.00	4,760.73	9,926.00	4,189.30	25.60	67.15	-52.354	-679.42	-566.40	1,444.57	1,369.43	75.14	19.226	
6,300.00	4,759.98	9,926.00	4,189.30	26.02	67.15	-52.354	-679.42	-566.40	1,482.24	1,406.76	75.49	19.635	
6,350.00	4,759.24	9,926.00	4,189.30	26.45	67.15	-52.354	-679.42	-566.40	1,520.63	1,444.78	75.85	20.048	
6,400.00	4,758.50	9,926.00	4,189.30	26.89	67.15	-52.354	-679.42	-566.40	1,559.68	1,483.47	76.21	20.465	
6,450.00	4,757.75	9,926.00	4,189.30	27.33	67.15	-52.354	-679.42	-566.40	1,599.33	1,522.75	76.58	20.884	
6,500.00	4,757.01	9,926.00	4,189.30	27.76	67.15	-52.354	-679.42	-566.40	1,639.56	1,562.61	76.95	21.307	
6,550.00	4,756.27	9,926.00	4,189.30	28.21	67.15	-52.354	-679.42	-566.40	1,680.30	1,602.98	77.33	21.730	
6,600.00	4,755.53	9,926.00	4,189.30	28.66	67.15	-52.354	-679.42	-566.40	1,721.54	1,643.84	77.70	22.155	
6,650.00	4,754.78	9,926.00	4,189.30	29.12	67.15	-52.354	-679.42	-566.40	1,763.23	1,685.14	78.09	22.581	
6,700.00	4,754.04	9,926.00	4,189.30	29.57	67.15	-52.354	-679.42	-566.40	1,805.34	1,726.87	78.47	23.007	
6,750.00	4,753.30	9,926.00	4,189.30	30.04	67.15	-52.354	-679.42	-566.40	1,847.84	1,768.99	78.86	23.433	
6,800.00	4,752.55	9,926.00	4,189.30	30.50	67.15	-52.354	-679.42	-566.40	1,890.71	1,811.47	79.24	23.860	
6,850.00	4,751.81	9,926.00	4,189.30	30.97	67.15	-52.354	-679.42	-566.40	1,933.93	1,854.29	79.64	24.284	
6,900.00	4,751.07	9,926.00	4,189.30	31.44	67.15	-52.354	-679.42	-566.40	1,977.46	1,897.43	80.03	24.709	
6,950.00	4,750.33	9,926.00	4,189.30	31.92	67.15	-52.354	-679.42	-566.40	2,021.29	1,940.86	80.43	25.132	
7,000.00	4,749.58	9,926.00	4,189.30	32.39	67.15	-52.354	-679.42	-566.40	2,065.40	1,984.58	80.82	25.554	
7,050.00	4,748.84	9,926.00	4,189.30	32.87	67.15	-52.354	-679.42	-566.40	2,109.78	2,028.55	81.23	25.974	
7,100.00	4,748.10	9,926.00	4,189.30	33.35	67.15	-52.354	-679.42	-566.40	2,154.40	2,072.77	81.63	26.393	
7,150.00	4,747.35	9,926.00	4,189.30	33.84	67.15	-52.354	-679.42	-566.40	2,199.25	2,117.22	82.03	26.809	

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

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COMPASS 5000.1 Build 74



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 173-												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
7,200.00	4,746.61	9,926.00	4,189.30	34.33	67.15	-52.354	-679.42	-566.40	2,244.32	2,161.89	82.44	27.224	
7,250.00	4,745.87	9,926.00	4,189.30	34.82	67.15	-52.354	-679.42	-566.40	2,289.60	2,206.75	82.85	27.636	
7,300.00	4,745.13	9,926.00	4,189.30	35.31	67.15	-52.354	-679.42	-566.40	2,335.07	2,251.81	83.26	28.046	
7,350.00	4,744.38	9,926.00	4,189.30	35.80	67.15	-52.354	-679.42	-566.40	2,380.72	2,297.05	83.67	28.454	
7,400.00	4,743.64	9,926.00	4,189.30	36.30	67.15	-52.354	-679.42	-566.40	2,426.54	2,342.46	84.08	28.859	
7,450.00	4,742.90	9,926.00	4,189.30	36.80	67.15	-52.354	-679.42	-566.40	2,472.52	2,388.02	84.50	29.261	
7,500.00	4,742.15	9,926.00	4,189.30	37.29	67.15	-52.354	-679.42	-566.40	2,518.66	2,433.75	84.91	29.662	
7,550.00	4,741.41	9,926.00	4,189.30	37.80	67.15	-52.354	-679.42	-566.40	2,564.94	2,479.61	85.33	30.059	
7,600.00	4,740.67	9,926.00	4,189.30	38.30	67.15	-52.354	-679.42	-566.40	2,611.36	2,525.61	85.75	30.453	
7,650.00	4,739.93	9,926.00	4,189.30	38.80	67.15	-52.354	-679.42	-566.40	2,657.91	2,571.74	86.17	30.845	
7,700.00	4,739.18	9,926.00	4,189.30	39.31	67.15	-52.354	-679.42	-566.40	2,704.58	2,617.99	86.59	31.234	
7,750.00	4,738.44	9,926.00	4,189.30	39.82	67.15	-52.354	-679.42	-566.40	2,751.37	2,664.35	87.01	31.620	
7,800.00	4,737.70	9,926.00	4,189.30	40.33	67.15	-52.354	-679.42	-566.40	2,798.27	2,710.83	87.44	32.004	
7,850.00	4,736.95	9,926.00	4,189.30	40.84	67.15	-52.354	-679.42	-566.40	2,845.27	2,757.41	87.86	32.384	
7,900.00	4,736.21	9,926.00	4,189.30	41.35	67.15	-52.354	-679.42	-566.40	2,892.38	2,804.09	88.29	32.761	
7,950.00	4,735.47	9,926.00	4,189.30	41.86	67.15	-52.354	-679.42	-566.40	2,939.58	2,850.86	88.71	33.136	
8,000.00	4,734.72	9,926.00	4,189.30	42.38	67.15	-52.354	-679.42	-566.40	2,986.87	2,897.73	89.14	33.508	
8,050.00	4,733.98	9,926.00	4,189.30	42.89	67.15	-52.354	-679.42	-566.40	3,034.25	2,944.68	89.57	33.876	
8,100.00	4,733.24	9,926.00	4,189.30	43.41	67.15	-52.354	-679.42	-566.40	3,081.71	2,991.71	90.00	34.242	
8,150.00	4,732.50	9,926.00	4,189.30	43.93	67.15	-52.354	-679.42	-566.40	3,129.25	3,038.82	90.43	34.605	
8,200.00	4,731.75	9,926.00	4,189.30	44.45	67.15	-52.354	-679.42	-566.40	3,176.87	3,086.01	90.86	34.965	
8,250.00	4,731.01	9,926.00	4,189.30	44.97	67.15	-52.354	-679.42	-566.40	3,224.56	3,133.26	91.29	35.322	
8,300.00	4,730.27	9,926.00	4,189.30	45.49	67.15	-52.354	-679.42	-566.40	3,272.31	3,180.59	91.72	35.676	
8,350.00	4,729.52	9,926.00	4,189.30	46.01	67.15	-52.354	-679.42	-566.40	3,320.14	3,227.98	92.16	36.027	
8,400.00	4,728.78	9,926.00	4,189.30	46.53	67.15	-52.354	-679.42	-566.40	3,368.02	3,275.43	92.59	36.375	
8,450.00	4,728.04	9,926.00	4,189.30	47.06	67.15	-52.354	-679.42	-566.40	3,415.97	3,322.95	93.03	36.721	
8,500.00	4,727.30	9,926.00	4,189.30	47.58	67.15	-52.354	-679.42	-566.40	3,463.98	3,370.52	93.46	37.063	
8,550.00	4,726.55	9,926.00	4,189.30	48.11	67.15	-52.354	-679.42	-566.40	3,512.04	3,418.14	93.90	37.403	
8,600.00	4,725.81	9,926.00	4,189.30	48.63	67.15	-52.354	-679.42	-566.40	3,560.15	3,465.82	94.33	37.740	
8,650.00	4,725.07	9,926.00	4,189.30	49.16	67.15	-52.354	-679.42	-566.40	3,608.32	3,513.55	94.77	38.074	
8,700.00	4,724.32	9,926.00	4,189.30	49.69	67.15	-52.354	-679.42	-566.40	3,656.53	3,561.32	95.21	38.406	
8,750.00	4,723.58	9,926.00	4,189.30	50.22	67.15	-52.354	-679.42	-566.40	3,704.80	3,609.15	95.65	38.734	
8,800.00	4,722.84	9,926.00	4,189.30	50.75	67.15	-52.354	-679.42	-566.40	3,753.10	3,657.02	96.09	39.060	
8,850.00	4,722.10	9,926.00	4,189.30	51.28	67.15	-52.354	-679.42	-566.40	3,801.45	3,704.93	96.53	39.383	
8,900.00	4,721.35	9,926.00	4,189.30	51.81	67.15	-52.354	-679.42	-566.40	3,849.85	3,752.88	96.97	39.703	
8,950.00	4,720.61	9,926.00	4,189.30	52.34	67.15	-52.354	-679.42	-566.40	3,898.28	3,800.88	97.41	40.021	
9,000.00	4,719.87	9,926.00	4,189.30	52.87	67.15	-52.354	-679.42	-566.40	3,946.76	3,848.91	97.85	40.336	
9,050.00	4,719.12	9,926.00	4,189.30	53.41	67.15	-52.354	-679.42	-566.40	3,995.27	3,896.98	98.29	40.649	
9,100.00	4,718.38	9,926.00	4,189.30	53.94	67.15	-52.354	-679.42	-566.40	4,043.81	3,945.08	98.73	40.958	
9,150.00	4,717.64	9,926.00	4,189.30	54.47	67.15	-52.354	-679.42	-566.40	4,092.40	3,993.22	99.17	41.265	
9,200.00	4,716.90	9,926.00	4,189.30	55.01	67.15	-52.354	-679.42	-566.40	4,141.01	4,041.40	99.61	41.570	
9,250.00	4,716.15	9,926.00	4,189.30	55.54	67.15	-52.354	-679.42	-566.40	4,189.66	4,089.60	100.06	41.872	
9,300.00	4,715.41	9,926.00	4,189.30	56.08	67.15	-52.354	-679.42	-566.40	4,238.34	4,137.84	100.50	42.172	
9,350.00	4,714.67	9,926.00	4,189.30	56.62	67.15	-52.354	-679.42	-566.40	4,287.05	4,186.11	100.95	42.469	
9,400.00	4,713.92	9,926.00	4,189.30	57.15	67.15	-52.354	-679.42	-566.40	4,335.79	4,234.40	101.39	42.764	
9,450.00	4,713.18	9,926.00	4,189.30	57.69	67.15	-52.354	-679.42	-566.40	4,384.56	4,282.72	101.83	43.056	
9,500.00	4,712.44	9,926.00	4,189.30	58.23	67.15	-52.354	-679.42	-566.40	4,433.35	4,331.07	102.28	43.345	
9,550.00	4,711.70	9,926.00	4,189.30	58.77	67.15	-52.354	-679.42	-566.40	4,482.18	4,379.45	102.73	43.633	
9,600.00	4,710.95	9,926.00	4,189.30	59.30	67.15	-52.354	-679.42	-566.40	4,531.02	4,427.85	103.17	43.918	
9,650.00	4,710.21	9,926.00	4,189.30	59.84	67.15	-52.354	-679.42	-566.40	4,579.90	4,476.28	103.62	44.200	
9,700.00	4,709.47	9,926.00	4,189.30	60.38	67.15	-52.354	-679.42	-566.40	4,628.79	4,524.73	104.06	44.481	
9,750.00	4,708.72	9,926.00	4,189.30	60.92	67.15	-52.354	-679.42	-566.40	4,677.71	4,573.20	104.51	44.758	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design HALBERD 27 STATE COM - 51H - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 173-												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis			Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
9,800.00	4,707.98	9,926.00	4,189.30	61.46	67.15	-52.354	-679.42	-566.40	4,726.66	4,621.70	104.96	45.034	
9,850.00	4,707.24	9,926.00	4,189.30	62.00	67.15	-52.354	-679.42	-566.40	4,775.62	4,670.22	105.40	45.308	
9,900.00	4,706.50	9,926.00	4,189.30	62.55	67.15	-52.354	-679.42	-566.40	4,824.61	4,718.75	105.85	45.579	
9,950.00	4,705.75	9,926.00	4,189.30	63.09	67.15	-52.354	-679.42	-566.40	4,873.61	4,767.31	106.30	45.848	
10,000.00	4,705.01	9,926.00	4,189.30	63.63	67.15	-52.354	-679.42	-566.40	4,922.64	4,815.89	106.75	46.115	
10,050.00	4,704.27	9,926.00	4,189.30	64.17	67.15	-52.354	-679.42	-566.40	4,971.69	4,864.49	107.20	46.379	
10,100.00	4,703.52	9,926.00	4,189.30	64.71	67.15	-52.354	-679.42	-566.40	5,020.75	4,913.10	107.65	46.642	
10,150.00	4,702.78	9,926.00	4,189.30	65.26	67.15	-52.354	-679.42	-566.40	5,069.83	4,961.74	108.09	46.902	
10,200.00	4,702.04	9,926.00	4,189.30	65.80	67.15	-52.354	-679.42	-566.40	5,118.93	5,010.39	108.54	47.160	
10,250.00	4,701.29	9,926.00	4,189.30	66.34	67.15	-52.354	-679.42	-566.40	5,168.05	5,059.06	108.99	47.416	
10,287.12	4,700.74	9,926.00	4,189.30	66.75	67.15	-52.354	-679.42	-566.40	5,204.53	5,095.20	109.33	47.605	
10,300.00	4,700.55	9,926.00	4,189.30	66.89	67.15	-52.354	-679.42	-566.40	5,217.19	5,107.74	109.44	47.671	
10,337.14	4,700.00	9,926.00	4,189.30	67.29	67.15	-52.354	-679.42	-566.40	5,253.70	5,143.92	109.78	47.858	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 148-, 1179-												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
350.00	350.00	9,618.00	4,423.61	1.04	143.41	-101.247	311.74	-111.80	4,087.05	3,960.04	127.01	32.178	
400.00	399.98	9,618.00	4,423.61	1.21	143.41	-112.401	311.74	-111.80	4,037.23	3,925.51	111.72	36.136	
450.00	449.93	9,618.00	4,423.61	1.39	143.41	-121.912	311.74	-111.80	3,987.45	3,891.94	95.51	41.747	
500.00	499.84	9,618.00	4,423.61	1.57	143.41	-129.709	311.74	-111.80	3,937.72	3,857.27	80.45	48.944	
515.30	515.09	9,618.00	4,423.61	1.63	143.41	-131.780	311.74	-111.80	3,922.52	3,846.28	76.24	51.451	
550.00	549.70	9,618.00	4,423.61	1.75	143.41	-131.780	311.74	-111.80	3,888.04	3,811.68	76.36	50.917	
600.00	599.56	9,618.00	4,423.61	1.93	143.41	-131.780	311.74	-111.80	3,838.37	3,761.84	76.54	50.151	
650.00	649.42	9,618.00	4,423.61	2.11	143.41	-131.780	311.74	-111.80	3,788.71	3,712.00	76.71	49.388	
700.00	699.28	9,618.00	4,423.61	2.28	143.41	-131.780	311.74	-111.80	3,739.06	3,662.17	76.89	48.629	
750.00	749.13	9,618.00	4,423.61	2.46	143.41	-131.780	311.74	-111.80	3,689.42	3,612.35	77.07	47.872	
800.00	798.99	9,618.00	4,423.61	2.64	143.41	-131.780	311.74	-111.80	3,639.79	3,562.54	77.25	47.120	
850.00	848.85	9,618.00	4,423.61	2.82	143.41	-131.780	311.74	-111.80	3,590.17	3,512.74	77.42	46.371	
900.00	898.71	9,618.00	4,423.61	3.00	143.41	-131.780	311.74	-111.80	3,540.56	3,462.95	77.60	45.625	
950.00	948.57	9,618.00	4,423.61	3.18	143.41	-131.780	311.74	-111.80	3,490.96	3,413.18	77.78	44.882	
1,000.00	998.43	9,618.00	4,423.61	3.36	143.41	-131.780	311.74	-111.80	3,441.37	3,363.41	77.96	44.143	
1,050.00	1,048.29	9,617.52	4,423.63	3.54	143.40	-131.752	311.73	-111.33	3,391.79	3,313.60	78.19	43.379	
1,100.00	1,098.15	9,611.48	4,423.92	3.72	143.24	-131.398	311.68	-105.29	3,342.22	3,263.19	79.04	42.288	
1,150.00	1,148.01	9,605.45	4,424.20	3.90	143.08	-131.035	311.62	-99.27	3,292.66	3,212.76	79.89	41.213	
1,200.00	1,197.86	9,599.42	4,424.48	4.08	142.93	-130.664	311.56	-93.24	3,243.09	3,162.32	80.77	40.154	
1,250.00	1,247.72	9,593.39	4,424.77	4.26	142.77	-130.284	311.50	-87.22	3,193.53	3,111.88	81.65	39.111	
1,300.00	1,297.58	9,587.37	4,425.05	4.44	142.61	-129.894	311.43	-81.20	3,143.97	3,061.42	82.55	38.085	
1,350.00	1,347.44	9,581.35	4,425.33	4.62	142.45	-129.496	311.37	-75.19	3,094.41	3,010.95	83.47	37.074	
1,400.00	1,397.30	9,575.33	4,425.61	4.80	142.29	-129.088	311.30	-69.18	3,044.86	2,960.46	84.39	36.079	
1,450.00	1,447.16	9,569.32	4,425.90	4.98	142.14	-128.669	311.23	-63.18	2,995.31	2,909.97	85.34	35.099	
1,500.00	1,497.02	9,563.32	4,426.18	5.16	141.98	-128.240	311.16	-57.18	2,945.76	2,859.47	86.30	34.135	
1,550.00	1,546.88	9,557.31	4,426.46	5.34	141.82	-127.801	311.09	-51.19	2,896.22	2,808.95	87.27	33.187	
1,600.00	1,596.74	9,551.31	4,426.74	5.52	141.67	-127.350	311.02	-45.19	2,846.68	2,758.42	88.26	32.253	
1,650.00	1,646.59	9,545.32	4,427.02	5.70	141.51	-126.888	310.94	-39.21	2,797.14	2,707.88	89.27	31.335	
1,700.00	1,696.45	9,539.33	4,427.30	5.89	141.35	-126.414	310.86	-33.23	2,747.61	2,657.32	90.29	30.432	
1,750.00	1,746.31	9,533.35	4,427.58	6.07	141.19	-125.927	310.78	-27.25	2,698.08	2,606.76	91.33	29.544	
1,800.00	1,796.17	9,527.37	4,427.86	6.25	141.04	-125.428	310.70	-21.27	2,648.56	2,556.18	92.38	28.670	
1,850.00	1,846.03	9,521.39	4,428.13	6.43	140.88	-124.916	310.62	-15.30	2,599.04	2,505.59	93.45	27.812	
1,900.00	1,895.89	9,515.42	4,428.41	6.61	140.73	-124.389	310.54	-9.34	2,549.53	2,454.99	94.54	26.968	
1,950.00	1,945.75	9,509.45	4,428.69	6.79	140.57	-123.849	310.45	-3.38	2,500.02	2,404.37	95.65	26.138	
2,000.00	1,995.61	9,503.48	4,428.97	6.97	140.41	-123.294	310.36	2.58	2,450.52	2,353.75	96.77	25.323	
2,050.00	2,045.47	9,497.52	4,429.24	7.15	140.26	-122.724	310.27	8.53	2,401.02	2,303.11	97.91	24.522	
2,100.00	2,095.32	9,491.23	4,429.54	7.33	140.09	-122.105	310.18	14.82	2,351.54	2,252.41	99.13	23.722	
2,150.00	2,145.18	9,485.03	4,430.01	7.51	139.82	-121.038	310.04	25.21	2,302.05	2,200.98	101.06	22.778	
2,200.00	2,195.04	9,478.84	4,430.43	7.69	139.56	-119.955	309.93	35.19	2,252.56	2,149.56	103.00	21.870	
2,250.00	2,244.90	9,461.22	4,430.82	7.87	139.31	-118.858	309.86	44.81	2,203.06	2,098.14	104.92	20.997	
2,300.00	2,294.76	9,451.95	4,431.18	8.05	139.06	-117.749	309.81	54.06	2,153.57	2,046.74	106.83	20.158	
2,350.00	2,344.62	9,443.02	4,431.50	8.23	138.83	-116.626	309.79	62.99	2,104.08	1,995.35	108.73	19.352	
2,400.00	2,394.48	9,434.41	4,431.80	8.41	138.60	-115.494	309.80	71.59	2,054.59	1,943.99	110.60	18.576	
2,450.00	2,444.34	9,426.10	4,432.07	8.59	138.39	-114.351	309.82	79.89	2,005.10	1,892.65	112.45	17.831	
2,500.00	2,494.20	9,418.08	4,432.31	8.78	138.18	-113.199	309.86	87.91	1,955.62	1,841.34	114.28	17.113	
2,550.00	2,544.05	9,410.33	4,432.53	8.96	137.97	-112.041	309.92	95.66	1,906.14	1,790.07	116.07	16.422	
2,600.00	2,593.91	9,402.84	4,432.74	9.14	137.78	-110.876	309.99	103.14	1,856.67	1,738.84	117.83	15.757	
2,650.00	2,643.77	9,395.60	4,432.92	9.32	137.59	-109.706	310.08	110.38	1,807.22	1,687.66	119.55	15.116	
2,700.00	2,693.63	9,388.59	4,433.08	9.50	137.40	-108.533	310.18	117.39	1,757.77	1,636.53	121.24	14.499	
2,750.00	2,743.49	9,381.80	4,433.23	9.68	137.22	-107.357	310.29	124.17	1,708.34	1,585.46	122.88	13.903	
2,800.00	2,793.35	9,375.23	4,433.37	9.86	137.05	-106.180	310.41	130.75	1,658.92	1,534.44	124.47	13.328	
2,850.00	2,843.21	9,368.86	4,433.49	10.04	136.89	-105.004	310.53	137.11	1,609.52	1,483.50	126.02	12.772	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 148-, 1179-												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
2,900.00	2,893.07	9,363.69	4,433.59	10.22	136.75	-104.023	310.64	142.28	1,560.14	1,432.83	127.31	12.255	
2,950.00	2,942.93	9,359.00	4,433.67	10.40	136.63	-103.112	310.74	146.97	1,510.79	1,382.31	128.48	11.759	
3,000.00	2,992.78	9,354.31	4,433.75	10.58	136.50	-102.185	310.84	151.66	1,461.46	1,331.82	129.64	11.273	
3,050.00	3,042.64	9,349.64	4,433.83	10.76	136.38	-101.241	310.93	156.33	1,412.17	1,281.38	130.79	10.797	
3,100.00	3,092.50	9,344.98	4,433.92	10.94	136.26	-100.281	311.02	160.99	1,362.92	1,231.00	131.92	10.331	
3,150.00	3,142.36	9,340.33	4,434.00	11.12	136.14	-99.306	311.11	165.63	1,313.71	1,180.67	133.04	9.875	
3,200.00	3,192.22	9,335.70	4,434.08	11.30	136.02	-98.315	311.20	170.26	1,264.54	1,130.41	134.13	9.428	
3,250.00	3,242.08	9,331.08	4,434.16	11.49	135.89	-97.308	311.29	174.88	1,215.43	1,080.23	135.20	8.990	
3,300.00	3,291.94	9,326.47	4,434.23	11.67	135.77	-96.285	311.37	179.49	1,166.37	1,030.12	136.25	8.561	
3,350.00	3,341.80	9,321.87	4,434.31	11.85	135.65	-95.248	311.45	184.08	1,117.38	980.11	137.27	8.140	
3,400.00	3,391.66	9,317.29	4,434.39	12.03	135.53	-94.196	311.53	188.67	1,068.46	930.20	138.26	7.728	
3,450.00	3,441.51	9,312.72	4,434.47	12.21	135.41	-93.129	311.61	193.24	1,019.63	880.41	139.22	7.324	
3,500.00	3,491.37	9,308.16	4,434.54	12.39	135.29	-92.049	311.69	197.79	970.90	830.76	140.14	6.928	
3,550.00	3,541.23	9,303.61	4,434.62	12.57	135.17	-90.955	311.76	202.34	922.28	781.25	141.03	6.540	
3,600.00	3,591.09	9,299.08	4,434.69	12.75	135.06	-89.848	311.83	206.87	873.79	731.92	141.88	6.159	
3,650.00	3,640.95	9,294.56	4,434.77	12.93	134.94	-88.729	311.90	211.39	825.47	682.78	142.69	5.785	
3,700.00	3,690.81	9,290.05	4,434.84	13.11	134.82	-87.598	311.97	215.90	777.32	633.87	143.45	5.419	
3,712.87	3,703.64	9,288.89	4,434.86	13.16	134.79	-87.305	311.98	217.06	764.97	621.32	143.64	5.325	
3,750.00	3,740.71	9,286.30	4,434.90	13.29	134.72	-61.390	312.02	219.65	729.36	582.26	147.10	4.958	
3,800.00	3,790.69	9,285.18	4,434.92	13.46	134.69	42.174	312.04	220.77	681.57	533.70	147.87	4.609	
3,850.00	3,840.62	9,286.77	4,434.89	13.63	134.73	82.448	312.01	219.18	634.16	488.66	145.50	4.359	
3,900.00	3,890.35	9,291.05	4,434.82	13.79	134.85	96.530	311.95	214.90	587.33	445.54	141.79	4.142	
3,950.00	3,939.77	9,298.01	4,434.71	13.95	135.03	104.621	311.85	207.95	541.32	403.21	138.11	3.919	
4,000.00	3,988.72	9,307.61	4,434.55	14.10	135.28	109.772	311.69	198.35	496.40	361.17	135.23	3.671	
4,050.00	4,037.07	9,319.81	4,434.35	14.26	135.60	112.977	311.49	186.14	452.86	319.37	133.49	3.392	
4,100.00	4,084.70	9,334.59	4,434.10	14.41	135.99	114.700	311.22	171.38	411.07	278.08	132.99	3.091	
4,150.00	4,131.47	9,351.88	4,433.80	14.56	136.44	115.192	310.89	154.09	371.43	237.73	133.70	2.778	
4,200.00	4,177.26	9,371.49	4,433.44	14.71	136.95	114.615	310.48	134.49	334.48	198.95	135.53	2.468	
4,250.00	4,221.93	9,392.75	4,432.99	14.86	137.51	113.135	310.12	113.23	300.88	162.66	138.23	2.177	
4,300.00	4,265.37	9,415.88	4,432.38	15.01	138.12	110.711	309.88	90.12	271.51	129.81	141.70	1.916	
4,350.00	4,307.45	9,440.76	4,431.58	15.15	138.77	107.354	309.79	65.24	247.38	101.69	145.69	1.698	
4,400.00	4,348.07	9,467.31	4,430.58	15.31	139.46	103.092	309.90	38.72	229.56	79.77	149.80	1.532	
4,450.00	4,387.11	9,495.63	4,429.33	15.46	140.21	97.946	310.25	10.42	218.96	65.44	153.52	1.426 Level 3	
4,497.59	4,422.70	9,525.84	4,427.93	15.61	141.00	92.036	310.68	-19.75	215.75	59.51	156.23	1.381 Level 3, CC	
4,500.00	4,424.45	9,527.42	4,427.85	15.61	141.04	91.723	310.70	-21.33	215.75	59.42	156.33	1.380 Level 3, ES, SF	
4,550.00	4,460.01	9,561.20	4,426.28	15.77	141.92	84.979	311.14	-55.07	219.31	61.97	157.35	1.394 Level 3	
4,600.00	4,493.69	9,596.88	4,424.60	15.94	142.86	78.045	311.53	-90.71	228.46	72.22	156.24	1.462 Level 3	
4,650.00	4,525.38	9,634.68	4,422.87	16.11	143.85	71.231	311.90	-128.47	241.72	88.65	153.07	1.579	
4,700.00	4,555.01	9,675.18	4,421.41	16.29	144.91	64.834	312.29	-168.94	257.52	109.21	148.31	1.736	
4,750.00	4,582.49	9,718.08	4,420.41	16.47	146.04	59.146	312.73	-211.82	274.49	131.76	142.73	1.923	
4,780.77	4,598.30	9,745.55	4,420.07	16.59	146.76	56.060	313.02	-239.29	285.05	145.84	139.22	2.048	
4,800.00	4,607.92	9,762.47	4,419.93	16.66	147.20	54.638	313.19	-256.21	291.70	154.07	137.63	2.119	
4,850.00	4,632.92	9,806.56	4,419.63	16.87	148.36	51.192	313.58	-300.29	309.67	176.13	133.54	2.319	
4,900.00	4,657.92	9,850.78	4,419.45	17.08	149.52	48.082	313.88	-344.51	328.47	198.92	129.55	2.535	
4,950.00	4,682.92	9,894.92	4,419.36	17.31	150.68	45.285	314.08	-388.65	347.95	222.20	125.75	2.767	
4,980.77	4,698.30	9,922.03	4,419.34	17.45	151.39	43.702	314.15	-415.76	360.23	236.71	123.52	2.916	
5,000.00	4,707.64	9,939.15	4,419.33	17.54	151.84	42.229	314.18	-432.88	367.79	246.72	121.07	3.038	
5,050.00	4,729.21	9,985.10	4,419.35	17.78	153.05	39.034	314.19	-478.83	385.61	269.99	115.61	3.335	
5,100.00	4,746.78	10,032.05	4,419.41	18.02	154.28	36.674	314.13	-525.78	400.45	288.93	111.52	3.591	
5,150.00	4,760.20	10,063.00	4,419.45	18.27	155.09	35.285	314.08	-556.73	412.45	303.47	108.98	3.785	
5,200.00	4,769.38	10,063.00	4,419.45	18.52	155.09	34.511	314.08	-556.73	425.51	318.37	107.14	3.971	
5,250.00	4,774.24	10,063.00	4,419.45	18.76	155.09	33.629	314.08	-556.73	440.53	335.48	105.05	4.194	

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

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COMPASS 5000.1 Build 74



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 148-, 1179-												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,289.28	4,775.00	10,063.00	4,419.45	18.95	155.09	32.875	314.08	-556.73	453.51	350.25	103.26	4.392	
5,300.00	4,774.84	10,063.00	4,419.45	19.01	155.09	32.875	314.08	-556.73	457.28	353.99	103.29	4.427	
5,350.00	4,774.10	10,063.00	4,419.45	19.27	155.09	32.875	314.08	-556.73	477.70	374.21	103.48	4.616	
5,400.00	4,773.36	10,063.00	4,419.45	19.53	155.09	32.875	314.08	-556.73	502.27	398.60	103.67	4.845	
5,450.00	4,772.61	10,063.00	4,419.45	19.82	155.09	32.875	314.08	-556.73	530.44	426.56	103.88	5.106	
5,500.00	4,771.87	10,063.00	4,419.45	20.10	155.09	32.875	314.08	-556.73	561.65	457.57	104.08	5.396	
5,550.00	4,771.13	10,063.00	4,419.45	20.41	155.09	32.875	314.08	-556.73	595.43	491.13	104.30	5.709	
5,600.00	4,770.38	10,063.00	4,419.45	20.72	155.09	32.875	314.08	-556.73	631.37	526.84	104.52	6.040	
5,650.00	4,769.64	10,063.00	4,419.45	21.05	155.09	32.875	314.08	-556.73	669.11	564.36	104.76	6.387	
5,700.00	4,768.90	10,063.00	4,419.45	21.38	155.09	32.875	314.08	-556.73	708.38	603.39	104.99	6.747	
5,750.00	4,768.15	10,063.00	4,419.45	21.73	155.09	32.875	314.08	-556.73	748.92	643.69	105.23	7.117	
5,800.00	4,767.41	10,063.00	4,419.45	22.08	155.09	32.875	314.08	-556.73	790.55	685.07	105.48	7.495	
5,850.00	4,766.67	10,063.00	4,419.45	22.45	155.09	32.875	314.08	-556.73	833.10	727.37	105.73	7.879	
5,900.00	4,765.93	10,063.00	4,419.45	22.81	155.09	32.875	314.08	-556.73	876.44	770.45	105.99	8.269	
5,950.00	4,765.18	10,063.00	4,419.45	23.20	155.09	32.875	314.08	-556.73	920.45	814.20	106.25	8.663	
6,000.00	4,764.44	10,063.00	4,419.45	23.58	155.09	32.875	314.08	-556.73	965.05	858.53	106.52	9.060	
6,050.00	4,763.70	10,063.00	4,419.45	23.97	155.09	32.875	314.08	-556.73	1,010.15	903.36	106.79	9.459	
6,100.00	4,762.95	10,063.00	4,419.45	24.37	155.09	32.875	314.08	-556.73	1,055.69	948.63	107.06	9.860	
6,150.00	4,762.21	10,063.00	4,419.45	24.78	155.09	32.875	314.08	-556.73	1,101.62	994.28	107.34	10.263	
6,200.00	4,761.47	10,063.00	4,419.45	25.18	155.09	32.875	314.08	-556.73	1,147.90	1,040.27	107.62	10.666	
6,250.00	4,760.73	10,063.00	4,419.45	25.60	155.09	32.875	314.08	-556.73	1,194.47	1,086.56	107.91	11.069	
6,300.00	4,759.98	10,063.00	4,419.45	26.02	155.09	32.875	314.08	-556.73	1,241.30	1,133.11	108.20	11.473	
6,350.00	4,759.24	10,063.00	4,419.45	26.45	155.09	32.875	314.08	-556.73	1,288.38	1,179.89	108.49	11.876	
6,400.00	4,758.50	10,063.00	4,419.45	26.89	155.09	32.875	314.08	-556.73	1,335.67	1,226.88	108.78	12.278	
6,450.00	4,757.75	10,063.00	4,419.45	27.33	155.09	32.875	314.08	-556.73	1,383.15	1,274.07	109.08	12.680	
6,500.00	4,757.01	10,063.00	4,419.45	27.76	155.09	32.875	314.08	-556.73	1,430.80	1,321.42	109.38	13.081	
6,550.00	4,756.27	10,063.00	4,419.45	28.21	155.09	32.875	314.08	-556.73	1,478.60	1,368.92	109.68	13.481	
6,600.00	4,755.53	10,063.00	4,419.45	28.66	155.09	32.875	314.08	-556.73	1,526.55	1,416.56	109.99	13.880	
6,650.00	4,754.78	10,063.00	4,419.45	29.12	155.09	32.875	314.08	-556.73	1,574.62	1,464.33	110.29	14.277	
6,700.00	4,754.04	10,063.00	4,419.45	29.57	155.09	32.875	314.08	-556.73	1,622.81	1,512.21	110.60	14.673	
6,750.00	4,753.30	10,063.00	4,419.45	30.04	155.09	32.875	314.08	-556.73	1,671.11	1,560.20	110.91	15.067	
6,800.00	4,752.55	10,063.00	4,419.45	30.50	155.09	32.875	314.08	-556.73	1,719.51	1,608.28	111.22	15.460	
6,850.00	4,751.81	10,063.00	4,419.45	30.97	155.09	32.875	314.08	-556.73	1,767.99	1,656.45	111.54	15.851	
6,900.00	4,751.07	10,063.00	4,419.45	31.44	155.09	32.875	314.08	-556.73	1,816.56	1,704.70	111.85	16.240	
6,950.00	4,750.33	10,063.00	4,419.45	31.92	155.09	32.875	314.08	-556.73	1,865.20	1,753.03	112.17	16.628	
7,000.00	4,749.58	10,063.00	4,419.45	32.39	155.09	32.875	314.08	-556.73	1,913.91	1,801.42	112.49	17.014	
7,050.00	4,748.84	10,063.00	4,419.45	32.87	155.09	32.875	314.08	-556.73	1,962.69	1,849.87	112.81	17.398	
7,100.00	4,748.10	10,063.00	4,419.45	33.35	155.09	32.875	314.08	-556.73	2,011.52	1,898.39	113.13	17.780	
7,150.00	4,747.35	10,063.00	4,419.45	33.84	155.09	32.875	314.08	-556.73	2,060.41	1,946.96	113.46	18.160	
7,200.00	4,746.61	10,063.00	4,419.45	34.33	155.09	32.875	314.08	-556.73	2,109.36	1,995.58	113.78	18.539	
7,250.00	4,745.87	10,063.00	4,419.45	34.82	155.09	32.875	314.08	-556.73	2,158.35	2,044.24	114.11	18.915	
7,300.00	4,745.13	10,063.00	4,419.45	35.31	155.09	32.875	314.08	-556.73	2,207.39	2,092.96	114.43	19.290	
7,350.00	4,744.38	10,063.00	4,419.45	35.80	155.09	32.875	314.08	-556.73	2,256.47	2,141.71	114.76	19.662	
7,400.00	4,743.64	10,063.00	4,419.45	36.30	155.09	32.875	314.08	-556.73	2,305.59	2,190.50	115.09	20.033	
7,450.00	4,742.90	10,063.00	4,419.45	36.80	155.09	32.875	314.08	-556.73	2,354.75	2,239.32	115.42	20.401	
7,500.00	4,742.15	10,063.00	4,419.45	37.29	155.09	32.875	314.08	-556.73	2,403.94	2,288.19	115.75	20.768	
7,550.00	4,741.41	10,063.00	4,419.45	37.80	155.09	32.875	314.08	-556.73	2,453.16	2,337.08	116.08	21.133	
7,600.00	4,740.67	10,063.00	4,419.45	38.30	155.09	32.875	314.08	-556.73	2,502.42	2,386.00	116.42	21.495	
7,650.00	4,739.93	10,063.00	4,419.45	38.80	155.09	32.875	314.08	-556.73	2,551.70	2,434.95	116.75	21.856	
7,700.00	4,739.18	10,063.00	4,419.45	39.31	155.09	32.875	314.08	-556.73	2,601.01	2,483.93	117.08	22.215	
7,750.00	4,738.44	10,063.00	4,419.45	39.82	155.09	32.875	314.08	-556.73	2,650.35	2,532.93	117.42	22.571	
7,800.00	4,737.70	10,063.00	4,419.45	40.33	155.09	32.875	314.08	-556.73	2,699.71	2,581.95	117.76	22.926	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 148-, 1179-												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
7,850.00	4,736.95	10,063.00	4,419.45	40.84	155.09	32.875	314.08	-556.73	2,749.09	2,631.00	118.09	23.279	
7,900.00	4,736.21	10,063.00	4,419.45	41.35	155.09	32.875	314.08	-556.73	2,798.50	2,680.07	118.43	23.630	
7,950.00	4,735.47	10,063.00	4,419.45	41.86	155.09	32.875	314.08	-556.73	2,847.93	2,729.16	118.77	23.979	
8,000.00	4,734.72	10,063.00	4,419.45	42.38	155.09	32.875	314.08	-556.73	2,897.37	2,778.27	119.11	24.326	
8,050.00	4,733.98	10,063.00	4,419.45	42.89	155.09	32.875	314.08	-556.73	2,946.84	2,827.39	119.45	24.670	
8,100.00	4,733.24	10,063.00	4,419.45	43.41	155.09	32.875	314.08	-556.73	2,996.32	2,876.53	119.79	25.014	
8,150.00	4,732.50	10,063.00	4,419.45	43.93	155.09	32.875	314.08	-556.73	3,045.82	2,925.69	120.13	25.355	
8,200.00	4,731.75	10,063.00	4,419.45	44.45	155.09	32.875	314.08	-556.73	3,095.34	2,974.87	120.47	25.694	
8,250.00	4,731.01	10,063.00	4,419.45	44.97	155.09	32.875	314.08	-556.73	3,144.87	3,024.06	120.81	26.031	
8,300.00	4,730.27	10,063.00	4,419.45	45.49	155.09	32.875	314.08	-556.73	3,194.42	3,073.26	121.15	26.366	
8,350.00	4,729.52	10,063.00	4,419.45	46.01	155.09	32.875	314.08	-556.73	3,243.98	3,122.48	121.50	26.700	
8,400.00	4,728.78	10,063.00	4,419.45	46.53	155.09	32.875	314.08	-556.73	3,293.55	3,171.71	121.84	27.031	
8,450.00	4,728.04	10,063.00	4,419.45	47.06	155.09	32.875	314.08	-556.73	3,343.14	3,220.95	122.19	27.361	
8,500.00	4,727.30	10,063.00	4,419.45	47.58	155.09	32.875	314.08	-556.73	3,392.73	3,270.20	122.53	27.689	
8,550.00	4,726.55	10,063.00	4,419.45	48.11	155.09	32.875	314.08	-556.73	3,442.34	3,319.47	122.87	28.015	
8,600.00	4,725.81	10,063.00	4,419.45	48.63	155.09	32.875	314.08	-556.73	3,491.96	3,368.74	123.22	28.339	
8,650.00	4,725.07	10,063.00	4,419.45	49.16	155.09	32.875	314.08	-556.73	3,541.60	3,418.03	123.57	28.662	
8,700.00	4,724.32	10,063.00	4,419.45	49.69	155.09	32.875	314.08	-556.73	3,591.24	3,467.33	123.91	28.982	
8,750.00	4,723.58	10,063.00	4,419.45	50.22	155.09	32.875	314.08	-556.73	3,640.89	3,516.63	124.26	29.301	
8,800.00	4,722.84	10,063.00	4,419.45	50.75	155.09	32.875	314.08	-556.73	3,690.55	3,565.94	124.61	29.618	
8,850.00	4,722.10	10,063.00	4,419.45	51.28	155.09	32.875	314.08	-556.73	3,740.22	3,615.27	124.95	29.933	
8,900.00	4,721.35	10,063.00	4,419.45	51.81	155.09	32.875	314.08	-556.73	3,789.90	3,664.60	125.30	30.247	
8,950.00	4,720.61	10,063.00	4,419.45	52.34	155.09	32.875	314.08	-556.73	3,839.59	3,713.94	125.65	30.558	
9,000.00	4,719.87	10,063.00	4,419.45	52.87	155.09	32.875	314.08	-556.73	3,889.28	3,763.28	126.00	30.868	
9,050.00	4,719.12	10,063.00	4,419.45	53.41	155.09	32.875	314.08	-556.73	3,938.98	3,812.64	126.35	31.176	
9,100.00	4,718.38	10,063.00	4,419.45	53.94	155.09	32.875	314.08	-556.73	3,988.69	3,862.00	126.69	31.483	
9,150.00	4,717.64	10,063.00	4,419.45	54.47	155.09	32.875	314.08	-556.73	4,038.41	3,911.37	127.04	31.788	
9,200.00	4,716.90	10,063.00	4,419.45	55.01	155.09	32.875	314.08	-556.73	4,088.14	3,960.74	127.39	32.091	
9,250.00	4,716.15	10,063.00	4,419.45	55.54	155.09	32.875	314.08	-556.73	4,137.87	4,010.12	127.74	32.392	
9,300.00	4,715.41	10,063.00	4,419.45	56.08	155.09	32.875	314.08	-556.73	4,187.60	4,059.51	128.09	32.692	
9,350.00	4,714.67	10,063.00	4,419.45	56.62	155.09	32.875	314.08	-556.73	4,237.35	4,108.90	128.44	32.990	
9,400.00	4,713.92	10,063.00	4,419.45	57.15	155.09	32.875	314.08	-556.73	4,287.10	4,158.30	128.79	33.287	
9,450.00	4,713.18	10,063.00	4,419.45	57.69	155.09	32.875	314.08	-556.73	4,336.85	4,207.71	129.14	33.581	
9,500.00	4,712.44	10,063.00	4,419.45	58.23	155.09	32.875	314.08	-556.73	4,386.61	4,257.12	129.50	33.875	
9,550.00	4,711.70	10,063.00	4,419.45	58.77	155.09	32.875	314.08	-556.73	4,436.38	4,306.53	129.85	34.166	
9,600.00	4,710.95	10,063.00	4,419.45	59.30	155.09	32.875	314.08	-556.73	4,486.15	4,355.95	130.20	34.456	
9,650.00	4,710.21	10,063.00	4,419.45	59.84	155.09	32.875	314.08	-556.73	4,535.93	4,405.38	130.55	34.745	
9,700.00	4,709.47	10,063.00	4,419.45	60.38	155.09	32.875	314.08	-556.73	4,585.71	4,454.81	130.90	35.032	
9,750.00	4,708.72	10,063.00	4,419.45	60.92	155.09	32.875	314.08	-556.73	4,635.49	4,504.24	131.25	35.317	
9,800.00	4,707.98	10,063.00	4,419.45	61.46	155.09	32.875	314.08	-556.73	4,685.28	4,553.68	131.61	35.601	
9,850.00	4,707.24	10,063.00	4,419.45	62.00	155.09	32.875	314.08	-556.73	4,735.08	4,603.12	131.96	35.883	
9,900.00	4,706.50	10,063.00	4,419.45	62.55	155.09	32.875	314.08	-556.73	4,784.88	4,652.57	132.31	36.164	
9,950.00	4,705.75	10,063.00	4,419.45	63.09	155.09	32.875	314.08	-556.73	4,834.68	4,702.02	132.67	36.443	
10,000.00	4,705.01	10,063.00	4,419.45	63.63	155.09	32.875	314.08	-556.73	4,884.49	4,751.47	133.02	36.720	
10,050.00	4,704.27	10,063.00	4,419.45	64.17	155.09	32.875	314.08	-556.73	4,934.30	4,800.93	133.37	36.997	
10,100.00	4,703.52	10,063.00	4,419.45	64.71	155.09	32.875	314.08	-556.73	4,984.12	4,850.39	133.73	37.271	
10,150.00	4,702.78	10,063.00	4,419.45	65.26	155.09	32.875	314.08	-556.73	5,033.93	4,899.85	134.08	37.544	
10,200.00	4,702.04	10,063.00	4,419.45	65.80	155.09	32.875	314.08	-556.73	5,083.76	4,949.32	134.43	37.816	
10,250.00	4,701.29	10,063.00	4,419.45	66.34	155.09	32.875	314.08	-556.73	5,133.58	4,998.79	134.79	38.087	
10,287.12	4,700.74	10,063.00	4,419.45	66.75	155.09	32.875	314.08	-556.73	5,170.58	5,035.53	135.05	38.286	
10,300.00	4,700.55	10,063.00	4,419.45	66.89	155.09	32.875	314.08	-556.73	5,183.41	5,048.27	135.14	38.355	
10,337.14	4,700.00	10,063.00	4,419.45	67.29	155.09	32.875	314.08	-556.73	5,220.43	5,085.03	135.40	38.554	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - 20H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
150.00	150.00	150.00	150.00	0.32	0.32	-158.942	-18.70	-7.20	20.04	19.39	0.65	31.055	
200.00	200.00	200.00	200.00	0.50	0.50	-158.942	-18.70	-7.20	20.04	19.03	1.00	19.964	
250.00	250.00	250.00	250.00	0.68	0.68	-158.942	-18.70	-7.20	20.04	18.68	1.36	14.710	
300.00	300.00	300.00	300.00	0.86	0.86	-158.942	-18.70	-7.20	20.04	18.32	1.72	11.646 CC	
350.00	350.00	350.00	349.99	1.04	1.03	131.454	-18.86	-6.79	20.33	18.26	2.07	9.803 ES	
400.00	399.98	399.98	399.96	1.21	1.21	130.556	-19.34	-5.58	21.21	18.79	2.43	8.732	
450.00	449.93	449.94	449.87	1.39	1.38	129.214	-20.13	-3.55	22.70	19.91	2.78	8.151	
500.00	499.84	499.87	499.71	1.57	1.56	127.604	-21.24	-0.71	24.79	21.65	3.14	7.898	
515.30	515.09	515.13	514.93	1.63	1.61	127.085	-21.64	0.32	25.55	22.30	3.25	7.866	
550.00	549.70	549.75	549.43	1.75	1.73	125.567	-22.66	2.93	27.37	23.88	3.49	7.841 SF	
600.00	599.56	599.58	599.03	1.93	1.91	122.325	-24.40	7.37	30.14	26.30	3.84	7.847	
650.00	649.42	649.41	648.57	2.11	2.09	118.501	-26.38	12.44	33.15	28.95	4.20	7.899	
700.00	699.28	699.27	698.13	2.28	2.26	115.250	-28.38	17.55	36.28	31.73	4.55	7.973	
750.00	749.13	749.14	747.69	2.46	2.44	112.523	-30.37	22.66	39.52	34.61	4.91	8.053	
800.00	798.99	799.00	797.25	2.64	2.62	110.212	-32.37	27.77	42.83	37.57	5.26	8.137	
850.00	848.85	848.86	846.81	2.82	2.80	108.235	-34.37	32.88	46.20	40.58	5.62	8.219	
900.00	898.71	898.72	896.37	3.00	2.98	106.529	-36.37	37.99	49.62	43.64	5.98	8.298	
950.00	948.57	948.59	945.93	3.18	3.17	105.044	-38.37	43.10	53.07	46.73	6.34	8.374	
1,000.00	998.43	998.45	995.49	3.36	3.35	103.741	-40.36	48.21	56.56	49.86	6.70	8.447	
1,050.00	1,048.29	1,048.31	1,045.05	3.54	3.53	102.589	-42.36	53.32	60.07	53.02	7.05	8.515	
1,100.00	1,098.15	1,098.18	1,094.61	3.72	3.71	101.566	-44.36	58.43	63.61	56.19	7.41	8.579	
1,150.00	1,148.01	1,148.04	1,144.17	3.90	3.89	100.650	-46.36	63.54	67.16	59.39	7.77	8.640	
1,200.00	1,197.86	1,197.90	1,193.73	4.08	4.08	99.826	-48.36	68.65	70.73	62.59	8.13	8.697	
1,250.00	1,247.72	1,247.76	1,243.29	4.26	4.26	99.082	-50.35	73.76	74.31	65.82	8.49	8.751	
1,300.00	1,297.58	1,297.63	1,292.85	4.44	4.44	98.406	-52.35	78.87	77.90	69.05	8.85	8.801	
1,350.00	1,347.44	1,347.49	1,342.41	4.62	4.62	97.789	-54.35	83.98	81.50	72.29	9.21	8.849	
1,400.00	1,397.30	1,397.35	1,391.97	4.80	4.81	97.225	-56.35	89.09	85.11	75.54	9.57	8.894	
1,450.00	1,447.16	1,447.21	1,441.53	4.98	4.99	96.707	-58.35	94.20	88.73	78.80	9.93	8.936	
1,500.00	1,497.02	1,497.08	1,491.09	5.16	5.17	96.230	-60.34	99.31	92.35	82.07	10.29	8.976	
1,550.00	1,546.88	1,546.94	1,540.65	5.34	5.35	95.788	-62.34	104.42	95.99	85.34	10.65	9.013	
1,600.00	1,596.74	1,596.80	1,590.21	5.52	5.54	95.379	-64.34	109.53	99.62	88.61	11.01	9.049	
1,650.00	1,646.59	1,646.67	1,639.77	5.70	5.72	94.999	-66.34	114.64	103.26	91.89	11.37	9.083	
1,700.00	1,696.45	1,696.53	1,689.33	5.89	5.90	94.644	-68.33	119.75	106.91	95.18	11.73	9.115	
1,750.00	1,746.31	1,746.39	1,738.89	6.07	6.09	94.313	-70.33	124.86	110.56	98.47	12.09	9.145	
1,800.00	1,796.17	1,796.25	1,788.45	6.25	6.27	94.003	-72.33	129.97	114.21	101.76	12.45	9.174	
1,850.00	1,846.03	1,846.12	1,838.01	6.43	6.45	93.713	-74.33	135.08	117.86	105.05	12.81	9.202	
1,900.00	1,895.89	1,895.98	1,887.57	6.61	6.63	93.439	-76.33	140.19	121.52	108.35	13.17	9.228	
1,950.00	1,945.75	1,945.84	1,937.13	6.79	6.82	93.182	-78.32	145.30	125.18	111.65	13.53	9.253	
2,000.00	1,995.61	1,995.70	1,986.69	6.97	7.00	92.939	-80.32	150.41	128.84	114.96	13.89	9.277	
2,050.00	2,045.47	2,045.57	2,036.25	7.15	7.18	92.710	-82.32	155.52	132.51	118.26	14.25	9.300	
2,100.00	2,095.32	2,095.43	2,085.81	7.33	7.37	92.493	-84.32	160.63	136.18	121.57	14.61	9.322	
2,150.00	2,145.18	2,145.29	2,135.37	7.51	7.55	92.288	-86.32	165.74	139.85	124.88	14.97	9.342	
2,200.00	2,195.04	2,195.16	2,184.93	7.69	7.73	92.093	-88.31	170.85	143.52	128.19	15.33	9.362	
2,250.00	2,244.90	2,245.02	2,234.49	7.87	7.92	91.908	-90.31	175.96	147.19	131.50	15.69	9.382	
2,300.00	2,294.76	2,294.88	2,284.05	8.05	8.10	91.731	-92.31	181.07	150.86	134.81	16.05	9.400	
2,350.00	2,344.62	2,344.74	2,333.61	8.23	8.28	91.563	-94.31	186.18	154.54	138.13	16.41	9.418	
2,400.00	2,394.48	2,394.61	2,383.17	8.41	8.47	91.403	-96.31	191.29	158.21	141.44	16.77	9.434	
2,450.00	2,444.34	2,444.47	2,432.73	8.59	8.65	91.251	-98.30	196.40	161.89	144.76	17.13	9.451	
2,500.00	2,494.20	2,494.33	2,482.29	8.78	8.83	91.105	-100.30	201.51	165.57	148.08	17.49	9.466	
2,550.00	2,544.05	2,544.20	2,531.85	8.96	9.02	90.965	-102.30	206.62	169.25	151.40	17.85	9.482	
2,600.00	2,593.91	2,594.06	2,581.41	9.14	9.20	90.831	-104.30	211.73	172.93	154.72	18.21	9.496	
2,650.00	2,643.77	2,643.92	2,630.97	9.32	9.38	90.703	-106.30	216.84	176.61	158.04	18.57	9.510	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - 20H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
2,700.00	2,693.63	2,693.78	2,680.53	9.50	9.57	90.580	-108.29	221.95	180.29	161.36	18.93	9.524	
2,750.00	2,743.49	2,743.65	2,730.09	9.68	9.75	90.462	-110.29	227.06	183.98	164.69	19.29	9.537	
2,800.00	2,793.35	2,795.68	2,781.85	9.86	9.94	90.503	-112.38	231.85	187.49	167.83	19.66	9.537	
2,850.00	2,843.21	2,849.07	2,835.15	10.04	10.13	91.320	-114.53	234.02	190.14	170.11	20.03	9.493	
2,900.00	2,893.07	2,902.12	2,888.14	10.22	10.31	92.944	-116.68	233.22	191.96	171.57	20.39	9.413	
2,950.00	2,942.93	2,954.50	2,940.35	10.40	10.47	95.332	-118.80	229.55	193.19	172.44	20.75	9.310	
3,000.00	2,992.78	3,005.93	2,991.33	10.58	10.63	98.434	-120.88	223.16	194.13	173.02	21.10	9.200	
3,050.00	3,042.64	3,056.14	3,040.70	10.76	10.78	102.180	-122.89	214.28	195.20	173.75	21.45	9.101	
3,100.00	3,092.50	3,104.91	3,088.14	10.94	10.93	106.470	-124.83	203.18	196.89	175.10	21.79	9.036	
3,150.00	3,142.36	3,152.05	3,133.40	11.12	11.07	111.176	-126.69	190.16	199.73	177.61	22.12	9.028	
3,200.00	3,192.22	3,197.42	3,176.32	11.30	11.20	116.144	-128.46	175.54	204.27	181.82	22.45	9.099	
3,250.00	3,242.08	3,240.94	3,216.78	11.49	11.32	121.208	-130.12	159.61	210.98	188.22	22.76	9.268	
3,300.00	3,291.94	3,282.55	3,254.74	11.67	11.44	126.212	-131.69	142.67	220.25	197.18	23.07	9.547	
3,350.00	3,341.80	3,322.21	3,290.21	11.85	11.55	131.020	-133.16	124.99	232.32	208.96	23.37	9.942	
3,400.00	3,391.66	3,359.94	3,323.25	12.03	11.65	135.538	-134.53	106.82	247.29	223.63	23.65	10.455	
3,450.00	3,441.51	3,395.76	3,353.93	12.21	11.75	139.705	-135.81	88.38	265.11	241.18	23.93	11.080	
3,500.00	3,491.37	3,429.73	3,382.36	12.39	11.85	143.497	-136.99	69.83	285.66	261.47	24.19	11.808	
3,550.00	3,541.23	3,461.89	3,408.66	12.57	11.94	146.915	-138.09	51.35	308.75	284.30	24.45	12.628	
3,600.00	3,591.09	3,492.34	3,432.97	12.75	12.02	149.976	-139.11	33.05	334.16	309.46	24.70	13.530	
3,650.00	3,640.95	3,521.13	3,455.41	12.93	12.11	152.708	-140.05	15.04	361.66	336.72	24.94	14.502	
3,700.00	3,690.81	3,550.00	3,477.36	13.11	12.20	155.285	-140.97	-3.70	391.04	365.86	25.18	15.531	
3,712.87	3,703.64	3,550.00	3,477.36	13.16	12.20	155.285	-140.97	-3.70	398.92	373.70	25.22	15.815	
3,750.00	3,740.71	3,574.49	3,495.52	13.29	12.27	176.286	-141.74	-20.10	421.67	396.25	25.42	16.591	
3,800.00	3,790.69	3,600.00	3,513.99	13.46	12.35	-86.974	-142.51	-37.68	452.28	426.66	25.62	17.656	
3,850.00	3,840.62	3,626.51	3,532.68	13.63	12.44	-52.304	-143.31	-56.46	482.60	456.85	25.76	18.736	
3,900.00	3,890.35	3,650.00	3,548.80	13.79	12.52	-42.519	-143.99	-73.54	512.51	486.67	25.84	19.838	
3,950.00	3,939.77	3,678.36	3,567.69	13.95	12.61	-37.081	-144.79	-94.66	541.84	515.98	25.86	20.955	
4,000.00	3,988.72	3,700.00	3,581.68	14.10	12.69	-33.576	-145.39	-111.17	570.54	544.74	25.80	22.112	
4,050.00	4,037.07	3,730.07	3,600.49	14.26	12.80	-30.658	-146.19	-134.60	598.47	572.77	25.70	23.287	
4,100.00	4,084.70	3,750.00	3,612.56	14.41	12.87	-28.560	-146.71	-150.47	625.65	600.15	25.50	24.533	
4,150.00	4,131.47	3,781.66	3,631.02	14.56	13.00	-26.547	-147.50	-176.17	651.89	626.64	25.26	25.811	
4,200.00	4,177.26	3,800.00	3,641.33	14.71	13.07	-25.093	-147.95	-191.33	677.34	652.40	24.94	27.163	
4,250.00	4,221.93	3,833.16	3,659.22	14.86	13.21	-23.581	-148.72	-219.24	701.70	677.13	24.56	28.567	
4,300.00	4,265.37	3,860.74	3,673.35	15.01	13.32	-22.354	-149.34	-242.92	725.14	701.01	24.13	30.053	
4,350.00	4,307.45	3,901.97	3,693.96	15.15	13.50	-21.129	-150.24	-278.61	747.07	723.42	23.64	31.597	
4,400.00	4,348.07	3,947.51	3,716.74	15.31	13.72	-20.069	-151.23	-318.04	766.81	743.69	23.12	33.172	
4,450.00	4,387.11	3,994.08	3,740.02	15.46	13.94	-19.190	-152.25	-358.35	784.27	761.73	22.55	34.783	
4,500.00	4,424.45	4,041.53	3,763.75	15.61	14.19	-18.467	-153.28	-399.44	799.40	777.46	21.94	36.430	
4,550.00	4,460.01	4,073.06	3,779.39	15.77	14.35	-17.958	-153.97	-426.79	812.44	791.17	21.27	38.194	
4,600.00	4,493.69	4,100.00	3,791.80	15.94	14.50	-17.528	-154.57	-450.70	824.64	804.08	20.55	40.124	
4,650.00	4,525.38	4,100.00	3,791.80	16.11	14.50	-17.260	-154.57	-450.70	836.20	816.47	19.74	42.368	
4,700.00	4,555.01	4,134.12	3,805.88	16.29	14.69	-16.879	-155.35	-481.76	846.48	827.51	18.97	44.625	
4,750.00	4,582.49	4,150.00	3,811.79	16.47	14.77	-16.604	-155.73	-496.50	856.25	838.12	18.14	47.207	
4,780.77	4,598.30	4,166.69	3,817.56	16.59	14.87	-16.425	-156.12	-512.15	861.82	844.18	17.63	48.871	
4,800.00	4,607.92	4,174.40	3,820.08	16.66	14.91	-16.397	-156.30	-519.44	865.34	847.63	17.70	48.886	
4,850.00	4,632.92	4,200.00	3,827.71	16.87	15.06	-16.291	-156.92	-543.86	875.67	857.78	17.89	48.956	
4,900.00	4,657.92	4,200.00	3,827.71	17.08	15.06	-16.291	-156.92	-543.86	887.80	869.77	18.02	49.258	
4,950.00	4,682.92	4,232.95	3,835.92	17.31	15.25	-16.127	-157.72	-575.76	901.02	882.80	18.23	49.437	
4,980.77	4,698.30	4,250.00	3,839.44	17.45	15.34	-16.030	-158.14	-592.44	910.13	891.79	18.34	49.612	
5,000.00	4,707.64	4,250.00	3,839.44	17.54	15.34	-15.868	-158.14	-592.44	915.76	898.02	17.75	51.606	
6,050.00	4,763.70	5,105.93	3,835.46	23.97	21.53	-14.485	-179.68	-1,447.27	958.90	941.38	17.52	54.742	
6,100.00	4,762.95	5,155.93	3,834.47	24.37	21.97	-14.481	-180.94	-1,497.24	959.14	941.16	17.97	53.367	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - 20H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
6,150.00	4,762.21	5,205.93	3,833.48	24.78	22.41	-14.478	-182.19	-1,547.21	959.38	940.94	18.43	52.049	
6,200.00	4,761.47	5,255.93	3,832.49	25.18	22.86	-14.474	-183.45	-1,597.19	959.62	940.72	18.89	50.789	
6,250.00	4,760.73	5,305.93	3,831.50	25.60	23.31	-14.470	-184.71	-1,647.16	959.85	940.50	19.36	49.581	
6,300.00	4,759.98	5,355.93	3,830.51	26.02	23.77	-14.466	-185.97	-1,697.13	960.09	940.27	19.83	48.245	
6,350.00	4,759.24	5,405.93	3,829.52	26.45	24.23	-14.463	-187.23	-1,747.11	960.33	940.04	20.30	47.316	
6,400.00	4,758.50	5,455.93	3,828.53	26.89	24.70	-14.459	-188.49	-1,797.08	960.57	939.81	20.77	46.253	
6,450.00	4,757.75	5,505.93	3,827.54	27.33	25.16	-14.455	-189.75	-1,847.06	960.81	939.57	21.24	45.232	
6,500.00	4,757.01	5,555.93	3,826.55	27.76	25.64	-14.452	-191.01	-1,897.03	961.05	939.34	21.72	44.253	
6,550.00	4,756.27	5,605.93	3,825.56	28.21	26.11	-14.448	-192.26	-1,947.00	961.29	939.10	22.19	43.312	
6,600.00	4,755.53	5,655.93	3,824.57	28.66	26.60	-14.444	-193.52	-1,996.98	961.53	938.86	22.67	42.408	
6,650.00	4,754.78	5,705.93	3,823.58	29.12	27.08	-14.440	-194.78	-2,046.95	961.77	938.62	23.15	41.538	
6,700.00	4,754.04	5,755.93	3,822.59	29.57	27.57	-14.437	-196.04	-2,096.92	962.01	938.38	23.64	40.702	
6,750.00	4,753.30	5,805.92	3,821.60	30.04	28.05	-14.433	-197.30	-2,146.90	962.25	938.13	24.12	39.896	
6,800.00	4,752.55	5,855.92	3,820.61	30.50	28.55	-14.429	-198.56	-2,196.87	962.49	937.89	24.60	39.121	
6,850.00	4,751.81	5,905.92	3,819.62	30.97	29.04	-14.425	-199.82	-2,246.85	962.73	937.64	25.09	38.373	
6,900.00	4,751.07	5,955.92	3,818.63	31.44	29.54	-14.422	-201.08	-2,296.82	962.97	937.39	25.58	37.652	
6,950.00	4,750.33	6,005.92	3,817.64	31.92	30.04	-14.418	-202.34	-2,346.79	963.21	937.15	26.06	36.957	
7,000.00	4,749.58	6,055.92	3,816.64	32.39	30.54	-14.414	-203.59	-2,396.77	963.45	936.90	26.55	36.286	
7,050.00	4,748.84	6,105.92	3,815.65	32.87	31.04	-14.410	-204.85	-2,446.74	963.69	936.65	27.04	35.638	
7,100.00	4,748.10	6,155.92	3,814.66	33.35	31.55	-14.407	-206.11	-2,496.71	963.93	936.40	27.53	35.012	
7,150.00	4,747.35	6,205.92	3,813.67	33.84	32.06	-14.403	-207.37	-2,546.69	964.17	936.14	28.02	34.406	
7,200.00	4,746.61	6,255.92	3,812.68	34.33	32.57	-14.399	-208.63	-2,596.66	964.41	935.89	28.51	33.821	
7,250.00	4,745.87	6,305.92	3,811.69	34.82	33.08	-14.396	-209.89	-2,646.64	964.65	935.64	29.01	33.255	
7,300.00	4,745.13	6,355.92	3,810.70	35.31	33.59	-14.392	-211.15	-2,696.61	964.89	935.38	29.50	32.707	
7,350.00	4,744.38	6,405.92	3,809.71	35.80	34.10	-14.388	-212.41	-2,746.58	965.12	935.13	29.99	32.176	
7,400.00	4,743.64	6,455.92	3,808.72	36.30	34.62	-14.384	-213.67	-2,796.56	965.36	934.88	30.49	31.662	
7,450.00	4,742.90	6,505.92	3,807.73	36.80	35.14	-14.381	-214.92	-2,846.53	965.60	934.62	30.98	31.164	
7,500.00	4,742.15	6,555.92	3,806.74	37.29	35.65	-14.377	-216.18	-2,896.50	965.84	934.36	31.48	30.681	
7,550.00	4,741.41	6,605.91	3,805.75	37.80	36.17	-14.373	-217.44	-2,946.48	966.08	934.11	31.98	30.212	
7,600.00	4,740.67	6,655.91	3,804.76	38.30	36.70	-14.370	-218.70	-2,996.45	966.32	933.85	32.47	29.757	
7,650.00	4,739.93	6,705.91	3,803.77	38.80	37.22	-14.366	-219.96	-3,046.43	966.56	933.59	32.97	29.315	
7,700.00	4,739.18	6,755.91	3,802.78	39.31	37.74	-14.362	-221.22	-3,096.40	966.80	933.33	33.47	28.887	
7,750.00	4,738.44	6,805.91	3,801.79	39.82	38.27	-14.359	-222.48	-3,146.37	967.04	933.07	33.97	28.470	
7,800.00	4,737.70	6,855.91	3,800.80	40.33	38.79	-14.355	-223.74	-3,196.35	967.28	932.82	34.47	28.065	
7,850.00	4,736.95	6,905.91	3,799.81	40.84	39.32	-14.351	-224.99	-3,246.32	967.52	932.56	34.96	27.671	
7,900.00	4,736.21	6,955.91	3,798.82	41.35	39.85	-14.348	-226.25	-3,296.29	967.76	932.30	35.46	27.289	
7,950.00	4,735.47	7,005.91	3,797.83	41.86	40.37	-14.344	-227.51	-3,346.27	968.00	932.04	35.96	26.916	
8,000.00	4,734.72	7,055.91	3,796.84	42.38	40.90	-14.340	-228.77	-3,396.24	968.24	931.78	36.46	26.554	
8,050.00	4,733.98	7,105.91	3,795.85	42.89	41.43	-14.336	-230.03	-3,446.22	968.48	931.52	36.96	26.201	
8,100.00	4,733.24	7,155.91	3,794.86	43.41	41.97	-14.333	-231.29	-3,496.19	968.72	931.26	37.46	25.857	
8,150.00	4,732.50	7,205.91	3,793.86	43.93	42.50	-14.329	-232.55	-3,546.16	968.96	930.99	37.97	25.522	
8,200.00	4,731.75	7,255.91	3,792.87	44.45	43.03	-14.325	-233.81	-3,596.14	969.20	930.73	38.47	25.195	
8,250.00	4,731.01	7,305.91	3,791.88	44.97	43.56	-14.322	-235.07	-3,646.11	969.44	930.47	38.97	24.878	
8,300.00	4,730.27	7,355.91	3,790.89	45.49	44.10	-14.318	-236.32	-3,696.08	969.68	930.21	39.47	24.567	
8,350.00	4,729.52	7,405.91	3,789.90	46.01	44.63	-14.314	-237.58	-3,746.06	969.92	929.95	39.97	24.265	
8,400.00	4,728.78	7,455.90	3,788.91	46.53	45.17	-14.311	-238.84	-3,796.03	970.16	929.68	40.47	23.970	
8,450.00	4,728.04	7,505.90	3,787.92	47.06	45.70	-14.307	-240.10	-3,846.00	970.40	929.42	40.98	23.682	
8,500.00	4,727.30	7,555.90	3,786.93	47.58	46.24	-14.303	-241.36	-3,895.98	970.64	929.16	41.48	23.401	
8,550.00	4,726.55	7,605.90	3,785.94	48.11	46.78	-14.300	-242.62	-3,945.95	970.88	928.90	41.98	23.126	
8,600.00	4,725.81	7,655.90	3,784.95	48.63	47.32	-14.296	-243.88	-3,995.93	971.12	928.63	42.48	22.858	
8,650.00	4,725.07	7,705.90	3,783.96	49.16	47.86	-14.292	-245.14	-4,045.90	971.36	928.37	42.99	22.596	
8,700.00	4,724.32	7,755.90	3,782.97	49.69	48.39	-14.289	-246.40	-4,095.87	971.60	928.10	43.49	22.340	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - 20H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toelface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
8,750.00	4,723.58	7,805.90	3,781.98	50.22	48.93	-14.285	-247.65	-4,145.85	971.84	927.84	43.99	22.090	
8,800.00	4,722.84	7,855.90	3,780.99	50.75	49.47	-14.281	-248.91	-4,195.82	972.07	927.58	44.50	21.845	
8,850.00	4,722.10	7,905.90	3,780.00	51.28	50.01	-14.278	-250.17	-4,245.79	972.31	927.31	45.00	21.606	
8,900.00	4,721.35	7,955.90	3,779.01	51.81	50.56	-14.274	-251.43	-4,295.77	972.55	927.05	45.51	21.372	
8,950.00	4,720.61	8,005.90	3,778.02	52.34	51.10	-14.270	-252.69	-4,345.74	972.79	926.78	46.01	21.143	
9,000.00	4,719.87	8,055.90	3,777.03	52.87	51.64	-14.267	-253.95	-4,395.72	973.03	926.52	46.51	20.919	
9,050.00	4,719.12	8,105.90	3,776.04	53.41	52.18	-14.263	-255.21	-4,445.69	973.27	926.26	47.02	20.700	
9,100.00	4,718.38	8,155.90	3,775.05	53.94	52.73	-14.260	-256.47	-4,495.66	973.51	925.99	47.52	20.485	
9,150.00	4,717.64	8,205.90	3,774.06	54.47	53.27	-14.256	-257.72	-4,545.64	973.75	925.73	48.03	20.275	
9,200.00	4,716.90	8,255.89	3,773.07	55.01	53.81	-14.252	-258.98	-4,595.61	973.99	925.46	48.53	20.069	
9,250.00	4,716.15	8,305.89	3,772.08	55.54	54.36	-14.249	-260.24	-4,645.58	974.23	925.20	49.04	19.868	
9,300.00	4,715.41	8,355.89	3,771.08	56.08	54.90	-14.245	-261.50	-4,695.56	974.47	924.93	49.54	19.670	
9,350.00	4,714.67	8,405.89	3,770.09	56.62	55.45	-14.241	-262.76	-4,745.53	974.71	924.67	50.05	19.476	
9,400.00	4,713.92	8,455.89	3,769.10	57.15	55.99	-14.238	-264.02	-4,795.51	974.95	924.40	50.55	19.287	
9,450.00	4,713.18	8,505.89	3,768.11	57.69	56.54	-14.234	-265.28	-4,845.48	975.19	924.14	51.06	19.100	
9,500.00	4,712.44	8,555.89	3,767.12	58.23	57.08	-14.230	-266.54	-4,895.45	975.43	923.87	51.56	18.918	
9,550.00	4,711.70	8,605.89	3,766.13	58.77	57.63	-14.227	-267.80	-4,945.43	975.67	923.60	52.07	18.739	
9,600.00	4,710.95	8,655.89	3,765.14	59.30	58.17	-14.223	-269.05	-4,995.40	975.91	923.34	52.57	18.564	
9,650.00	4,710.21	8,705.89	3,764.15	59.84	58.72	-14.220	-270.31	-5,045.37	976.15	923.07	53.08	18.391	
9,700.00	4,709.47	8,755.89	3,763.16	60.38	59.27	-14.216	-271.57	-5,095.35	976.39	922.81	53.58	18.222	
9,750.00	4,708.72	8,805.89	3,762.17	60.92	59.82	-14.212	-272.83	-5,145.32	976.63	922.54	54.09	18.056	
9,800.00	4,707.98	8,855.89	3,761.18	61.46	60.36	-14.209	-274.09	-5,195.30	976.87	922.28	54.59	17.894	
9,850.00	4,707.24	8,905.89	3,760.19	62.00	60.91	-14.205	-275.35	-5,245.27	977.11	922.01	55.10	17.734	
9,900.00	4,706.50	8,955.89	3,759.20	62.55	61.46	-14.201	-276.61	-5,295.24	977.35	921.75	55.60	17.577	
9,950.00	4,705.75	9,005.89	3,758.21	63.09	62.01	-14.198	-277.87	-5,345.22	977.59	921.48	56.11	17.423	
10,000.00	4,705.01	9,055.89	3,757.22	63.63	62.56	-14.194	-279.13	-5,395.19	977.83	921.21	56.62	17.271	
10,050.00	4,704.27	9,105.88	3,756.23	64.17	63.11	-14.191	-280.38	-5,445.16	978.07	920.95	57.12	17.123	
10,100.00	4,703.52	9,155.88	3,755.24	64.71	63.65	-14.187	-281.64	-5,495.14	978.31	920.68	57.63	16.976	
10,150.00	4,702.78	9,205.88	3,754.25	65.26	64.20	-14.183	-282.90	-5,545.11	978.55	920.42	58.13	16.833	
10,200.00	4,702.04	9,255.88	3,753.26	65.80	64.75	-14.180	-284.16	-5,595.09	978.79	920.15	58.64	16.692	
10,250.00	4,701.29	9,305.88	3,752.27	66.34	65.30	-14.176	-285.42	-5,645.06	979.03	919.88	59.15	16.553	
10,287.12	4,700.74	9,343.00	3,751.53	66.75	65.71	-14.174	-286.35	-5,682.16	979.21	919.69	59.52	16.452	
10,300.00	4,700.55	9,355.88	3,751.28	66.89	65.85	-14.173	-286.68	-5,695.03	979.27	919.62	59.65	16.417	
10,337.14	4,700.00	9,393.02	3,750.54	67.29	66.26	-14.170	-287.61	-5,732.16	979.45	919.42	60.03	16.317	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - 50H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
150.00	150.00	149.00	150.00	0.32	0.32	21.161	18.60	7.20	19.94	19.30	0.64	31.083	
200.00	200.00	199.00	200.00	0.50	0.50	21.161	18.60	7.20	19.94	18.94	1.00	19.942	
250.00	250.00	249.00	250.00	0.68	0.68	21.161	18.60	7.20	19.94	18.59	1.36	14.680	
300.00	300.00	299.00	300.00	0.86	0.86	21.161	18.60	7.20	19.94	18.23	1.72	11.616 CC	
350.00	350.00	348.68	349.67	1.04	1.03	-48.679	18.92	7.46	20.05	17.98	2.07	9.668 ES	
400.00	399.98	398.34	399.32	1.21	1.21	-50.268	19.91	8.27	20.41	17.98	2.43	8.393	
450.00	449.93	448.00	448.93	1.39	1.39	-52.779	21.56	9.62	21.05	18.26	2.79	7.544	
500.00	499.84	497.63	498.47	1.57	1.57	-56.028	23.87	11.52	22.02	18.87	3.15	6.998	
515.30	515.09	512.81	513.62	1.63	1.63	-57.134	24.71	12.20	22.39	19.13	3.26	6.876	
550.00	549.70	547.25	547.94	1.75	1.75	-59.358	26.85	13.95	23.47	19.97	3.50	6.703	
600.00	599.56	596.82	597.29	1.93	1.93	-61.351	30.49	16.93	25.71	21.85	3.86	6.666 SF	
650.00	649.42	646.33	646.49	2.11	2.11	-62.086	34.78	20.44	28.70	24.49	4.21	6.811	
700.00	699.28	695.75	695.49	2.28	2.29	-61.863	39.72	24.48	32.42	27.85	4.57	7.092	
750.00	749.13	745.56	744.82	2.46	2.47	-61.302	45.05	28.85	36.53	31.60	4.93	7.407	
800.00	798.99	795.39	794.17	2.64	2.65	-60.854	50.39	33.21	40.65	35.36	5.29	7.686	
850.00	848.85	845.22	843.53	2.82	2.82	-60.489	55.72	37.58	44.77	39.12	5.65	7.927	
900.00	898.71	895.05	892.88	3.00	3.00	-60.185	61.05	41.94	48.89	42.88	6.01	8.140	
950.00	948.57	944.88	942.23	3.18	3.18	-59.929	66.39	46.31	53.01	46.64	6.36	8.329	
1,000.00	998.43	994.71	991.58	3.36	3.36	-59.709	71.72	50.67	57.13	50.41	6.72	8.497	
1,050.00	1,048.29	1,044.54	1,040.93	3.54	3.54	-59.519	77.05	55.03	61.25	54.17	7.08	8.648	
1,100.00	1,098.15	1,094.37	1,090.28	3.72	3.72	-59.353	82.39	59.40	65.37	57.93	7.44	8.784	
1,150.00	1,148.01	1,144.20	1,139.63	3.90	3.91	-59.207	87.72	63.76	69.50	61.70	7.80	8.908	
1,200.00	1,197.86	1,194.02	1,188.98	4.08	4.09	-59.077	93.05	68.13	73.62	65.46	8.16	9.021	
1,250.00	1,247.72	1,243.85	1,238.33	4.26	4.27	-58.961	98.39	72.49	77.75	69.22	8.52	9.124	
1,300.00	1,297.58	1,293.68	1,287.68	4.44	4.45	-58.857	103.72	76.86	81.87	72.99	8.88	9.218	
1,350.00	1,347.44	1,343.51	1,337.03	4.62	4.63	-58.762	109.05	81.22	85.99	76.75	9.24	9.306	
1,400.00	1,397.30	1,393.34	1,386.38	4.80	4.82	-58.676	114.39	85.59	90.12	80.52	9.60	9.386	
1,450.00	1,447.16	1,443.17	1,435.73	4.98	5.00	-58.598	119.72	89.95	94.24	84.28	9.96	9.461	
1,500.00	1,497.02	1,493.00	1,485.08	5.16	5.18	-58.526	125.05	94.32	98.37	88.05	10.32	9.530	
1,550.00	1,546.88	1,542.83	1,534.43	5.34	5.36	-58.460	130.39	98.68	102.50	91.81	10.68	9.595	
1,600.00	1,596.74	1,592.66	1,583.78	5.52	5.55	-58.400	135.72	103.05	106.62	95.58	11.04	9.655	
1,650.00	1,646.59	1,642.49	1,633.13	5.70	5.73	-58.343	141.05	107.41	110.75	99.34	11.40	9.712	
1,700.00	1,696.45	1,692.32	1,682.48	5.89	5.91	-58.291	146.39	111.77	114.87	103.11	11.76	9.765	
1,750.00	1,746.31	1,742.15	1,731.83	6.07	6.09	-58.242	151.72	116.14	119.00	106.87	12.12	9.815	
1,800.00	1,796.17	1,791.98	1,781.18	6.25	6.28	-58.197	157.05	120.50	123.12	110.64	12.48	9.862	
1,850.00	1,846.03	1,841.81	1,830.54	6.43	6.46	-58.155	162.39	124.87	127.25	114.40	12.85	9.906	
1,900.00	1,895.89	1,891.64	1,879.89	6.61	6.64	-58.115	167.72	129.23	131.38	118.17	13.21	9.948	
1,950.00	1,945.75	1,941.47	1,929.24	6.79	6.82	-58.077	173.05	133.60	135.50	121.93	13.57	9.988	
2,000.00	1,995.61	1,991.30	1,978.59	6.97	7.01	-58.042	178.39	137.96	139.63	125.70	13.93	10.025	
2,050.00	2,045.47	2,041.12	2,027.94	7.15	7.19	-58.009	183.72	142.33	143.75	129.47	14.29	10.061	
2,100.00	2,095.32	2,090.95	2,077.29	7.33	7.37	-57.978	189.05	146.69	147.88	133.23	14.65	10.095	
2,150.00	2,145.18	2,140.78	2,126.64	7.51	7.56	-57.948	194.39	151.06	152.01	137.00	15.01	10.127	
2,200.00	2,195.04	2,190.61	2,175.99	7.69	7.74	-57.920	199.72	155.42	156.13	140.76	15.37	10.158	
2,250.00	2,244.90	2,240.44	2,225.34	7.87	7.92	-57.894	205.06	159.79	160.26	144.53	15.73	10.187	
2,300.00	2,294.76	2,290.27	2,274.69	8.05	8.10	-57.869	210.39	164.15	164.39	148.29	16.09	10.215	
2,350.00	2,344.62	2,340.10	2,324.04	8.23	8.29	-57.845	215.72	168.52	168.51	152.06	16.45	10.242	
2,400.00	2,394.48	2,389.93	2,373.39	8.41	8.47	-57.822	221.06	172.88	172.64	155.82	16.81	10.267	
2,450.00	2,444.34	2,439.76	2,422.74	8.59	8.65	-57.800	226.39	177.24	176.76	159.59	17.18	10.292	
2,500.00	2,494.20	2,489.59	2,472.09	8.78	8.83	-57.779	231.72	181.61	180.89	163.35	17.54	10.315	
2,550.00	2,544.05	2,539.42	2,521.44	8.96	9.02	-57.759	237.06	185.97	185.02	167.12	17.90	10.338	
2,600.00	2,593.91	2,589.25	2,570.79	9.14	9.20	-57.740	242.39	190.34	189.14	170.89	18.26	10.359	
2,650.00	2,643.77	2,639.08	2,620.14	9.32	9.38	-57.722	247.72	194.70	193.27	174.65	18.62	10.380	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - 50H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
2,700.00	2,693.63	2,688.91	2,669.49	9.50	9.57	-57.705	253.06	199.07	197.40	178.42	18.98	10.400	
2,750.00	2,743.49	2,738.74	2,718.84	9.68	9.75	-57.688	258.39	203.43	201.52	182.18	19.34	10.419	
2,800.00	2,793.35	2,788.57	2,768.20	9.86	9.93	-57.672	263.72	207.80	205.65	185.95	19.70	10.438	
2,850.00	2,843.21	2,838.39	2,817.55	10.04	10.11	-57.657	269.06	212.16	209.78	189.71	20.06	10.456	
2,900.00	2,893.07	2,888.22	2,866.90	10.22	10.30	-57.642	274.39	216.53	213.90	193.48	20.42	10.473	
2,950.00	2,942.93	2,938.05	2,916.25	10.40	10.48	-57.627	279.72	220.89	218.03	197.24	20.79	10.490	
3,000.00	2,992.78	2,987.88	2,965.60	10.58	10.66	-57.614	285.06	225.26	222.16	201.01	21.15	10.506	
3,050.00	3,042.64	3,037.71	3,014.95	10.76	10.85	-57.600	290.39	229.62	226.28	204.78	21.51	10.521	
3,100.00	3,092.50	3,087.54	3,064.30	10.94	11.03	-57.588	295.72	233.98	230.41	208.54	21.87	10.536	
3,150.00	3,142.36	3,139.72	3,116.03	11.12	11.22	-57.575	301.26	237.92	234.37	212.14	22.24	10.540	
3,200.00	3,192.22	3,193.07	3,169.07	11.30	11.41	-58.507	306.71	239.17	237.64	215.03	22.61	10.510	
3,250.00	3,242.08	3,246.00	3,221.72	11.49	11.60	-59.940	311.87	237.48	240.27	217.29	22.98	10.456	
3,300.00	3,291.94	3,298.21	3,273.51	11.67	11.77	-61.977	316.71	232.95	242.45	219.11	23.34	10.387	
3,350.00	3,341.80	3,349.42	3,324.00	11.85	11.94	-64.566	321.19	225.77	244.46	220.76	23.70	10.316	
3,400.00	3,391.66	3,399.36	3,372.83	12.03	12.10	-67.638	325.31	216.16	246.64	222.59	24.05	10.256	
3,450.00	3,441.51	3,447.82	3,419.68	12.21	12.25	-71.112	329.05	204.41	249.39	225.00	24.39	10.225	
3,500.00	3,491.37	3,494.62	3,464.34	12.39	12.39	-74.890	332.42	190.82	253.13	228.41	24.72	10.239	
3,550.00	3,541.23	3,539.64	3,506.63	12.57	12.52	-78.867	335.42	175.71	258.28	233.24	25.05	10.312	
3,600.00	3,591.09	3,582.79	3,546.48	12.75	12.65	-82.934	338.07	159.36	265.24	239.88	25.36	10.459	
3,650.00	3,640.95	3,624.01	3,583.83	12.93	12.76	-86.988	340.39	142.08	274.33	248.67	25.66	10.690	
3,700.00	3,690.81	3,663.30	3,618.72	13.11	12.87	-90.940	342.41	124.14	285.80	259.84	25.95	11.011	
3,712.87	3,703.64	3,673.10	3,627.30	13.16	12.90	-91.932	342.89	119.44	289.15	263.12	26.03	11.109	
3,750.00	3,740.71	3,700.00	3,650.63	13.29	12.97	-77.303	344.12	106.09	299.51	273.26	26.24	11.412	
3,800.00	3,790.69	3,738.08	3,682.99	13.46	13.07	11.957	345.72	86.09	314.62	288.10	26.52	11.863	
3,850.00	3,840.62	3,774.60	3,713.26	13.63	13.18	39.931	347.07	65.71	330.75	304.00	26.76	12.362	
3,900.00	3,890.35	3,810.63	3,742.35	13.79	13.28	43.855	348.23	44.50	347.62	320.67	26.95	12.900	
3,950.00	3,939.77	3,850.00	3,773.22	13.95	13.40	43.604	349.31	20.08	364.98	337.88	27.10	13.470	
4,000.00	3,988.72	3,881.35	3,797.07	14.10	13.50	42.690	350.02	-0.25	382.54	355.37	27.17	14.079	
4,050.00	4,037.07	3,916.13	3,822.74	14.26	13.62	41.180	350.65	-23.71	400.21	373.02	27.19	14.719	
4,100.00	4,084.70	3,950.00	3,846.91	14.41	13.74	39.600	351.11	-47.43	417.81	390.66	27.15	15.391	
4,150.00	4,131.47	3,984.66	3,870.76	14.56	13.86	37.993	351.42	-72.57	435.21	408.17	27.04	16.097	
4,200.00	4,177.26	4,018.48	3,893.15	14.71	13.98	36.481	351.57	-97.91	452.31	425.45	26.86	16.838	
4,250.00	4,221.93	4,050.00	3,913.21	14.86	14.10	35.122	351.56	-122.23	469.03	442.42	26.61	17.626	
4,300.00	4,265.37	4,085.31	3,934.72	15.01	14.23	33.740	351.40	-150.23	485.26	458.96	26.30	18.452	
4,350.00	4,307.45	4,118.38	3,953.92	15.15	14.36	32.519	351.09	-177.15	500.97	475.04	25.93	19.319	
4,400.00	4,348.07	4,150.00	3,971.40	15.31	14.49	31.421	350.66	-203.49	516.09	490.59	25.51	20.234	
4,450.00	4,387.11	4,183.90	3,989.17	15.46	14.63	30.361	350.04	-232.36	530.57	505.54	25.03	21.200	
4,500.00	4,424.45	4,226.80	4,010.66	15.61	14.82	29.258	349.12	-269.46	544.06	519.55	24.51	22.199	
4,550.00	4,460.01	4,275.01	4,034.77	15.77	15.04	28.302	348.07	-311.20	555.54	531.57	23.97	23.177	
4,600.00	4,493.69	4,323.85	4,059.19	15.94	15.27	27.568	347.01	-353.48	564.88	541.45	23.43	24.109	
4,650.00	4,525.38	4,373.18	4,083.85	16.11	15.51	27.038	345.94	-396.19	572.00	549.09	22.90	24.975	
4,700.00	4,555.01	4,400.00	4,097.24	16.29	15.65	26.791	345.36	-419.43	577.34	554.99	22.35	25.834	
4,750.00	4,582.49	4,435.32	4,113.62	16.47	15.83	26.538	344.57	-450.70	581.97	560.16	21.81	26.679	
4,780.77	4,598.30	4,450.00	4,119.86	16.59	15.91	26.422	344.24	-463.99	584.78	563.31	21.47	27.234	
4,800.00	4,607.92	4,450.00	4,119.86	16.66	15.91	26.422	344.24	-463.99	586.86	565.33	21.53	27.263	
4,850.00	4,632.92	4,487.02	4,134.06	16.87	16.11	26.214	343.38	-498.16	592.91	571.18	21.73	27.279	
4,900.00	4,657.92	4,512.38	4,142.49	17.08	16.25	26.015	342.78	-522.06	601.17	579.26	21.91	27.436	
4,950.00	4,682.92	4,537.27	4,149.74	17.31	16.38	25.778	342.18	-545.87	611.41	589.32	22.08	27.690	
4,980.77	4,698.30	4,550.00	4,153.04	17.45	16.45	25.642	341.87	-558.16	618.67	596.49	22.18	27.892	
5,000.00	4,707.64	4,550.00	4,153.04	17.54	16.45	25.426	341.87	-558.16	623.50	601.78	21.72	28.706	
5,050.00	4,729.21	4,585.97	4,160.89	17.78	16.65	24.625	340.99	-593.25	633.96	613.40	20.57	30.824	
5,100.00	4,746.78	4,600.00	4,163.35	18.02	16.73	24.146	340.65	-607.05	642.84	623.34	19.50	32.972	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - 50H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
5,150.00	4,760.20	4,634.61	4,167.97	18.27	16.91	23.683	339.79	-641.34	649.38	630.77	18.61	34.895	
5,200.00	4,769.38	4,650.00	4,169.36	18.52	17.00	23.430	339.40	-656.66	654.18	636.26	17.92	36.505	
5,250.00	4,774.24	4,683.28	4,170.95	18.76	17.18	23.256	338.57	-689.89	656.69	639.12	17.57	37.384	
5,289.28	4,775.00	4,702.83	4,170.99	18.95	17.29	23.220	338.08	-709.43	657.31	639.80	17.51	37.540	
5,300.00	4,774.84	4,713.54	4,170.84	19.01	17.35	23.220	337.81	-720.14	657.30	639.72	17.58	37.380	
5,350.00	4,774.10	4,763.54	4,170.15	19.27	17.63	23.222	336.56	-770.12	657.26	639.32	17.94	36.630	
5,400.00	4,773.36	4,813.54	4,169.45	19.53	17.93	23.224	335.30	-820.10	657.22	638.91	18.31	35.898	
5,450.00	4,772.61	4,863.54	4,168.76	19.82	18.24	23.227	334.05	-870.08	657.17	638.48	18.69	35.156	
5,500.00	4,771.87	4,913.54	4,168.07	20.10	18.56	23.229	332.79	-920.06	657.13	638.05	19.08	34.434	
5,550.00	4,771.13	4,963.54	4,167.37	20.41	18.89	23.231	331.54	-970.04	657.09	637.59	19.49	33.710	
5,600.00	4,770.38	5,013.54	4,166.68	20.72	19.23	23.233	330.29	-1,020.01	657.04	637.14	19.91	33.007	
5,650.00	4,769.64	5,063.54	4,165.99	21.05	19.59	23.235	329.03	-1,069.99	657.00	636.67	20.34	32.308	
5,700.00	4,768.90	5,113.54	4,165.29	21.38	19.95	23.238	327.78	-1,119.97	656.96	636.19	20.77	31.632	
5,750.00	4,768.15	5,163.54	4,164.60	21.73	20.32	23.240	326.52	-1,169.95	656.91	635.70	21.22	30.962	
5,800.00	4,767.41	5,213.54	4,163.91	22.08	20.70	23.242	325.27	-1,219.93	656.87	635.20	21.67	30.315	
5,850.00	4,766.67	5,263.54	4,163.21	22.45	21.09	23.244	324.02	-1,269.91	656.83	634.70	22.13	29.678	
5,900.00	4,765.93	5,313.54	4,162.52	22.81	21.48	23.246	322.76	-1,319.89	656.78	634.19	22.60	29.063	
5,950.00	4,765.18	5,363.54	4,161.83	23.20	21.88	23.248	321.51	-1,369.87	656.74	633.66	23.08	28.459	
6,000.00	4,764.44	5,413.54	4,161.13	23.58	22.29	23.251	320.25	-1,419.85	656.70	633.14	23.56	27.876	
6,050.00	4,763.70	5,463.54	4,160.44	23.97	22.71	23.253	319.00	-1,469.83	656.66	632.61	24.05	27.305	
6,100.00	4,762.95	5,513.54	4,159.75	24.37	23.13	23.255	317.75	-1,519.81	656.61	632.07	24.54	26.755	
6,150.00	4,762.21	5,563.54	4,159.05	24.78	23.56	23.257	316.49	-1,569.79	656.57	631.53	25.04	26.217	
6,200.00	4,761.47	5,613.54	4,158.36	25.18	23.99	23.259	315.24	-1,619.77	656.53	630.98	25.55	25.699	
6,250.00	4,760.73	5,663.54	4,157.67	25.60	24.43	23.262	313.98	-1,669.75	656.48	630.42	26.06	25.192	
6,300.00	4,759.98	5,713.54	4,156.97	26.02	24.88	23.264	312.73	-1,719.73	656.44	629.87	26.57	24.704	
6,350.00	4,759.24	5,763.54	4,156.28	26.45	25.33	23.266	311.48	-1,769.71	656.40	629.30	27.09	24.228	
6,400.00	4,758.50	5,813.54	4,155.59	26.89	25.78	23.268	310.22	-1,819.69	656.35	628.74	27.61	23.768	
6,450.00	4,757.75	5,863.54	4,154.89	27.33	26.24	23.270	308.97	-1,869.67	656.31	628.17	28.14	23.321	
6,500.00	4,757.01	5,913.54	4,154.20	27.76	26.70	23.273	307.71	-1,919.64	656.27	627.59	28.67	22.888	
6,550.00	4,756.27	5,963.54	4,153.51	28.21	27.16	23.275	306.46	-1,969.62	656.22	627.02	29.21	22.467	
6,600.00	4,755.53	6,013.54	4,152.81	28.66	27.63	23.277	305.21	-2,019.60	656.18	626.44	29.74	22.061	
6,650.00	4,754.78	6,063.54	4,152.12	29.12	28.10	23.279	303.95	-2,069.58	656.14	625.85	30.29	21.665	
6,700.00	4,754.04	6,113.54	4,151.43	29.57	28.58	23.281	302.70	-2,119.56	656.09	625.27	30.83	21.282	
6,750.00	4,753.30	6,163.54	4,150.73	30.04	29.06	23.283	301.44	-2,169.54	656.05	624.68	31.38	20.910	
6,800.00	4,752.55	6,213.54	4,150.04	30.50	29.54	23.286	300.19	-2,219.52	656.01	624.08	31.92	20.549	
6,850.00	4,751.81	6,263.54	4,149.35	30.97	30.02	23.288	298.94	-2,269.50	655.97	623.49	32.48	20.198	
6,900.00	4,751.07	6,313.54	4,148.65	31.44	30.51	23.290	297.68	-2,319.48	655.92	622.89	33.03	19.859	
6,950.00	4,750.33	6,363.54	4,147.96	31.92	31.00	23.292	296.43	-2,369.46	655.88	622.29	33.59	19.528	
7,000.00	4,749.58	6,413.54	4,147.27	32.39	31.49	23.294	295.17	-2,419.44	655.84	621.69	34.14	19.208	
7,050.00	4,748.84	6,463.54	4,146.57	32.87	31.99	23.297	293.92	-2,469.42	655.79	621.09	34.70	18.896	
7,100.00	4,748.10	6,513.54	4,145.88	33.35	32.48	23.299	292.67	-2,519.40	655.75	620.48	35.27	18.594	
7,150.00	4,747.35	6,563.54	4,145.19	33.84	32.98	23.301	291.41	-2,569.38	655.71	619.87	35.83	18.300	
7,200.00	4,746.61	6,613.54	4,144.49	34.33	33.48	23.303	290.16	-2,619.36	655.66	619.27	36.40	18.014	
7,250.00	4,745.87	6,663.54	4,143.80	34.82	33.98	23.305	288.90	-2,669.34	655.62	618.65	36.97	17.736	
7,300.00	4,745.13	6,713.54	4,143.11	35.31	34.49	23.308	287.65	-2,719.32	655.58	618.04	37.53	17.466	
7,350.00	4,744.38	6,763.54	4,142.41	35.80	34.99	23.310	286.40	-2,769.30	655.53	617.43	38.11	17.203	
7,400.00	4,743.64	6,813.54	4,141.72	36.30	35.50	23.312	285.14	-2,819.27	655.49	616.81	38.68	16.948	
7,450.00	4,742.90	6,863.54	4,141.03	36.80	36.01	23.314	283.89	-2,869.25	655.45	616.20	39.25	16.698	
7,500.00	4,742.15	6,913.54	4,140.33	37.29	36.52	23.316	282.63	-2,919.23	655.40	615.58	39.83	16.456	
7,550.00	4,741.41	6,963.54	4,139.64	37.80	37.04	23.319	281.38	-2,969.21	655.36	614.96	40.40	16.220	
7,600.00	4,740.67	7,013.54	4,138.95	38.30	37.55	23.321	280.13	-3,019.19	655.32	614.34	40.98	15.991	
7,650.00	4,739.93	7,063.54	4,138.25	38.80	38.06	23.323	278.87	-3,069.17	655.27	613.71	41.56	15.767	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - 50H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance								Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
7,700.00	4,739.18	7,113.54	4,137.56	39.31	38.58	23.325	277.62	-3,119.15	655.23	613.09	42.14	15.549	
7,750.00	4,738.44	7,163.54	4,136.87	39.82	39.10	23.327	276.36	-3,169.13	655.19	612.47	42.72	15.336	
7,800.00	4,737.70	7,213.54	4,136.17	40.33	39.62	23.329	275.11	-3,219.11	655.15	611.84	43.30	15.129	
7,850.00	4,736.95	7,263.54	4,135.48	40.84	40.14	23.332	273.86	-3,269.09	655.10	611.21	43.89	14.926	
7,900.00	4,736.21	7,313.54	4,134.79	41.35	40.66	23.334	272.60	-3,319.07	655.06	610.59	44.47	14.729	
7,950.00	4,735.47	7,363.54	4,134.09	41.86	41.18	23.336	271.35	-3,369.05	655.02	609.96	45.06	14.537	
8,000.00	4,734.72	7,413.54	4,133.40	42.38	41.71	23.338	270.09	-3,419.03	654.97	609.33	45.64	14.349	
8,050.00	4,733.98	7,463.54	4,132.71	42.89	42.23	23.340	268.84	-3,469.01	654.93	608.70	46.23	14.166	
8,100.00	4,733.24	7,513.54	4,132.01	43.41	42.76	23.343	267.59	-3,518.99	654.89	608.07	46.82	13.987	
8,150.00	4,732.50	7,563.54	4,131.32	43.93	43.28	23.345	266.33	-3,568.97	654.84	607.43	47.41	13.812	
8,200.00	4,731.75	7,613.54	4,130.63	44.45	43.81	23.347	265.08	-3,618.95	654.80	606.80	48.00	13.642	
8,250.00	4,731.01	7,663.54	4,129.93	44.97	44.34	23.349	263.82	-3,668.93	654.76	606.17	48.59	13.475	
8,300.00	4,730.27	7,713.54	4,129.24	45.49	44.87	23.351	262.57	-3,718.90	654.71	605.53	49.18	13.312	
8,350.00	4,729.52	7,763.54	4,128.55	46.01	45.40	23.354	261.32	-3,768.88	654.67	604.90	49.77	13.153	
8,400.00	4,728.78	7,813.54	4,127.85	46.53	45.93	23.356	260.06	-3,818.86	654.63	604.26	50.37	12.997	
8,450.00	4,728.04	7,863.54	4,127.16	47.06	46.46	23.358	258.81	-3,868.84	654.59	603.63	50.96	12.845	
8,500.00	4,727.30	7,913.54	4,126.46	47.58	46.99	23.360	257.55	-3,918.82	654.54	602.99	51.55	12.696	
8,550.00	4,726.55	7,963.54	4,125.77	48.11	47.52	23.362	256.30	-3,968.80	654.50	602.35	52.15	12.551	
8,600.00	4,725.81	8,013.54	4,125.08	48.63	48.06	23.365	255.05	-4,018.78	654.46	601.71	52.74	12.408	
8,650.00	4,725.07	8,063.54	4,124.38	49.16	48.59	23.367	253.79	-4,068.76	654.41	601.07	53.34	12.269	
8,700.00	4,724.32	8,113.54	4,123.69	49.69	49.13	23.369	252.54	-4,118.74	654.37	600.43	53.94	12.132	
8,750.00	4,723.58	8,163.54	4,123.00	50.22	49.66	23.371	251.29	-4,168.72	654.33	599.79	54.53	11.999	
8,800.00	4,722.84	8,213.54	4,122.30	50.75	50.20	23.373	250.03	-4,218.70	654.28	599.15	55.13	11.868	
8,850.00	4,722.10	8,263.54	4,121.61	51.28	50.73	23.376	248.78	-4,268.68	654.24	598.51	55.73	11.740	
8,900.00	4,721.35	8,313.54	4,120.92	51.81	51.27	23.378	247.52	-4,318.66	654.20	597.87	56.33	11.614	
8,950.00	4,720.61	8,363.54	4,120.22	52.34	51.81	23.380	246.27	-4,368.64	654.15	597.23	56.93	11.491	
9,000.00	4,719.87	8,413.54	4,119.53	52.87	52.35	23.382	245.02	-4,418.62	654.11	596.58	57.53	11.370	
9,050.00	4,719.12	8,463.54	4,118.84	53.41	52.88	23.384	243.76	-4,468.60	654.07	595.94	58.13	11.252	
9,100.00	4,718.38	8,513.54	4,118.14	53.94	53.42	23.387	242.51	-4,518.58	654.02	595.30	58.73	11.136	
9,150.00	4,717.64	8,563.54	4,117.45	54.47	53.96	23.389	241.25	-4,568.56	653.98	594.65	59.33	11.023	
9,200.00	4,716.90	8,613.54	4,116.76	55.01	54.50	23.391	240.00	-4,618.53	653.94	594.01	59.93	10.912	
9,250.00	4,716.15	8,663.54	4,116.06	55.54	55.04	23.393	238.75	-4,668.51	653.90	593.36	60.53	10.802	
9,300.00	4,715.41	8,713.54	4,115.37	56.08	55.58	23.395	237.49	-4,718.49	653.85	592.72	61.14	10.695	
9,350.00	4,714.67	8,763.54	4,114.68	56.62	56.13	23.398	236.24	-4,768.47	653.81	592.07	61.74	10.590	
9,400.00	4,713.92	8,813.54	4,113.98	57.15	56.67	23.400	234.98	-4,818.45	653.77	591.43	62.34	10.487	
9,450.00	4,713.18	8,863.54	4,113.29	57.69	57.21	23.402	233.73	-4,868.43	653.72	590.78	62.94	10.386	
9,500.00	4,712.44	8,913.54	4,112.60	58.23	57.75	23.404	232.48	-4,918.41	653.68	590.13	63.55	10.286	
9,550.00	4,711.70	8,963.54	4,111.90	58.77	58.30	23.406	231.22	-4,968.39	653.64	589.48	64.15	10.189	
9,600.00	4,710.95	9,013.54	4,111.21	59.30	58.84	23.409	229.97	-5,018.37	653.59	588.84	64.76	10.093	
9,650.00	4,710.21	9,063.54	4,110.52	59.84	59.38	23.411	228.71	-5,068.35	653.55	588.19	65.36	9.999	
9,700.00	4,709.47	9,113.54	4,109.82	60.38	59.93	23.413	227.46	-5,118.33	653.51	587.54	65.97	9.906	
9,750.00	4,708.72	9,163.54	4,109.13	60.92	60.47	23.415	226.21	-5,168.31	653.46	586.89	66.57	9.816	
9,800.00	4,707.98	9,213.54	4,108.44	61.46	61.02	23.417	224.95	-5,218.29	653.42	586.24	67.18	9.726	
9,850.00	4,707.24	9,263.54	4,107.74	62.00	61.56	23.420	223.70	-5,268.27	653.38	585.59	67.79	9.639	
9,900.00	4,706.50	9,313.54	4,107.05	62.55	62.11	23.422	222.44	-5,318.25	653.34	584.94	68.39	9.553	
9,950.00	4,705.75	9,363.54	4,106.36	63.09	62.65	23.424	221.19	-5,368.23	653.29	584.29	69.00	9.468	
10,000.00	4,705.01	9,413.54	4,105.66	63.63	63.20	23.426	219.94	-5,418.21	653.25	583.64	69.61	9.385	
10,050.00	4,704.27	9,463.54	4,104.97	64.17	63.74	23.429	218.68	-5,468.19	653.21	582.99	70.21	9.303	
10,100.00	4,703.52	9,513.54	4,104.28	64.71	64.29	23.431	217.43	-5,518.16	653.16	582.34	70.82	9.223	
10,150.00	4,702.78	9,563.54	4,103.58	65.26	64.84	23.433	216.17	-5,568.14	653.12	581.69	71.43	9.143	
10,200.00	4,702.04	9,613.54	4,102.89	65.80	65.38	23.435	214.92	-5,618.12	653.08	581.04	72.04	9.066	
10,250.00	4,701.29	9,663.54	4,102.20	66.34	65.93	23.437	213.67	-5,668.10	653.03	580.39	72.65	8.989	

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



Anticollision Report

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Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - 50H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,287.12	4,700.74	9,700.66	4,101.68	66.75	66.34	23.439	212.73	-5,705.21	653.00	579.90	73.10	8.933	
10,300.00	4,700.55	9,713.54	4,101.50	66.89	66.48	23.440	212.41	-5,718.08	652.99	579.74	73.26	8.914	
10,337.01	4,700.00	9,749.87	4,101.00	67.29	66.88	23.441	211.50	-5,754.40	652.96	579.26	73.70	8.859	
10,337.14	4,700.00	9,749.87	4,101.00	67.29	66.88	23.441	211.50	-5,754.40	652.96	579.26	73.70	8.859	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - 70H - Wellbore #1 - PERMIT													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
250.00	250.00	251.00	250.00	0.68	0.68	-158.908	-56.00	-21.60	60.02	58.66	1.37	43.947		
300.00	300.00	301.00	300.00	0.86	0.86	-158.908	-56.00	-21.60	60.02	58.30	1.72	34.810 CC		
350.00	350.00	351.00	350.00	1.04	1.04	132.110	-56.00	-21.60	60.31	58.23	2.08	28.958 ES		
400.00	399.98	400.98	399.98	1.21	1.22	133.006	-56.00	-21.60	61.20	58.75	2.44	25.040		
450.00	449.93	450.93	449.93	1.39	1.40	134.441	-56.00	-21.60	62.71	59.90	2.81	22.339		
500.00	499.84	500.84	499.84	1.57	1.58	136.334	-56.00	-21.60	64.88	61.71	3.17	20.462		
515.30	515.09	516.09	515.09	1.63	1.63	136.989	-56.00	-21.60	65.69	62.41	3.28	20.011		
550.00	549.70	550.70	549.70	1.75	1.76	138.494	-56.00	-21.60	67.62	64.09	3.53	19.162		
600.00	599.56	600.56	599.56	1.93	1.94	140.514	-56.00	-21.60	70.48	66.59	3.88	18.148		
650.00	649.42	650.42	649.42	2.11	2.12	142.376	-56.00	-21.60	73.42	69.18	4.24	17.319		
700.00	699.28	700.00	699.00	2.28	2.29	144.083	-56.00	-21.60	76.43	71.84	4.59	16.639		
750.00	749.13	749.60	748.59	2.46	2.46	145.376	-56.36	-21.37	79.67	74.73	4.94	16.124		
800.00	798.99	798.91	797.89	2.64	2.63	146.017	-57.45	-20.69	83.28	77.99	5.29	15.751		
850.00	848.85	848.20	847.13	2.82	2.80	146.087	-59.25	-19.56	87.22	81.59	5.63	15.496		
900.00	898.71	897.42	896.27	3.00	2.96	145.658	-61.76	-17.98	91.48	85.51	5.97	15.322		
950.00	948.57	946.55	945.25	3.18	3.13	144.803	-64.98	-15.96	96.10	89.78	6.32	15.216		
1,000.00	998.43	995.56	994.04	3.36	3.30	143.593	-68.90	-13.50	101.09	94.43	6.66	15.178		
1,050.00	1,048.29	1,044.43	1,042.60	3.54	3.46	142.092	-73.52	-10.61	106.49	99.49	7.01	15.198		
1,100.00	1,098.15	1,093.12	1,090.88	3.72	3.63	140.364	-78.81	-7.28	112.36	105.01	7.35	15.279		
1,150.00	1,148.01	1,141.60	1,138.86	3.90	3.80	138.464	-84.77	-3.54	118.75	111.05	7.70	15.418		
1,200.00	1,197.86	1,189.86	1,186.47	4.08	3.97	136.445	-91.39	0.61	125.69	117.64	8.05	15.615		
1,250.00	1,247.72	1,237.86	1,233.71	4.26	4.14	134.353	-98.64	5.17	133.25	124.85	8.40	15.866		
1,300.00	1,297.58	1,286.44	1,281.38	4.44	4.31	132.241	-106.53	10.12	141.36	132.61	8.75	16.157		
1,350.00	1,347.44	1,335.50	1,329.52	4.62	4.49	130.320	-114.55	15.15	149.69	140.59	9.10	16.448		
1,400.00	1,397.30	1,384.57	1,377.66	4.80	4.66	128.601	-122.57	20.19	158.16	148.71	9.45	16.732		
1,450.00	1,447.16	1,433.63	1,425.81	4.98	4.84	127.056	-130.59	25.22	166.76	156.96	9.80	17.008		
1,500.00	1,497.02	1,482.70	1,473.95	5.16	5.02	125.663	-138.61	30.26	175.47	165.31	10.16	17.276		
1,550.00	1,546.88	1,531.76	1,522.09	5.34	5.20	124.402	-146.64	35.29	184.26	173.75	10.51	17.533		
1,600.00	1,596.74	1,580.82	1,570.23	5.52	5.39	123.255	-154.66	40.33	193.14	182.28	10.86	17.781		
1,650.00	1,646.59	1,629.89	1,618.37	5.70	5.57	122.209	-162.68	45.36	202.08	190.87	11.22	18.019		
1,700.00	1,696.45	1,678.95	1,666.52	5.89	5.75	121.251	-170.70	50.40	211.09	199.52	11.57	18.247		
1,750.00	1,746.31	1,728.02	1,714.66	6.07	5.93	120.372	-178.72	55.43	220.15	208.22	11.92	18.466		
1,800.00	1,796.17	1,777.08	1,762.80	6.25	6.12	119.562	-186.74	60.47	229.25	216.97	12.28	18.676		
1,850.00	1,846.03	1,826.15	1,810.94	6.43	6.30	118.814	-194.76	65.50	238.39	225.77	12.63	18.877		
1,900.00	1,895.89	1,875.21	1,859.08	6.61	6.49	118.121	-202.78	70.54	247.58	234.59	12.98	19.070		
1,950.00	1,945.75	1,924.28	1,907.23	6.79	6.67	117.477	-210.80	75.57	256.79	243.45	13.34	19.254		
2,000.00	1,995.61	1,973.34	1,955.37	6.97	6.86	116.878	-218.83	80.61	266.03	252.34	13.69	19.431		
2,050.00	2,045.47	2,022.41	2,003.51	7.15	7.04	116.319	-226.85	85.64	275.30	261.26	14.05	19.601		
2,100.00	2,095.32	2,071.47	2,051.65	7.33	7.23	115.797	-234.87	90.68	284.60	270.20	14.40	19.764		
2,150.00	2,145.18	2,120.53	2,099.79	7.51	7.42	115.307	-242.89	95.71	293.91	279.16	14.75	19.920		
2,200.00	2,195.04	2,169.60	2,147.93	7.69	7.60	114.848	-250.91	100.75	303.24	288.14	15.11	20.071		
2,250.00	2,244.90	2,218.66	2,196.08	7.87	7.79	114.416	-258.93	105.78	312.60	297.13	15.46	20.215		
2,300.00	2,294.76	2,267.73	2,244.22	8.05	7.98	114.009	-266.95	110.82	321.96	306.15	15.82	20.354		
2,350.00	2,344.62	2,316.79	2,292.36	8.23	8.16	113.625	-274.97	115.85	331.35	315.17	16.17	20.487		
2,400.00	2,394.48	2,365.86	2,340.50	8.41	8.35	113.262	-282.99	120.89	340.74	324.22	16.53	20.616		
2,450.00	2,444.34	2,414.92	2,388.64	8.59	8.54	112.919	-291.02	125.92	350.15	333.27	16.88	20.739		
2,500.00	2,494.20	2,463.99	2,436.79	8.78	8.73	112.593	-299.04	130.96	359.57	342.34	17.24	20.859		
2,550.00	2,544.05	2,513.05	2,484.93	8.96	8.91	112.284	-307.06	135.99	369.00	351.41	17.59	20.973		
2,600.00	2,593.91	2,562.12	2,533.07	9.14	9.10	111.991	-315.08	141.03	378.45	360.50	17.95	21.084		
2,650.00	2,643.77	2,611.18	2,581.21	9.32	9.29	111.712	-323.10	146.06	387.90	369.59	18.30	21.191		
2,700.00	2,693.63	2,660.24	2,629.35	9.50	9.48	111.446	-331.12	151.10	397.35	378.69	18.66	21.294		
2,750.00	2,743.49	2,709.31	2,677.50	9.68	9.67	111.192	-339.14	156.13	406.82	387.81	19.02	21.394		

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - 70H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
2,800.00	2,793.35	2,758.37	2,725.64	9.86	9.85	110.950	-347.16	161.17	416.29	396.92	19.37	21.490	
2,850.00	2,843.21	2,807.44	2,773.78	10.04	10.04	110.719	-355.18	166.20	425.78	406.05	19.73	21.584	
2,900.00	2,893.07	2,856.50	2,821.92	10.22	10.23	110.497	-363.21	171.24	435.26	415.18	20.08	21.674	
2,950.00	2,942.93	2,905.57	2,870.06	10.40	10.42	110.286	-371.23	176.27	444.76	424.32	20.44	21.761	
3,000.00	2,992.78	2,954.63	2,918.20	10.58	10.61	110.083	-379.25	181.31	454.25	433.46	20.79	21.846	
3,050.00	3,042.64	3,003.70	2,966.35	10.76	10.80	109.888	-387.27	186.34	463.76	442.61	21.15	21.927	
3,100.00	3,092.50	3,052.76	3,014.49	10.94	10.99	109.701	-395.29	191.38	473.27	451.76	21.51	22.007	
3,150.00	3,142.36	3,101.83	3,062.63	11.12	11.18	109.522	-403.31	196.41	482.78	460.92	21.86	22.084	
3,200.00	3,192.22	3,150.89	3,110.77	11.30	11.37	109.349	-411.33	201.45	492.30	470.08	22.22	22.158	
3,250.00	3,242.08	3,199.95	3,158.91	11.49	11.56	109.183	-419.35	206.48	501.82	479.25	22.57	22.231	
3,300.00	3,291.94	3,249.02	3,207.06	11.67	11.74	109.023	-427.37	211.52	511.35	488.42	22.93	22.301	
3,350.00	3,341.80	3,298.08	3,255.20	11.85	11.93	108.869	-435.40	216.55	520.88	497.59	23.29	22.369	
3,400.00	3,391.66	3,347.15	3,303.34	12.03	12.12	108.721	-443.42	221.59	530.41	506.77	23.64	22.435	
3,450.00	3,441.51	3,396.99	3,352.26	12.21	12.32	108.589	-451.56	226.58	539.94	515.94	24.00	22.497	
3,500.00	3,491.37	3,448.75	3,403.24	12.39	12.51	108.679	-459.90	229.67	549.28	524.92	24.36	22.544	
3,550.00	3,541.23	3,500.36	3,454.20	12.57	12.70	109.055	-468.06	229.97	558.41	533.68	24.73	22.583	
3,600.00	3,591.09	3,551.53	3,504.69	12.75	12.89	109.697	-475.95	227.52	567.35	542.27	25.08	22.619	
3,650.00	3,640.95	3,601.97	3,554.29	12.93	13.06	110.576	-483.53	222.43	576.21	550.77	25.43	22.654	
3,700.00	3,690.81	3,651.42	3,602.62	13.11	13.22	111.665	-490.74	214.88	585.08	559.30	25.78	22.695	
3,712.87	3,703.64	3,663.96	3,614.82	13.16	13.26	111.975	-492.53	212.57	587.38	561.52	25.87	22.707	
3,750.00	3,740.71	3,699.87	3,649.56	13.29	13.38	131.138	-497.57	205.05	594.05	567.92	26.13	22.736	
3,800.00	3,790.69	3,747.76	3,695.44	13.46	13.52	-133.632	-504.08	192.99	603.02	576.55	26.47	22.782	
3,850.00	3,840.62	3,795.13	3,740.20	13.63	13.66	-100.197	-510.28	178.79	611.95	585.15	26.80	22.835	
3,900.00	3,890.35	3,842.02	3,783.79	13.79	13.80	-91.214	-516.15	162.55	620.79	593.67	27.12	22.890	
3,950.00	3,939.77	3,888.44	3,826.14	13.95	13.93	-86.561	-521.69	144.37	629.51	602.08	27.43	22.947	
4,000.00	3,988.72	3,934.43	3,867.20	14.10	14.05	-83.392	-526.90	124.34	638.06	610.32	27.74	23.005	
4,050.00	4,037.07	3,980.00	3,906.92	14.26	14.16	-80.927	-531.78	102.56	646.40	618.37	28.02	23.066	
4,100.00	4,084.70	4,025.17	3,945.26	14.41	14.27	-78.867	-536.33	79.11	654.49	626.20	28.30	23.130	
4,150.00	4,131.47	4,069.97	3,982.17	14.56	14.37	-77.075	-540.55	54.08	662.31	633.76	28.55	23.196	
4,200.00	4,177.26	4,114.41	4,017.61	14.71	14.47	-75.476	-544.43	27.57	669.81	641.02	28.79	23.265	
4,250.00	4,221.93	4,158.51	4,051.56	14.86	14.56	-74.028	-547.98	-0.35	676.97	647.96	29.01	23.336	
4,300.00	4,265.37	4,200.00	4,082.32	15.01	14.64	-72.740	-551.03	-28.03	683.76	654.56	29.21	23.412	
4,350.00	4,307.45	4,245.75	4,114.84	15.15	14.72	-71.489	-554.08	-60.06	690.14	660.75	29.39	23.479	
4,400.00	4,348.07	4,288.93	4,144.11	15.31	14.79	-70.368	-556.63	-91.69	696.10	666.54	29.56	23.549	
4,450.00	4,387.11	4,331.82	4,171.78	15.46	14.85	-69.332	-558.86	-124.39	701.60	671.89	29.71	23.614	
4,500.00	4,424.45	4,374.45	4,197.82	15.61	14.91	-68.375	-560.76	-158.08	706.63	676.78	29.85	23.675	
4,550.00	4,460.01	4,416.83	4,222.22	15.77	15.02	-67.493	-562.34	-192.68	711.16	681.18	29.98	23.721	
4,600.00	4,493.69	4,458.96	4,244.96	15.94	15.18	-66.680	-563.59	-228.13	715.18	685.08	30.10	23.759	
4,650.00	4,525.38	4,504.09	4,267.79	16.11	15.36	-65.914	-564.63	-267.04	718.62	688.39	30.23	23.770	
4,700.00	4,555.01	4,553.77	4,292.63	16.29	15.57	-65.324	-565.71	-310.06	721.06	690.66	30.40	23.716	
4,750.00	4,582.49	4,603.68	4,317.58	16.47	15.79	-64.990	-566.80	-353.27	722.37	691.76	30.61	23.598	
4,780.77	4,598.30	4,634.45	4,332.97	16.59	15.93	-64.912	-567.47	-379.90	722.59	691.82	30.77	23.483	
4,800.00	4,607.92	4,653.68	4,342.58	16.66	16.02	-64.912	-567.89	-396.55	722.59	691.67	30.92	23.369	
4,816.17	4,616.00	4,669.85	4,350.67	16.73	16.10	-64.912	-568.25	-410.55	722.59	691.54	31.05	23.270	
4,850.00	4,632.92	4,696.52	4,363.87	16.87	16.23	-64.901	-568.83	-433.72	722.69	691.39	31.30	23.092	
4,900.00	4,657.92	4,729.01	4,378.63	17.08	16.39	-64.781	-569.56	-462.64	723.79	692.17	31.62	22.892	
4,950.00	4,682.92	4,761.20	4,391.63	17.31	16.55	-64.532	-570.30	-492.08	726.11	694.18	31.93	22.739	
4,980.77	4,698.30	4,780.78	4,398.71	17.45	16.65	-64.319	-570.76	-510.32	728.16	696.05	32.12	22.672	
5,000.00	4,707.64	4,800.00	4,405.06	17.54	16.75	-63.972	-571.22	-528.46	729.60	697.44	32.16	22.689	
5,050.00	4,729.21	4,824.48	4,412.25	17.78	16.88	-63.456	-571.81	-551.85	732.70	700.49	32.21	22.744	
5,100.00	4,746.78	4,850.00	4,418.68	18.02	17.01	-63.030	-572.43	-576.54	735.22	702.91	32.31	22.758	
5,150.00	4,760.20	4,887.32	4,426.09	18.27	17.21	-62.669	-573.35	-613.10	736.94	704.46	32.49	22.685	

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

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COMPASS 5000.1 Build 74



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - 70H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
5,200.00	4,769.38	4,918.66	4,430.46	18.52	17.38	-62.481	-574.13	-644.12	737.97	705.27	32.71	22.563	
5,250.00	4,774.24	4,950.00	4,433.12	18.76	17.54	-62.430	-574.92	-675.33	738.25	705.26	33.00	22.373	
5,289.28	4,775.00	4,974.59	4,434.02	18.95	17.67	-62.486	-575.54	-699.90	737.94	704.67	33.28	22.175	
5,300.00	4,774.84	4,981.31	4,434.08	19.01	17.71	-62.497	-575.71	-706.61	737.83	704.47	33.36	22.117	
5,317.65	4,774.58	4,992.80	4,434.00	19.10	17.77	-62.504	-576.00	-718.10	737.76	704.26	33.50	22.021	
5,350.00	4,774.10	5,024.48	4,433.47	19.27	17.94	-62.499	-576.80	-749.76	737.79	703.97	33.82	21.818	
5,400.00	4,773.36	5,074.48	4,432.62	19.53	18.23	-62.493	-578.06	-799.74	737.83	703.52	34.31	21.505	
5,450.00	4,772.61	5,124.48	4,431.78	19.82	18.52	-62.486	-579.32	-849.72	737.88	703.04	34.84	21.181	
5,500.00	4,771.87	5,174.48	4,430.94	20.10	18.83	-62.479	-580.58	-899.69	737.92	702.55	35.37	20.861	
5,550.00	4,771.13	5,224.48	4,430.10	20.41	19.14	-62.472	-581.84	-949.67	737.97	702.03	35.94	20.532	
5,600.00	4,770.38	5,274.48	4,429.26	20.72	19.47	-62.465	-583.10	-999.65	738.02	701.50	36.52	20.208	
5,650.00	4,769.64	5,324.48	4,428.41	21.05	19.81	-62.458	-584.36	-1,049.62	738.06	700.94	37.13	19.880	
5,700.00	4,768.90	5,374.48	4,427.57	21.38	20.16	-62.452	-585.62	-1,099.60	738.11	700.37	37.74	19.557	
5,750.00	4,768.15	5,424.48	4,426.73	21.73	20.52	-62.445	-586.88	-1,149.58	738.15	699.77	38.38	19.233	
5,800.00	4,767.41	5,474.48	4,425.89	22.08	20.89	-62.438	-588.14	-1,199.55	738.20	699.17	39.03	18.915	
5,850.00	4,766.67	5,524.48	4,425.05	22.45	21.26	-62.431	-589.40	-1,249.53	738.25	698.55	39.70	18.597	
5,900.00	4,765.93	5,574.48	4,424.21	22.81	21.64	-62.424	-590.66	-1,299.51	738.29	697.92	40.37	18.286	
5,950.00	4,765.18	5,633.86	4,423.21	23.20	22.11	-62.406	-591.86	-1,358.88	738.14	697.00	41.14	17.944	
6,000.00	4,764.44	5,698.50	4,422.12	23.58	22.62	-62.338	-591.83	-1,423.50	737.04	695.12	41.93	17.579	
6,050.00	4,763.70	5,748.46	4,421.28	23.97	23.04	-62.265	-591.26	-1,473.45	735.46	692.83	42.63	17.251	
6,100.00	4,762.95	5,798.43	4,420.45	24.37	23.45	-62.191	-590.68	-1,523.41	733.88	690.54	43.34	16.933	
6,150.00	4,762.21	5,848.39	4,419.61	24.78	23.87	-62.118	-590.11	-1,573.36	732.31	688.24	44.07	16.618	
6,200.00	4,761.47	5,898.36	4,418.77	25.18	24.29	-62.044	-589.53	-1,623.32	730.73	685.93	44.79	16.313	
6,250.00	4,760.73	5,948.33	4,417.94	25.60	24.73	-61.970	-588.96	-1,673.27	729.15	683.61	45.54	16.012	
6,300.00	4,759.98	5,998.29	4,417.10	26.02	25.16	-61.895	-588.38	-1,723.23	727.58	681.29	46.28	15.720	
6,350.00	4,759.24	6,048.26	4,416.26	26.45	25.60	-61.820	-587.81	-1,773.19	726.00	678.96	47.04	15.432	
6,400.00	4,758.50	6,098.22	4,415.42	26.89	26.05	-61.745	-587.23	-1,823.14	724.43	676.62	47.80	15.154	
6,450.00	4,757.75	6,148.19	4,414.59	27.33	26.50	-61.669	-586.65	-1,873.10	722.86	674.28	48.58	14.880	
6,500.00	4,757.01	6,198.16	4,413.75	27.76	26.95	-61.594	-586.08	-1,923.05	721.29	671.93	49.35	14.615	
6,550.00	4,756.27	6,248.12	4,412.91	28.21	27.41	-61.517	-585.50	-1,973.01	719.72	669.58	50.14	14.354	
6,600.00	4,755.53	6,298.09	4,412.08	28.66	27.87	-61.441	-584.93	-2,022.97	718.15	667.22	50.93	14.101	
6,650.00	4,754.78	6,348.06	4,411.24	29.12	28.34	-61.364	-584.35	-2,072.92	716.59	664.86	51.73	13.853	
6,700.00	4,754.04	6,398.02	4,410.40	29.57	28.81	-61.287	-583.78	-2,122.88	715.02	662.50	52.52	13.613	
6,750.00	4,753.30	6,447.99	4,409.56	30.04	29.28	-61.209	-583.20	-2,172.83	713.46	660.13	53.33	13.378	
6,800.00	4,752.55	6,497.95	4,408.73	30.50	29.75	-61.132	-582.63	-2,222.79	711.89	657.76	54.14	13.149	
6,850.00	4,751.81	6,547.92	4,407.89	30.97	30.23	-61.053	-582.05	-2,272.75	710.33	655.38	54.96	12.926	
6,900.00	4,751.07	6,597.89	4,407.05	31.44	30.71	-60.975	-581.48	-2,322.70	708.77	653.00	55.77	12.709	
6,950.00	4,750.33	6,643.43	4,406.29	31.92	31.16	-60.906	-581.02	-2,368.24	707.29	650.73	56.56	12.505	
7,000.00	4,749.58	6,684.54	4,405.60	32.39	31.55	-60.864	-581.14	-2,409.34	706.36	649.04	57.32	12.322	
7,049.10	4,748.85	6,724.92	4,404.92	32.86	31.95	-60.845	-581.83	-2,449.71	706.06	647.97	58.09	12.155	
7,050.00	4,748.84	6,725.67	4,404.90	32.87	31.96	-60.845	-581.84	-2,450.45	706.06	647.96	58.10	12.152	
7,100.00	4,748.10	6,766.79	4,404.21	33.35	32.36	-60.849	-583.14	-2,491.55	706.39	647.49	58.89	11.994	
7,150.00	4,747.35	6,807.91	4,403.51	33.84	32.76	-60.876	-585.02	-2,532.62	707.34	647.64	59.70	11.848	
7,200.00	4,746.61	6,848.98	4,402.81	34.33	33.17	-60.927	-587.49	-2,573.61	708.92	648.40	60.52	11.713	
7,250.00	4,745.87	6,891.91	4,402.08	34.82	33.59	-61.003	-590.69	-2,616.42	711.12	649.74	61.37	11.587	
7,300.00	4,745.13	6,941.84	4,401.23	35.31	34.09	-61.099	-594.61	-2,666.19	713.51	651.21	62.30	11.452	
7,350.00	4,744.38	6,991.77	4,400.37	35.80	34.59	-61.194	-598.53	-2,715.95	715.90	652.67	63.23	11.321	
7,400.00	4,743.64	7,041.70	4,399.52	36.30	35.09	-61.289	-602.45	-2,765.72	718.30	654.13	64.17	11.194	
7,450.00	4,742.90	7,091.63	4,398.67	36.80	35.59	-61.383	-606.37	-2,815.49	720.70	655.58	65.11	11.069	
7,500.00	4,742.15	7,141.56	4,397.81	37.29	36.09	-61.477	-610.30	-2,865.25	723.10	657.04	66.06	10.947	
7,550.00	4,741.41	7,191.48	4,396.96	37.80	36.60	-61.569	-614.22	-2,915.02	725.50	658.49	67.01	10.827	
7,600.00	4,740.67	7,241.41	4,396.11	38.30	37.10	-61.662	-618.14	-2,964.79	727.90	659.94	67.96	10.711	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - 70H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,650.00	4,739.93	7,291.34	4,395.26	38.80	37.61	-61.753	-622.06	-3,014.55	730.31	661.39	68.91	10.597	
7,700.00	4,739.18	7,341.27	4,394.40	39.31	38.12	-61.844	-625.98	-3,064.32	732.71	662.84	69.87	10.486	
7,750.00	4,738.44	7,391.20	4,393.55	39.82	38.63	-61.935	-629.91	-3,114.09	735.12	664.29	70.84	10.378	
7,800.00	4,737.70	7,441.81	4,392.69	40.33	39.15	-62.026	-633.88	-3,164.53	737.53	665.72	71.81	10.271	
7,850.00	4,736.95	7,506.56	4,391.58	40.84	39.82	-62.113	-638.17	-3,229.14	739.40	666.49	72.91	10.141	
7,900.00	4,736.21	7,571.40	4,390.49	41.35	40.49	-62.147	-641.00	-3,293.90	740.26	666.27	73.99	10.004	
7,950.00	4,735.47	7,626.15	4,389.57	41.86	41.05	-62.143	-642.45	-3,348.62	740.35	665.39	74.97	9.876	
8,000.00	4,734.72	7,676.15	4,388.73	42.38	41.57	-62.136	-643.71	-3,398.60	740.40	664.50	75.89	9.756	
8,050.00	4,733.98	7,726.15	4,387.89	42.89	42.10	-62.129	-644.96	-3,448.58	740.44	663.62	76.82	9.638	
8,100.00	4,733.24	7,776.15	4,387.05	43.41	42.62	-62.122	-646.22	-3,498.55	740.48	662.73	77.75	9.523	
8,150.00	4,732.50	7,826.15	4,386.21	43.93	43.14	-62.116	-647.48	-3,548.53	740.52	661.83	78.69	9.411	
8,200.00	4,731.75	7,876.15	4,385.37	44.45	43.67	-62.109	-648.73	-3,598.51	740.56	660.94	79.62	9.301	
8,250.00	4,731.01	7,926.15	4,384.53	44.97	44.19	-62.102	-649.99	-3,648.48	740.61	660.05	80.56	9.193	
8,300.00	4,730.27	7,976.15	4,383.69	45.49	44.72	-62.096	-651.25	-3,698.46	740.65	659.15	81.50	9.088	
8,350.00	4,729.52	8,026.15	4,382.85	46.01	45.24	-62.089	-652.50	-3,748.44	740.69	658.25	82.44	8.985	
8,400.00	4,728.78	8,076.15	4,382.01	46.53	45.77	-62.082	-653.76	-3,798.42	740.73	657.35	83.38	8.884	
8,450.00	4,728.04	8,126.15	4,381.17	47.06	46.30	-62.075	-655.01	-3,848.39	740.78	656.45	84.32	8.785	
8,500.00	4,727.30	8,176.15	4,380.33	47.58	46.83	-62.069	-656.27	-3,898.37	740.82	655.55	85.27	8.688	
8,550.00	4,726.55	8,226.15	4,379.49	48.11	47.36	-62.062	-657.53	-3,948.35	740.86	654.65	86.21	8.593	
8,600.00	4,725.81	8,276.15	4,378.65	48.63	47.89	-62.055	-658.78	-3,998.32	740.90	653.74	87.16	8.500	
8,650.00	4,725.07	8,326.15	4,377.81	49.16	48.42	-62.048	-660.04	-4,048.30	740.94	652.84	88.11	8.409	
8,700.00	4,724.32	8,376.15	4,376.98	49.69	48.95	-62.042	-661.30	-4,098.28	740.99	651.93	89.06	8.320	
8,750.00	4,723.58	8,426.15	4,376.14	50.22	49.49	-62.035	-662.55	-4,148.25	741.03	651.02	90.01	8.233	
8,800.00	4,722.84	8,476.15	4,375.30	50.75	50.02	-62.028	-663.81	-4,198.23	741.07	650.11	90.96	8.147	
8,850.00	4,722.10	8,526.15	4,374.46	51.28	50.56	-62.021	-665.07	-4,248.21	741.11	649.20	91.91	8.063	
8,900.00	4,721.35	8,576.15	4,373.62	51.81	51.09	-62.015	-666.32	-4,298.19	741.16	648.29	92.87	7.981	
8,950.00	4,720.61	8,626.15	4,372.78	52.34	51.63	-62.008	-667.58	-4,348.16	741.20	647.38	93.82	7.900	
9,000.00	4,719.87	8,676.15	4,371.94	52.87	52.16	-62.001	-668.83	-4,398.14	741.24	646.46	94.78	7.821	
9,050.00	4,719.12	8,726.15	4,371.10	53.41	52.70	-61.994	-670.09	-4,448.12	741.28	645.55	95.73	7.743	
9,100.00	4,718.38	8,776.15	4,370.26	53.94	53.23	-61.988	-671.35	-4,498.09	741.32	644.63	96.69	7.667	
9,150.00	4,717.64	8,826.15	4,369.42	54.47	53.77	-61.981	-672.60	-4,548.07	741.37	643.72	97.65	7.592	
9,200.00	4,716.90	8,876.15	4,368.58	55.01	54.31	-61.974	-673.86	-4,598.05	741.41	642.80	98.61	7.519	
9,250.00	4,716.15	8,926.15	4,367.74	55.54	54.85	-61.968	-675.12	-4,648.03	741.45	641.88	99.57	7.446	
9,300.00	4,715.41	8,976.15	4,366.90	56.08	55.39	-61.961	-676.37	-4,698.00	741.49	640.96	100.53	7.376	
9,350.00	4,714.67	9,026.15	4,366.06	56.62	55.93	-61.954	-677.63	-4,747.98	741.54	640.04	101.49	7.306	
9,400.00	4,713.92	9,076.15	4,365.22	57.15	56.47	-61.947	-678.89	-4,797.96	741.58	639.12	102.46	7.238	
9,450.00	4,713.18	9,126.15	4,364.38	57.69	57.01	-61.941	-680.14	-4,847.93	741.62	638.20	103.42	7.171	
9,500.00	4,712.44	9,176.15	4,363.54	58.23	57.55	-61.934	-681.40	-4,897.91	741.66	637.28	104.38	7.105	
9,550.00	4,711.70	9,226.15	4,362.70	58.77	58.09	-61.927	-682.65	-4,947.89	741.71	636.36	105.35	7.040	
9,600.00	4,710.95	9,276.15	4,361.86	59.30	58.63	-61.920	-683.91	-4,997.87	741.75	635.43	106.31	6.977	
9,650.00	4,710.21	9,326.15	4,361.02	59.84	59.17	-61.914	-685.17	-5,047.84	741.79	634.51	107.28	6.915	
9,700.00	4,709.47	9,376.15	4,360.18	60.38	59.72	-61.907	-686.42	-5,097.82	741.83	633.59	108.25	6.853	
9,750.00	4,708.72	9,426.15	4,359.34	60.92	60.26	-61.900	-687.68	-5,147.80	741.87	632.66	109.21	6.793	
9,800.00	4,707.98	9,476.15	4,358.50	61.46	60.80	-61.894	-688.94	-5,197.77	741.92	631.74	110.18	6.734	
9,850.00	4,707.24	9,526.15	4,357.66	62.00	61.35	-61.887	-690.19	-5,247.75	741.96	630.81	111.15	6.675	
9,900.00	4,706.50	9,576.15	4,356.82	62.55	61.89	-61.880	-691.45	-5,297.73	742.00	629.88	112.12	6.618	
9,950.00	4,705.75	9,626.15	4,355.99	63.09	62.43	-61.873	-692.70	-5,347.70	742.04	628.96	113.09	6.562	
10,000.00	4,705.01	9,676.15	4,355.15	63.63	62.98	-61.867	-693.96	-5,397.68	742.09	628.03	114.06	6.506	
10,050.00	4,704.27	9,726.15	4,354.31	64.17	63.52	-61.860	-695.22	-5,447.66	742.13	627.10	115.03	6.452	
10,100.00	4,703.52	9,776.15	4,353.47	64.71	64.07	-61.853	-696.47	-5,497.64	742.17	626.17	116.00	6.398	
10,150.00	4,702.78	9,826.15	4,352.63	65.26	64.61	-61.847	-697.73	-5,547.61	742.21	625.24	116.97	6.345	
10,200.00	4,702.04	9,876.15	4,351.79	65.80	65.16	-61.840	-698.99	-5,597.59	742.26	624.31	117.94	6.293	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - 70H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,250.00	4,701.29	9,926.15	4,350.95	66.34	65.70	-61.833	-700.24	-5,647.57	742.30	623.38	118.92	6.242	
10,287.12	4,700.74	9,963.27	4,350.32	66.75	66.11	-61.828	-701.18	-5,684.67	742.33	622.69	119.64	6.205	
10,300.00	4,700.55	9,976.14	4,350.11	66.89	66.25	-61.826	-701.50	-5,697.54	742.34	622.45	119.89	6.192	
10,337.14	4,700.00	10,013.29	4,349.48	67.29	66.60	-61.821	-702.43	-5,734.67	742.37	621.81	120.56	6.158 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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 200-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
550.00	549.70	528.70	549.70	1.75	7.77	119.140	-510.95	-66.89	520.44	510.92	9.53	54.635	CC, ES
600.00	599.56	578.56	599.56	1.93	8.67	119.499	-510.95	-66.89	522.29	511.68	10.60	49.265	
650.00	649.42	628.42	649.42	2.11	9.57	119.855	-510.95	-66.89	524.15	512.47	11.68	44.882	
700.00	699.28	678.28	699.28	2.28	10.48	120.209	-510.95	-66.89	526.03	513.27	12.77	41.207	
750.00	749.13	728.14	749.13	2.46	11.40	120.561	-510.95	-66.89	527.93	514.07	13.86	38.079	
800.00	798.99	778.00	798.99	2.64	12.32	120.910	-510.95	-66.89	529.86	514.89	14.96	35.413	
850.00	848.85	814.00	834.99	2.82	12.99	121.160	-510.95	-66.89	531.98	516.17	15.80	33.659	
900.00	898.71	814.00	834.99	3.00	12.99	121.160	-510.95	-66.89	537.55	521.56	15.98	33.629	SF
950.00	948.57	814.00	834.99	3.18	12.99	121.160	-510.95	-66.89	547.65	531.48	16.16	33.880	
1,000.00	998.43	814.00	834.99	3.36	12.99	121.160	-510.95	-66.89	562.03	545.68	16.34	34.387	
1,050.00	1,048.29	814.00	834.99	3.54	12.99	121.160	-510.95	-66.89	580.37	563.85	16.52	35.122	
1,100.00	1,098.15	814.00	834.99	3.72	12.99	121.160	-510.95	-66.89	602.32	585.62	16.70	36.058	
1,150.00	1,148.01	814.00	834.99	3.90	12.99	121.160	-510.95	-66.89	627.49	610.61	16.88	37.164	
1,200.00	1,197.86	814.00	834.99	4.08	12.99	121.160	-510.95	-66.89	655.52	638.46	17.06	38.414	
1,250.00	1,247.72	814.00	834.99	4.26	12.99	121.160	-510.95	-66.89	686.05	668.81	17.25	39.783	
1,300.00	1,297.58	814.00	834.99	4.44	12.99	121.160	-510.95	-66.89	718.76	701.34	17.43	41.248	
1,350.00	1,347.44	814.00	834.99	4.62	12.99	121.160	-510.95	-66.89	753.38	735.77	17.61	42.792	
1,400.00	1,397.30	814.00	834.99	4.80	12.99	121.160	-510.95	-66.89	789.64	771.86	17.79	44.397	
1,450.00	1,447.16	814.00	834.99	4.98	12.99	121.160	-510.95	-66.89	827.34	809.38	17.97	46.049	
1,500.00	1,497.02	814.00	834.99	5.16	12.99	121.160	-510.95	-66.89	866.29	848.14	18.15	47.738	
1,550.00	1,546.88	814.00	834.99	5.34	12.99	121.160	-510.95	-66.89	906.32	887.99	18.33	49.452	
1,600.00	1,596.74	814.00	834.99	5.52	12.99	121.160	-510.95	-66.89	947.30	928.79	18.51	51.184	
1,650.00	1,646.59	814.00	834.99	5.70	12.99	121.160	-510.95	-66.89	989.10	970.42	18.69	52.927	
1,700.00	1,696.45	814.00	834.99	5.89	12.99	121.160	-510.95	-66.89	1,031.64	1,012.77	18.87	54.675	

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



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: COLLIER STATE 3 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 200-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis			Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
300.00	300.00	279.00	300.00	0.86	3.27	-47.251	148.12	-160.24	218.21	214.08	4.13	52.800	CC
350.00	350.00	329.00	350.00	1.04	4.17	-116.637	148.12	-160.24	218.41	213.19	5.21	41.900	
400.00	399.98	378.98	399.98	1.21	5.07	-116.932	148.12	-160.24	219.00	212.70	6.29	34.802	
450.00	449.93	428.93	449.93	1.39	5.97	-117.420	148.12	-160.24	219.99	212.62	7.37	29.842	ES
500.00	499.84	478.84	499.84	1.57	6.88	-118.095	148.12	-160.24	221.42	212.97	8.45	26.202	
515.30	515.09	494.10	515.09	1.63	7.15	-118.338	148.12	-160.24	221.94	213.16	8.78	25.277	
550.00	549.70	528.70	549.70	1.75	7.77	-118.925	148.12	-160.24	223.19	213.67	9.53	23.429	
600.00	599.56	578.56	599.56	1.93	8.67	-119.760	148.12	-160.24	225.04	214.44	10.60	21.228	
650.00	649.42	628.42	649.42	2.11	9.57	-120.581	148.12	-160.24	226.93	215.25	11.68	19.435	
700.00	699.28	678.28	699.28	2.28	10.48	-121.389	148.12	-160.24	228.86	216.10	12.76	17.933	
750.00	749.13	728.14	749.13	2.46	11.40	-122.183	148.12	-160.24	230.85	216.99	13.86	16.656	
800.00	798.99	778.00	798.99	2.64	12.32	-122.963	148.12	-160.24	232.87	217.92	14.96	15.570	
850.00	848.85	827.86	848.85	2.82	13.24	-123.730	148.12	-160.24	234.94	218.89	16.05	14.635	
900.00	898.71	842.00	862.99	3.00	13.50	-123.945	148.12	-160.24	239.72	223.23	16.49	14.535	SF
950.00	948.57	842.00	862.99	3.18	13.50	-123.945	148.12	-160.24	254.05	237.37	16.67	15.239	
1,000.00	998.43	842.00	862.99	3.36	13.50	-123.945	148.12	-160.24	276.79	259.94	16.85	16.427	
1,050.00	1,048.29	842.00	862.99	3.54	13.50	-123.945	148.12	-160.24	306.07	289.05	17.03	17.974	
1,100.00	1,098.15	842.00	862.99	3.72	13.50	-123.945	148.12	-160.24	340.22	323.02	17.21	19.771	
1,150.00	1,148.01	842.00	862.99	3.90	13.50	-123.945	148.12	-160.24	377.92	360.53	17.39	21.736	
1,200.00	1,197.86	842.00	862.99	4.08	13.50	-123.945	148.12	-160.24	418.20	400.64	17.57	23.808	
1,250.00	1,247.72	842.00	862.99	4.26	13.50	-123.945	148.12	-160.24	460.40	442.65	17.75	25.945	
1,300.00	1,297.58	842.00	862.99	4.44	13.50	-123.945	148.12	-160.24	504.02	486.10	17.92	28.119	
1,350.00	1,347.44	842.00	862.99	4.62	13.50	-123.945	148.12	-160.24	548.73	530.63	18.10	30.310	
1,400.00	1,397.30	842.00	862.99	4.80	13.50	-123.945	148.12	-160.24	594.29	576.01	18.28	32.505	
1,450.00	1,447.16	842.00	862.99	4.98	13.50	-123.945	148.12	-160.24	640.51	622.05	18.46	34.693	
1,500.00	1,497.02	842.00	862.99	5.16	13.50	-123.945	148.12	-160.24	687.26	668.62	18.64	36.866	
1,550.00	1,546.88	842.00	862.99	5.34	13.50	-123.945	148.12	-160.24	734.43	715.61	18.82	39.022	
1,600.00	1,596.74	842.00	862.99	5.52	13.50	-123.945	148.12	-160.24	781.96	762.96	19.00	41.154	
1,650.00	1,646.59	842.00	862.99	5.70	13.50	-123.945	148.12	-160.24	829.78	810.60	19.18	43.263	
1,700.00	1,696.45	842.00	862.99	5.89	13.50	-123.945	148.12	-160.24	877.84	858.48	19.36	45.344	
1,750.00	1,746.31	842.00	862.99	6.07	13.50	-123.945	148.12	-160.24	926.11	906.57	19.54	47.398	
1,800.00	1,796.17	842.00	862.99	6.25	13.50	-123.945	148.12	-160.24	974.55	954.83	19.72	49.423	
1,850.00	1,846.03	842.00	862.99	6.43	13.50	-123.945	148.12	-160.24	1,023.14	1,003.24	19.90	51.419	
1,900.00	1,895.89	842.00	862.99	6.61	13.50	-123.945	148.12	-160.24	1,071.86	1,051.79	20.08	53.386	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 200-INC-ONLY												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
500.00	499.84	471.84	499.84	1.57	6.75	-1.466	154.68	379.97	403.27	394.92	8.35	48.282	
515.30	515.09	487.10	515.09	1.63	7.02	-1.471	154.68	379.97	402.16	393.48	8.68	46.312	
550.00	549.70	521.70	549.70	1.75	7.65	-1.480	154.68	379.97	399.56	390.14	9.42	42.399	
600.00	599.56	571.56	599.56	1.93	8.55	-1.494	154.68	379.97	395.81	385.32	10.49	37.728	
650.00	649.42	621.42	649.42	2.11	9.45	-1.508	154.68	379.97	392.05	380.49	11.56	33.913	
700.00	699.28	671.28	699.28	2.28	10.35	-1.523	154.68	379.97	388.30	375.66	12.64	30.725	
750.00	749.13	721.14	749.13	2.46	11.27	-1.538	154.68	379.97	384.55	370.82	13.73	28.006	
800.00	798.99	771.00	798.99	2.64	12.19	-1.553	154.68	379.97	380.80	365.97	14.82	25.690	
850.00	848.85	820.86	848.85	2.82	13.11	-1.569	154.68	379.97	377.04	361.13	15.92	23.691	
881.43	880.19	824.00	851.99	2.93	13.17	-1.569	154.68	379.97	375.74	359.66	16.08	23.360 CC, ES	
900.00	898.71	824.00	851.99	3.00	13.17	-1.569	154.68	379.97	376.20	360.05	16.15	23.292 SF	
950.00	948.57	824.00	851.99	3.18	13.17	-1.569	154.68	379.97	381.95	365.62	16.33	23.390	
1,000.00	998.43	824.00	851.99	3.36	13.17	-1.569	154.68	379.97	394.01	377.50	16.51	23.868	
1,050.00	1,048.29	824.00	851.99	3.54	13.17	-1.569	154.68	379.97	411.82	395.14	16.69	24.681	
1,100.00	1,098.15	824.00	851.99	3.72	13.17	-1.569	154.68	379.97	434.69	417.83	16.86	25.775	
1,150.00	1,148.01	824.00	851.99	3.90	13.17	-1.569	154.68	379.97	461.86	444.81	17.04	27.099	
1,200.00	1,197.86	824.00	851.99	4.08	13.17	-1.569	154.68	379.97	492.61	475.39	17.22	28.604	
1,250.00	1,247.72	824.00	851.99	4.26	13.17	-1.569	154.68	379.97	526.33	508.93	17.40	30.248	
1,300.00	1,297.58	824.00	851.99	4.44	13.17	-1.569	154.68	379.97	562.48	544.90	17.58	31.996	
1,350.00	1,347.44	824.00	851.99	4.62	13.17	-1.569	154.68	379.97	600.62	582.86	17.76	33.822	
1,400.00	1,397.30	824.00	851.99	4.80	13.17	-1.569	154.68	379.97	640.39	622.45	17.94	35.702	
1,450.00	1,447.16	824.00	851.99	4.98	13.17	-1.569	154.68	379.97	681.51	663.39	18.12	37.619	
1,500.00	1,497.02	824.00	851.99	5.16	13.17	-1.569	154.68	379.97	723.75	705.45	18.30	39.559	
1,550.00	1,546.88	824.00	851.99	5.34	13.17	-1.569	154.68	379.97	766.92	748.45	18.47	41.513	
1,600.00	1,596.74	824.00	851.99	5.52	13.17	-1.569	154.68	379.97	810.88	792.23	18.65	43.471	
1,650.00	1,646.59	824.00	851.99	5.70	13.17	-1.569	154.68	379.97	855.50	836.67	18.83	45.427	
1,700.00	1,696.45	824.00	851.99	5.89	13.17	-1.569	154.68	379.97	900.69	881.68	19.01	47.375	
1,750.00	1,746.31	824.00	851.99	6.07	13.17	-1.569	154.68	379.97	946.36	927.17	19.19	49.313	
1,800.00	1,796.17	824.00	851.99	6.25	13.17	-1.569	154.68	379.97	992.45	973.08	19.37	51.236	
1,850.00	1,846.03	824.00	851.99	6.43	13.17	-1.569	154.68	379.97	1,038.90	1,019.35	19.55	53.142	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: COLLIER-STATE 1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 200-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
650.00	649.42	628.42	649.42	2.11	9.57	76.013	-506.49	372.70	624.18	612.50	11.67	53.465	
700.00	699.28	678.28	699.28	2.28	10.51	76.347	-506.49	372.70	623.28	610.49	12.79	48.745	
750.00	749.13	728.14	749.13	2.46	11.47	76.682	-506.49	372.70	622.40	608.47	13.93	44.673	
800.00	798.99	778.00	798.99	2.64	12.44	77.017	-506.49	372.70	621.55	606.47	15.08	41.220	
850.00	848.85	827.86	848.85	2.82	13.41	77.354	-506.49	372.70	620.71	604.49	16.23	38.256	
900.00	898.71	877.72	898.71	3.00	14.38	77.692	-506.49	372.70	619.90	602.53	17.37	35.684	
950.00	948.57	927.58	948.57	3.18	15.35	78.030	-506.49	372.70	619.11	600.58	18.52	33.425	
1,000.00	998.43	977.44	998.43	3.36	16.32	78.370	-506.49	372.70	618.34	598.66	19.68	31.425	
1,050.00	1,048.29	1,027.29	1,048.29	3.54	17.30	78.710	-506.49	372.70	617.59	596.76	20.83	29.648	
1,100.00	1,098.15	1,077.15	1,098.15	3.72	18.27	79.051	-506.49	372.70	616.86	594.88	21.98	28.059	
1,150.00	1,148.01	1,127.02	1,148.01	3.90	19.23	79.393	-506.49	372.70	616.16	593.03	23.12	26.645	
1,200.00	1,197.86	1,176.88	1,197.86	4.08	20.13	79.735	-506.49	372.70	615.48	591.28	24.20	25.433	
1,250.00	1,247.72	1,226.74	1,247.72	4.26	21.02	80.079	-506.49	372.70	614.82	589.54	25.28	24.325	
1,300.00	1,297.58	1,276.60	1,297.58	4.44	21.92	80.423	-506.49	372.70	614.18	587.83	26.35	23.308	
1,350.00	1,347.44	1,326.46	1,347.44	4.62	22.81	80.767	-506.49	372.70	613.56	586.14	27.43	22.372	
1,400.00	1,397.30	1,376.32	1,397.30	4.80	23.71	81.113	-506.49	372.70	612.97	584.47	28.50	21.507	
1,450.00	1,447.16	1,426.18	1,447.16	4.98	24.60	81.459	-506.49	372.70	612.40	582.83	29.58	20.706	
1,500.00	1,497.02	1,476.04	1,497.02	5.16	25.50	81.806	-506.49	372.70	611.85	581.20	30.65	19.962	
1,550.00	1,546.88	1,525.90	1,546.88	5.34	26.41	82.153	-506.49	372.70	611.33	579.58	31.75	19.256	
1,600.00	1,596.74	1,575.76	1,596.74	5.52	27.38	82.501	-506.49	372.70	610.83	577.93	32.90	18.568	
1,650.00	1,646.59	1,625.62	1,646.59	5.70	28.35	82.849	-506.49	372.70	610.35	576.30	34.05	17.927	
1,700.00	1,696.45	1,675.48	1,696.45	5.89	29.32	83.198	-506.49	372.70	609.89	574.69	35.20	17.328	
1,750.00	1,746.31	1,725.34	1,746.31	6.07	30.29	83.548	-506.49	372.70	609.45	573.11	36.35	16.768	
1,800.00	1,796.17	1,775.19	1,796.17	6.25	31.26	83.897	-506.49	372.70	609.04	571.55	37.50	16.243	
1,850.00	1,846.03	1,825.05	1,846.03	6.43	32.23	84.248	-506.49	372.70	608.65	570.01	38.65	15.750	
1,900.00	1,895.89	1,874.91	1,895.89	6.61	33.20	84.599	-506.49	372.70	608.29	568.49	39.80	15.285	
1,950.00	1,945.75	1,935.00	1,955.98	6.79	34.37	85.022	-506.49	372.70	608.03	566.89	41.14	14.778	
2,000.00	1,995.61	1,974.63	1,995.61	6.97	35.22	85.302	-506.49	372.70	607.63	565.44	42.18	14.405	
2,046.99	2,042.46	2,018.00	2,038.97	7.14	36.16	85.608	-506.49	372.70	607.36	564.07	43.29	14.030 CC	
2,050.00	2,045.47	2,018.00	2,038.97	7.15	36.16	85.608	-506.49	372.70	607.36	564.06	43.30	14.027 ES	
2,100.00	2,095.32	2,018.00	2,038.97	7.33	36.16	85.608	-506.49	372.70	609.66	566.18	43.48	14.022 SF	
2,150.00	2,145.18	2,018.00	2,038.97	7.51	36.16	85.608	-506.49	372.70	616.03	572.37	43.66	14.109	
2,200.00	2,195.04	2,018.00	2,038.97	7.69	36.16	85.608	-506.49	372.70	626.33	582.49	43.84	14.286	
2,250.00	2,244.90	2,018.00	2,038.97	7.87	36.16	85.608	-506.49	372.70	640.39	596.36	44.02	14.547	
2,300.00	2,294.76	2,018.00	2,038.97	8.05	36.16	85.608	-506.49	372.70	657.95	613.75	44.20	14.885	
2,350.00	2,344.62	2,018.00	2,038.97	8.23	36.16	85.608	-506.49	372.70	678.75	634.36	44.38	15.293	
2,400.00	2,394.48	2,018.00	2,038.97	8.41	36.16	85.608	-506.49	372.70	702.49	657.93	44.56	15.764	
2,450.00	2,444.34	2,018.00	2,038.97	8.59	36.16	85.608	-506.49	372.70	728.90	684.16	44.74	16.291	
2,500.00	2,494.20	2,018.00	2,038.97	8.78	36.16	85.608	-506.49	372.70	757.69	712.77	44.92	16.866	
2,550.00	2,544.05	2,018.00	2,038.97	8.96	36.16	85.608	-506.49	372.70	788.61	743.50	45.10	17.484	
2,600.00	2,593.91	2,018.00	2,038.97	9.14	36.16	85.608	-506.49	372.70	821.40	776.12	45.28	18.139	
2,650.00	2,643.77	2,018.00	2,038.97	9.32	36.16	85.608	-506.49	372.70	855.86	810.40	45.46	18.825	
2,700.00	2,693.63	2,018.00	2,038.97	9.50	36.16	85.608	-506.49	372.70	891.80	846.15	45.64	19.538	
2,750.00	2,743.49	2,018.00	2,038.97	9.68	36.16	85.608	-506.49	372.70	929.04	883.21	45.83	20.273	
2,800.00	2,793.35	2,018.00	2,038.97	9.86	36.16	85.608	-506.49	372.70	967.42	921.42	46.01	21.028	
2,850.00	2,843.21	2,018.00	2,038.97	10.04	36.16	85.608	-506.49	372.70	1,006.83	960.64	46.19	21.799	
2,900.00	2,893.07	2,018.00	2,038.97	10.22	36.16	85.608	-506.49	372.70	1,047.14	1,000.78	46.37	22.584	
2,950.00	2,942.93	2,018.00	2,038.97	10.40	36.16	85.608	-506.49	372.70	1,088.26	1,041.71	46.55	23.380	
3,000.00	2,992.78	2,018.00	2,038.97	10.58	36.16	85.608	-506.49	372.70	1,130.09	1,083.37	46.73	24.185	
3,050.00	3,042.64	2,018.00	2,038.97	10.76	36.16	85.608	-506.49	372.70	1,172.57	1,125.66	46.91	24.997	
3,100.00	3,092.50	2,018.00	2,038.97	10.94	36.16	85.608	-506.49	372.70	1,215.61	1,168.52	47.09	25.816	
3,150.00	3,142.36	2,018.00	2,038.97	11.12	36.16	85.608	-506.49	372.70	1,259.17	1,211.90	47.27	26.639	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: COLLIER-STATE 1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 200-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
3,200.00	3,192.22	2,018.00	2,038.97	11.30	36.16	85.608	-506.49	372.70	1,303.19	1,255.75	47.45	27.465	
3,250.00	3,242.08	2,018.00	2,038.97	11.49	36.16	85.608	-506.49	372.70	1,347.63	1,300.00	47.63	28.294	
3,300.00	3,291.94	2,018.00	2,038.97	11.67	36.16	85.608	-506.49	372.70	1,392.45	1,344.64	47.81	29.125	
3,350.00	3,341.80	2,018.00	2,038.97	11.85	36.16	85.608	-506.49	372.70	1,437.61	1,389.62	47.99	29.956	
3,400.00	3,391.66	2,018.00	2,038.97	12.03	36.16	85.608	-506.49	372.70	1,483.08	1,434.91	48.17	30.788	
3,450.00	3,441.51	2,018.00	2,038.97	12.21	36.16	85.608	-506.49	372.70	1,528.83	1,480.48	48.35	31.619	
3,500.00	3,491.37	2,018.00	2,038.97	12.39	36.16	85.608	-506.49	372.70	1,574.84	1,526.31	48.53	32.450	
3,550.00	3,541.23	2,018.00	2,038.97	12.57	36.16	85.608	-506.49	372.70	1,621.09	1,572.38	48.71	33.279	
3,600.00	3,591.09	2,018.00	2,038.97	12.75	36.16	85.608	-506.49	372.70	1,667.55	1,618.66	48.89	34.106	
3,650.00	3,640.95	2,018.00	2,038.97	12.93	36.16	85.608	-506.49	372.70	1,714.21	1,665.14	49.07	34.932	
3,700.00	3,690.81	2,018.00	2,038.97	13.11	36.16	85.608	-506.49	372.70	1,761.06	1,711.81	49.25	35.755	
3,712.87	3,703.64	2,018.00	2,038.97	13.16	36.16	85.608	-506.49	372.70	1,773.14	1,723.84	49.30	35.966	
3,750.00	3,740.71	2,018.00	2,038.97	13.29	36.16	109.405	-506.49	372.70	1,808.16	1,758.72	49.44	36.574	
3,800.00	3,790.69	2,018.00	2,038.97	13.46	36.16	-148.193	-506.49	372.70	1,855.64	1,806.03	49.61	37.405	
3,850.00	3,840.62	2,018.00	2,038.97	13.63	36.16	-106.827	-506.49	372.70	1,903.36	1,853.58	49.78	38.233	
3,900.00	3,890.35	2,018.00	2,038.97	13.79	36.16	-89.675	-506.49	372.70	1,951.18	1,901.23	49.94	39.067	
3,950.00	3,939.77	2,018.00	2,038.97	13.95	36.16	-77.190	-506.49	372.70	1,998.95	1,948.92	50.03	39.953	
4,000.00	3,988.72	2,018.00	2,038.97	14.10	36.16	-66.973	-506.49	372.70	2,046.57	1,996.58	49.98	40.945	
4,050.00	4,037.07	2,018.00	2,038.97	14.26	36.16	-58.472	-506.49	372.70	2,093.90	2,044.15	49.75	42.087	
4,100.00	4,084.70	2,018.00	2,038.97	14.41	36.16	-51.416	-506.49	372.70	2,140.86	2,091.53	49.33	43.402	
4,150.00	4,131.47	2,018.00	2,038.97	14.56	36.16	-45.573	-506.49	372.70	2,187.33	2,138.62	48.71	44.904	
4,200.00	4,177.26	2,018.00	2,038.97	14.71	36.16	-40.732	-506.49	372.70	2,233.22	2,185.30	47.92	46.600	
4,250.00	4,221.93	2,018.00	2,038.97	14.86	36.16	-36.703	-506.49	372.70	2,278.45	2,231.47	46.98	48.501	
4,300.00	4,265.37	2,018.00	2,038.97	15.01	36.16	-33.330	-506.49	372.70	2,322.93	2,277.04	45.89	50.622	
4,350.00	4,307.45	2,018.00	2,038.97	15.15	36.16	-30.486	-506.49	372.70	2,366.59	2,321.92	44.67	52.982	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: GERONIMO '28' STATE COM 1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 108-INC-ONLY												Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toelface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,050.00	2,045.47	2,049.53	2,045.47	7.15	41.93	-175.888	-712.72	-2,419.65	2,645.42	2,596.49	48.93	54.066	
2,100.00	2,095.32	2,099.43	2,095.32	7.33	42.91	-175.894	-712.72	-2,419.65	2,649.16	2,599.08	50.08	52.897	
2,150.00	2,145.18	2,149.29	2,145.18	7.51	43.84	-175.900	-712.72	-2,419.65	2,652.91	2,601.71	51.19	51.821	
2,200.00	2,195.04	2,199.15	2,195.04	7.69	44.78	-175.906	-712.72	-2,419.65	2,656.65	2,604.34	52.31	50.790	
2,250.00	2,244.90	2,249.00	2,244.90	7.87	45.72	-175.911	-712.72	-2,419.65	2,660.40	2,606.98	53.42	49.802	
2,300.00	2,294.76	2,298.86	2,294.76	8.05	46.65	-175.917	-712.72	-2,419.65	2,664.14	2,609.61	54.53	48.854	
2,350.00	2,344.62	2,348.72	2,344.62	8.23	47.59	-175.923	-712.72	-2,419.65	2,667.88	2,612.24	55.65	47.944	
2,400.00	2,394.48	2,398.58	2,394.48	8.41	48.53	-175.929	-712.72	-2,419.65	2,671.63	2,614.87	56.76	47.070	
2,450.00	2,444.34	2,448.44	2,444.34	8.59	49.46	-175.934	-712.72	-2,419.65	2,675.37	2,617.50	57.87	46.230	
2,500.00	2,494.20	2,498.30	2,494.20	8.78	50.40	-175.940	-712.72	-2,419.65	2,679.12	2,620.13	58.98	45.421	
2,550.00	2,544.05	2,548.16	2,544.05	8.96	51.34	-175.946	-712.72	-2,419.65	2,682.86	2,622.77	60.10	44.642	
2,600.00	2,593.91	2,598.02	2,593.91	9.14	52.27	-175.951	-712.72	-2,419.65	2,686.61	2,625.40	61.21	43.892	
2,650.00	2,643.77	2,647.88	2,643.77	9.32	53.21	-175.957	-712.72	-2,419.65	2,690.35	2,628.03	62.32	43.168	
2,700.00	2,693.63	2,697.75	2,693.63	9.50	54.15	-175.963	-712.72	-2,419.65	2,694.10	2,630.66	63.44	42.467	
2,750.00	2,743.49	2,747.61	2,743.49	9.68	55.09	-175.968	-712.72	-2,419.65	2,697.84	2,633.29	64.56	41.790	
2,800.00	2,793.35	2,797.47	2,793.35	9.86	56.03	-175.974	-712.72	-2,419.65	2,701.59	2,635.91	65.67	41.137	
2,850.00	2,843.21	2,847.33	2,843.21	10.04	56.97	-175.979	-712.72	-2,419.65	2,705.33	2,638.54	66.79	40.504	
2,900.00	2,893.07	2,897.19	2,893.07	10.22	57.91	-175.985	-712.72	-2,419.65	2,709.08	2,641.17	67.91	39.893	
2,950.00	2,942.93	2,947.05	2,942.93	10.40	58.85	-175.991	-712.72	-2,419.65	2,712.82	2,643.80	69.03	39.302	
3,000.00	2,992.78	2,996.90	2,992.78	10.58	59.79	-175.996	-712.72	-2,419.65	2,716.57	2,646.42	70.14	38.729	
3,050.00	3,042.64	3,046.76	3,042.64	10.76	60.73	-176.002	-712.72	-2,419.65	2,720.31	2,649.05	71.26	38.174	
3,100.00	3,092.50	3,096.62	3,092.50	10.94	61.67	-176.007	-712.72	-2,419.65	2,724.06	2,651.68	72.38	37.637	
3,150.00	3,142.36	3,146.48	3,142.36	11.12	62.61	-176.013	-712.72	-2,419.65	2,727.80	2,654.31	73.50	37.115	
3,200.00	3,192.22	3,196.35	3,192.22	11.30	63.59	-176.018	-712.72	-2,419.65	2,731.55	2,656.90	74.65	36.592	
3,250.00	3,242.08	3,246.21	3,242.08	11.49	64.61	-176.024	-712.72	-2,419.65	2,735.29	2,659.45	75.85	36.064	
3,300.00	3,291.94	3,296.06	3,291.94	11.67	65.63	-176.029	-712.72	-2,419.65	2,739.04	2,662.00	77.04	35.553	
3,350.00	3,341.80	3,345.92	3,341.80	11.85	66.65	-176.034	-712.72	-2,419.65	2,742.78	2,664.54	78.24	35.057	
3,400.00	3,391.66	3,395.78	3,391.66	12.03	67.67	-176.040	-712.72	-2,419.65	2,746.53	2,667.09	79.43	34.576	
3,450.00	3,441.51	3,445.64	3,441.51	12.21	68.69	-176.045	-712.72	-2,419.65	2,750.27	2,669.64	80.63	34.110	
3,500.00	3,491.37	3,495.50	3,491.37	12.39	69.71	-176.051	-712.72	-2,419.65	2,754.02	2,672.19	81.83	33.657	
3,550.00	3,541.23	3,545.36	3,541.23	12.57	70.73	-176.056	-712.72	-2,419.65	2,757.76	2,674.74	83.02	33.217	
3,600.00	3,591.09	3,595.22	3,591.09	12.75	71.75	-176.061	-712.72	-2,419.65	2,761.51	2,677.29	84.22	32.790	
3,650.00	3,640.95	3,645.09	3,640.95	12.93	72.76	-176.067	-712.72	-2,419.65	2,765.25	2,679.84	85.41	32.376	
3,700.00	3,690.81	3,694.95	3,690.81	13.11	73.74	-176.072	-712.72	-2,419.65	2,769.00	2,682.43	86.57	31.986	
3,712.87	3,703.64	3,707.78	3,703.64	13.16	74.00	-176.073	-712.72	-2,419.65	2,769.96	2,683.10	86.87	31.888	
3,750.00	3,740.71	3,744.85	3,740.71	13.29	74.73	-158.187	-712.72	-2,419.65	2,772.05	2,684.17	87.88	31.544	
3,800.00	3,790.69	3,794.83	3,790.69	13.46	75.71	-64.667	-712.72	-2,419.65	2,772.65	2,683.60	89.04	31.138	
3,850.00	3,840.62	3,844.76	3,840.62	13.63	76.69	-32.931	-712.72	-2,419.65	2,770.72	2,680.75	89.97	30.796	
3,900.00	3,890.35	3,894.49	3,890.35	13.79	77.67	-25.637	-712.72	-2,419.65	2,766.26	2,675.61	90.65	30.514	
3,950.00	3,939.77	3,943.91	3,939.77	13.95	78.64	-22.663	-712.72	-2,419.65	2,759.29	2,668.20	91.09	30.291	
4,000.00	3,988.72	3,992.86	3,988.72	14.10	79.60	-21.166	-712.72	-2,419.65	2,749.83	2,658.56	91.28	30.126	
4,050.00	4,037.07	4,041.21	4,037.07	14.26	80.56	-20.368	-712.72	-2,419.65	2,737.91	2,646.71	91.21	30.019	
4,100.00	4,084.70	4,088.84	4,084.70	14.41	81.49	-19.976	-712.72	-2,419.65	2,723.57	2,632.69	90.88	29.969	
4,150.00	4,131.47	4,135.64	4,131.47	14.56	82.39	-19.857	-712.72	-2,419.65	2,706.84	2,616.56	90.28	29.983	
4,200.00	4,177.26	4,181.42	4,177.26	14.71	83.26	-19.944	-712.72	-2,419.65	2,687.77	2,598.35	89.43	30.056	
4,250.00	4,221.93	4,226.09	4,221.93	14.86	84.10	-20.203	-712.72	-2,419.65	2,666.43	2,578.09	88.34	30.183	
4,300.00	4,265.37	4,269.53	4,265.37	15.01	84.92	-20.617	-712.72	-2,419.65	2,642.88	2,555.84	87.05	30.361	
4,350.00	4,307.45	4,311.62	4,307.45	15.15	85.72	-21.182	-712.72	-2,419.65	2,617.19	2,531.62	85.57	30.586	
4,400.00	4,348.07	4,352.23	4,348.07	15.31	86.49	-21.899	-712.72	-2,419.65	2,589.43	2,505.49	83.94	30.849	
4,450.00	4,387.11	4,391.27	4,387.11	15.46	87.23	-22.777	-712.72	-2,419.65	2,559.68	2,477.47	82.21	31.135	
4,500.00	4,424.45	4,428.62	4,424.45	15.61	87.93	-23.830	-712.72	-2,419.65	2,528.05	2,447.60	80.45	31.425	
4,550.00	4,460.01	4,464.18	4,460.01	15.77	88.60	-25.077	-712.72	-2,419.65	2,494.61	2,415.88	78.73	31.685	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 108-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis					Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
4,600.00	4,493.69	4,497.85	4,493.69	15.94	89.24	-26.545	-712.72	-2,419.65	2,459.47	2,382.30	77.17	31.872	
4,650.00	4,525.38	4,529.55	4,525.38	16.11	89.84	-28.265	-712.72	-2,419.65	2,422.73	2,346.84	75.89	31.923	
4,700.00	4,555.01	4,559.17	4,555.01	16.29	90.40	-30.278	-712.72	-2,419.65	2,384.51	2,309.44	75.07	31.765	
4,750.00	4,582.49	4,586.65	4,582.49	16.47	90.92	-32.631	-712.72	-2,419.65	2,344.92	2,270.04	74.87	31.318	
4,780.77	4,598.30	4,602.47	4,598.30	16.59	91.22	-34.272	-712.72	-2,419.65	2,319.92	2,244.76	75.16	30.867	
4,800.00	4,607.92	4,612.09	4,607.92	16.66	91.42	-34.476	-712.72	-2,419.65	2,304.16	2,228.62	75.54	30.501	
4,850.00	4,632.92	4,637.09	4,632.92	16.87	91.93	-35.014	-712.72	-2,419.65	2,263.25	2,186.69	76.57	29.559	
4,900.00	4,657.92	4,662.09	4,657.92	17.08	92.44	-35.568	-712.72	-2,419.65	2,222.43	2,144.82	77.61	28.635	
4,950.00	4,682.92	4,687.09	4,682.92	17.31	92.95	-36.136	-712.72	-2,419.65	2,181.71	2,103.02	78.69	27.725	
4,980.77	4,698.30	4,702.47	4,698.30	17.45	93.27	-36.494	-712.72	-2,419.65	2,156.69	2,077.33	79.37	27.174	
5,000.00	4,707.64	4,711.81	4,707.64	17.54	93.46	-38.397	-712.72	-2,419.65	2,140.93	2,060.84	80.10	26.730	
5,050.00	4,729.21	4,733.38	4,729.21	17.78	93.90	-44.230	-712.72	-2,419.65	2,098.75	2,014.83	83.92	25.008	
5,100.00	4,746.78	4,750.95	4,746.78	18.02	94.26	-51.558	-712.72	-2,419.65	2,055.10	1,964.59	90.51	22.705	
5,150.00	4,760.20	4,764.38	4,760.20	18.27	94.53	-60.566	-712.72	-2,419.65	2,010.33	1,911.38	98.95	20.316	
5,200.00	4,769.38	4,773.55	4,769.38	18.52	94.72	-71.162	-712.72	-2,419.65	1,964.81	1,857.61	107.20	18.328	
5,250.00	4,774.24	4,778.41	4,774.24	18.76	94.82	-82.775	-712.72	-2,419.65	1,918.91	1,806.28	112.63	17.038	
5,289.28	4,775.00	4,779.17	4,775.00	18.95	94.84	-91.965	-712.72	-2,419.65	1,882.81	1,769.07	113.74	16.554	
5,300.00	4,774.84	4,779.01	4,774.84	19.01	94.83	-91.953	-712.72	-2,419.65	1,872.98	1,759.19	113.79	16.461	
5,350.00	4,774.10	4,778.27	4,774.10	19.27	94.82	-91.896	-712.72	-2,419.65	1,827.26	1,713.22	114.04	16.024	
5,400.00	4,773.36	4,777.53	4,773.36	19.53	94.80	-91.839	-712.72	-2,419.65	1,781.76	1,667.48	114.29	15.590	
5,450.00	4,772.61	4,776.78	4,772.61	19.82	94.79	-91.782	-712.72	-2,419.65	1,736.52	1,621.96	114.56	15.158	
5,500.00	4,771.87	4,776.04	4,771.87	20.10	94.77	-91.726	-712.72	-2,419.65	1,691.54	1,576.70	114.84	14.730	
5,550.00	4,771.13	4,775.30	4,771.13	20.41	94.76	-91.669	-712.72	-2,419.65	1,646.85	1,531.72	115.13	14.304	
5,600.00	4,770.38	4,774.55	4,770.38	20.72	94.74	-91.612	-712.72	-2,419.65	1,602.47	1,487.04	115.43	13.883	
5,650.00	4,769.64	4,773.81	4,769.64	21.05	94.73	-91.555	-712.72	-2,419.65	1,558.44	1,442.69	115.75	13.464	
5,700.00	4,768.90	4,773.07	4,768.90	21.38	94.71	-91.498	-712.72	-2,419.65	1,514.77	1,398.71	116.07	13.051	
5,750.00	4,768.15	4,772.33	4,768.15	21.73	94.70	-91.441	-712.72	-2,419.65	1,471.51	1,355.11	116.40	12.642	
5,800.00	4,767.41	4,771.58	4,767.41	22.08	94.68	-91.384	-712.72	-2,419.65	1,428.69	1,311.95	116.74	12.238	
5,850.00	4,766.67	4,770.84	4,766.67	22.45	94.67	-91.328	-712.72	-2,419.65	1,386.34	1,269.25	117.09	11.840	
5,900.00	4,765.93	4,770.10	4,765.93	22.81	94.65	-91.271	-712.72	-2,419.65	1,344.53	1,227.08	117.44	11.448	
5,950.00	4,765.18	4,769.35	4,765.18	23.20	94.64	-91.214	-712.72	-2,419.65	1,303.29	1,185.47	117.81	11.062	
6,000.00	4,764.44	4,768.61	4,764.44	23.58	94.62	-91.157	-712.72	-2,419.65	1,262.68	1,144.50	118.18	10.684	
6,050.00	4,763.70	4,767.87	4,763.70	23.97	94.61	-91.100	-712.72	-2,419.65	1,222.76	1,104.20	118.56	10.313	
6,100.00	4,762.95	4,767.12	4,762.95	24.37	94.59	-91.043	-712.72	-2,419.65	1,183.62	1,064.67	118.95	9.951	
6,150.00	4,762.21	4,766.38	4,762.21	24.78	94.58	-90.986	-712.72	-2,419.65	1,145.32	1,025.97	119.34	9.597	
6,200.00	4,761.47	4,765.64	4,761.47	25.18	94.56	-90.930	-712.72	-2,419.65	1,107.95	988.21	119.73	9.253	
6,250.00	4,760.73	4,764.90	4,760.73	25.60	94.54	-90.873	-712.72	-2,419.65	1,071.60	951.46	120.14	8.920	
6,300.00	4,759.98	4,764.15	4,759.98	26.02	94.53	-90.816	-712.72	-2,419.65	1,036.40	915.86	120.55	8.597	
6,350.00	4,759.24	4,763.41	4,759.24	26.45	94.51	-90.759	-712.72	-2,419.65	1,002.46	881.50	120.96	8.287	
6,400.00	4,758.50	4,762.67	4,758.50	26.89	94.50	-90.702	-712.72	-2,419.65	969.90	848.52	121.38	7.991	
6,450.00	4,757.75	4,761.92	4,757.75	27.33	94.48	-90.645	-712.72	-2,419.65	938.88	817.08	121.80	7.708	
6,500.00	4,757.01	4,761.18	4,757.01	27.76	94.47	-90.588	-712.72	-2,419.65	909.56	787.33	122.23	7.441	
6,550.00	4,756.27	4,760.44	4,756.27	28.21	94.45	-90.532	-712.72	-2,419.65	882.09	759.42	122.66	7.191	
6,600.00	4,755.53	4,759.70	4,755.53	28.66	94.44	-90.475	-712.72	-2,419.65	856.66	733.56	123.10	6.959	
6,650.00	4,754.78	4,758.95	4,754.78	29.12	94.42	-90.418	-712.72	-2,419.65	833.46	709.92	123.54	6.747	
6,700.00	4,754.04	4,758.21	4,754.04	29.57	94.41	-90.361	-712.72	-2,419.65	812.67	688.69	123.98	6.555	
6,750.00	4,753.30	4,757.47	4,753.30	30.04	94.39	-90.304	-712.72	-2,419.65	794.49	670.07	124.43	6.385	
6,800.00	4,752.55	4,756.72	4,752.55	30.50	94.38	-90.247	-712.72	-2,419.65	779.10	654.23	124.88	6.239	
6,850.00	4,751.81	4,755.98	4,751.81	30.97	94.36	-90.190	-712.72	-2,419.65	766.67	641.34	125.33	6.117	
6,900.00	4,751.07	4,755.24	4,751.07	31.44	94.35	-90.133	-712.72	-2,419.65	757.34	631.56	125.79	6.021	
6,950.00	4,750.33	4,754.50	4,750.33	31.92	94.33	-90.076	-712.72	-2,419.65	751.23	624.98	126.25	5.951	
7,000.00	4,749.58	4,753.75	4,749.58	32.39	94.32	-90.020	-712.72	-2,419.65	748.41	621.71	126.71	5.907	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 108-INC-ONLY												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,017.23	4,749.33	4,753.50	4,749.33	32.56	94.31	-90.000	-712.72	-2,419.65	748.22	621.35	126.87	5.898	CC, ES
7,050.00	4,748.84	4,753.01	4,748.84	32.87	94.30	-89.963	-712.72	-2,419.65	748.93	621.76	127.17	5.889	SF
7,100.00	4,748.10	4,752.27	4,748.10	33.35	94.29	-89.906	-712.72	-2,419.65	752.78	625.14	127.64	5.898	
7,150.00	4,747.35	4,751.52	4,747.35	33.84	94.27	-89.849	-712.72	-2,419.65	759.90	631.79	128.11	5.932	
7,200.00	4,746.61	4,750.78	4,746.61	34.33	94.26	-89.792	-712.72	-2,419.65	770.21	641.63	128.58	5.990	
7,250.00	4,745.87	4,750.04	4,745.87	34.82	94.24	-89.735	-712.72	-2,419.65	783.58	654.53	129.05	6.072	
7,300.00	4,745.13	4,749.30	4,745.13	35.31	94.23	-89.678	-712.72	-2,419.65	799.86	670.33	129.53	6.175	
7,350.00	4,744.38	4,748.55	4,744.38	35.80	94.21	-89.621	-712.72	-2,419.65	818.86	688.86	130.00	6.299	
7,400.00	4,743.64	4,747.81	4,743.64	36.30	94.20	-89.565	-712.72	-2,419.65	840.42	709.94	130.48	6.441	
7,450.00	4,742.90	4,747.07	4,742.90	36.80	94.18	-89.508	-712.72	-2,419.65	864.34	733.37	130.96	6.600	
7,500.00	4,742.15	4,746.32	4,742.15	37.29	94.17	-89.451	-712.72	-2,419.65	890.42	758.97	131.45	6.774	
7,550.00	4,741.41	4,745.58	4,741.41	37.80	94.15	-89.394	-712.72	-2,419.65	918.48	786.55	131.93	6.962	
7,600.00	4,740.67	4,744.84	4,740.67	38.30	94.13	-89.337	-712.72	-2,419.65	948.35	815.94	132.42	7.162	
7,650.00	4,739.93	4,744.10	4,739.93	38.80	94.12	-89.280	-712.72	-2,419.65	979.87	846.96	132.90	7.373	
7,700.00	4,739.18	4,743.35	4,739.18	39.31	94.10	-89.223	-712.72	-2,419.65	1,012.87	879.48	133.39	7.593	
7,750.00	4,738.44	4,742.61	4,738.44	39.82	94.09	-89.166	-712.72	-2,419.65	1,047.22	913.33	133.88	7.822	
7,800.00	4,737.70	4,741.87	4,737.70	40.33	94.07	-89.110	-712.72	-2,419.65	1,082.78	948.41	134.37	8.058	
7,850.00	4,736.95	4,741.12	4,736.95	40.84	94.06	-89.053	-712.72	-2,419.65	1,119.46	984.59	134.87	8.300	
7,900.00	4,736.21	4,740.38	4,736.21	41.35	94.04	-88.996	-712.72	-2,419.65	1,157.13	1,021.77	135.36	8.549	
7,950.00	4,735.47	4,739.64	4,735.47	41.86	94.03	-88.939	-712.72	-2,419.65	1,195.70	1,059.84	135.86	8.801	
8,000.00	4,734.72	4,738.90	4,734.72	42.38	94.01	-88.882	-712.72	-2,419.65	1,235.09	1,098.74	136.35	9.058	
8,050.00	4,733.98	4,738.15	4,733.98	42.89	94.00	-88.825	-712.72	-2,419.65	1,275.23	1,138.38	136.85	9.319	
8,100.00	4,733.24	4,737.41	4,733.24	43.41	93.98	-88.768	-712.72	-2,419.65	1,316.04	1,178.69	137.35	9.582	
8,150.00	4,732.50	4,736.67	4,732.50	43.93	93.97	-88.712	-712.72	-2,419.65	1,357.47	1,219.62	137.85	9.848	
8,200.00	4,731.75	4,735.92	4,731.75	44.45	93.95	-88.655	-712.72	-2,419.65	1,399.45	1,261.11	138.35	10.116	
8,250.00	4,731.01	4,735.18	4,731.01	44.97	93.94	-88.598	-712.72	-2,419.65	1,441.95	1,303.10	138.85	10.385	
8,300.00	4,730.27	4,734.44	4,730.27	45.49	93.92	-88.541	-712.72	-2,419.65	1,484.91	1,345.56	139.35	10.656	
8,350.00	4,729.52	4,733.69	4,729.52	46.01	93.91	-88.484	-712.72	-2,419.65	1,528.30	1,388.45	139.85	10.928	
8,400.00	4,728.78	4,732.95	4,728.78	46.53	93.89	-88.427	-712.72	-2,419.65	1,572.09	1,431.73	140.35	11.201	
8,450.00	4,728.04	4,732.21	4,728.04	47.06	93.88	-88.370	-712.72	-2,419.65	1,616.23	1,475.37	140.86	11.474	
8,500.00	4,727.30	4,731.47	4,727.30	47.58	93.86	-88.314	-712.72	-2,419.65	1,660.71	1,519.34	141.36	11.748	
8,550.00	4,726.55	4,730.72	4,726.55	48.11	93.85	-88.257	-712.72	-2,419.65	1,705.49	1,563.62	141.87	12.022	
8,600.00	4,725.81	4,729.98	4,725.81	48.63	93.83	-88.200	-712.72	-2,419.65	1,750.55	1,608.18	142.37	12.295	
8,650.00	4,725.07	4,729.24	4,725.07	49.16	93.82	-88.143	-712.72	-2,419.65	1,795.88	1,653.00	142.88	12.569	
8,700.00	4,724.32	4,728.49	4,724.32	49.69	93.80	-88.086	-712.72	-2,419.65	1,841.45	1,698.06	143.39	12.842	
8,750.00	4,723.58	4,727.75	4,723.58	50.22	93.79	-88.030	-712.72	-2,419.65	1,887.24	1,743.34	143.90	13.115	
8,800.00	4,722.84	4,727.01	4,722.84	50.75	93.77	-87.973	-712.72	-2,419.65	1,933.24	1,788.83	144.41	13.388	
8,850.00	4,722.10	4,726.27	4,722.10	51.28	93.76	-87.916	-712.72	-2,419.65	1,979.43	1,834.51	144.92	13.659	
8,900.00	4,721.35	4,725.52	4,721.35	51.81	93.74	-87.859	-712.72	-2,419.65	2,025.80	1,880.38	145.42	13.930	
8,950.00	4,720.61	4,724.78	4,720.61	52.34	93.72	-87.802	-712.72	-2,419.65	2,072.34	1,926.41	145.94	14.200	
9,000.00	4,719.87	4,724.04	4,719.87	52.87	93.71	-87.745	-712.72	-2,419.65	2,119.04	1,972.60	146.45	14.470	
9,050.00	4,719.12	4,723.29	4,719.12	53.41	93.69	-87.689	-712.72	-2,419.65	2,165.89	2,018.93	146.96	14.738	
9,100.00	4,718.38	4,722.55	4,718.38	53.94	93.68	-87.632	-712.72	-2,419.65	2,212.87	2,065.40	147.47	15.006	
9,150.00	4,717.64	4,721.81	4,717.64	54.47	93.66	-87.575	-712.72	-2,419.65	2,259.99	2,112.01	147.98	15.272	
9,200.00	4,716.90	4,721.07	4,716.90	55.01	93.65	-87.518	-712.72	-2,419.65	2,307.22	2,158.73	148.49	15.538	
9,250.00	4,716.15	4,720.32	4,716.15	55.54	93.63	-87.462	-712.72	-2,419.65	2,354.57	2,205.56	149.00	15.802	
9,300.00	4,715.41	4,719.58	4,715.41	56.08	93.62	-87.405	-712.72	-2,419.65	2,402.02	2,252.51	149.52	16.065	
9,350.00	4,714.67	4,718.84	4,714.67	56.62	93.60	-87.348	-712.72	-2,419.65	2,449.58	2,299.55	150.03	16.327	
9,400.00	4,713.92	4,718.09	4,713.92	57.15	93.59	-87.291	-712.72	-2,419.65	2,497.23	2,346.69	150.54	16.588	
9,450.00	4,713.18	4,717.35	4,713.18	57.69	93.57	-87.235	-712.72	-2,419.65	2,544.97	2,393.92	151.06	16.848	
9,500.00	4,712.44	4,716.61	4,712.44	58.23	93.56	-87.178	-712.72	-2,419.65	2,592.80	2,441.23	151.57	17.106	
9,550.00	4,711.70	4,715.87	4,711.70	58.77	93.54	-87.121	-712.72	-2,419.65	2,640.71	2,488.62	152.09	17.363	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design		WELCH CD 28 STATE COM - OFFSET: GERONIMO '28' STATE COM 1 - Wellbore #1 - Wellbore #1										Offset Site Error:	0.00 usft
Survey Program:		108-INC-ONLY										Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,600.00	4,710.95	4,715.12	4,710.95	59.30	93.53	-87.064	-712.72	-2,419.65	2,688.69	2,536.09	152.60	17.619	
9,650.00	4,710.21	4,714.38	4,710.21	59.84	93.51	-87.008	-712.72	-2,419.65	2,736.75	2,583.63	153.12	17.874	
9,700.00	4,709.47	4,713.64	4,709.47	60.38	93.50	-86.951	-712.72	-2,419.65	2,784.87	2,631.24	153.63	18.127	
9,750.00	4,708.72	4,712.89	4,708.72	60.92	93.48	-86.894	-712.72	-2,419.65	2,833.06	2,678.91	154.15	18.379	
9,800.00	4,707.98	4,712.15	4,707.98	61.46	93.47	-86.837	-712.72	-2,419.65	2,881.31	2,726.64	154.66	18.630	
9,850.00	4,707.24	4,711.41	4,707.24	62.00	93.45	-86.781	-712.72	-2,419.65	2,929.62	2,774.44	155.18	18.879	
9,900.00	4,706.50	4,710.67	4,706.50	62.55	93.44	-86.724	-712.72	-2,419.65	2,977.98	2,822.28	155.69	19.127	
9,950.00	4,705.75	4,709.92	4,705.75	63.09	93.42	-86.667	-712.72	-2,419.65	3,026.40	2,870.18	156.21	19.374	
10,000.00	4,705.01	4,709.18	4,705.01	63.63	93.41	-86.611	-712.72	-2,419.65	3,074.86	2,918.14	156.73	19.619	
10,050.00	4,704.27	4,708.44	4,704.27	64.17	93.39	-86.554	-712.72	-2,419.65	3,123.38	2,966.13	157.24	19.863	
10,100.00	4,703.52	4,707.69	4,703.52	64.71	93.38	-86.497	-712.72	-2,419.65	3,171.94	3,014.18	157.76	20.106	
10,150.00	4,702.78	4,706.95	4,702.78	65.26	93.36	-86.441	-712.72	-2,419.65	3,220.55	3,062.27	158.28	20.347	
10,200.00	4,702.04	4,706.21	4,702.04	65.80	93.35	-86.384	-712.72	-2,419.65	3,269.19	3,110.40	158.79	20.588	
10,250.00	4,701.29	4,705.47	4,701.29	66.34	93.33	-86.327	-712.72	-2,419.65	3,317.88	3,158.57	159.31	20.826	
10,287.12	4,700.74	4,704.91	4,700.74	66.75	93.32	-86.285	-712.72	-2,419.65	3,354.05	3,194.36	159.70	21.003	
10,300.00	4,700.55	4,704.72	4,700.55	66.89	93.31	-86.271	-712.72	-2,419.65	3,366.61	3,206.78	159.83	21.064	
10,337.14	4,700.00	4,704.17	4,700.00	67.29	93.30	-86.229	-712.72	-2,419.65	3,402.83	3,242.61	160.21	21.240	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: GERONIMO 28 STATE SWD 2 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 48-INC-ONLY												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toelface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
1,150.00	1,148.01	1,156.03	1,148.01	3.90	21.63	-162.148	-49.10	-1,302.60	1,356.48	1,331.01	25.47	53.249	
1,200.00	1,197.86	1,205.89	1,197.86	4.08	22.60	-162.196	-49.10	-1,302.60	1,360.06	1,333.44	26.62	51.101	
1,250.00	1,247.72	1,255.75	1,247.72	4.26	23.52	-162.244	-49.10	-1,302.60	1,363.63	1,335.93	27.71	49.215	
1,300.00	1,297.58	1,305.61	1,297.58	4.44	24.43	-162.292	-49.10	-1,302.60	1,367.21	1,338.42	28.79	47.482	
1,350.00	1,347.44	1,355.47	1,347.44	4.62	25.31	-162.340	-49.10	-1,302.60	1,370.79	1,340.94	29.85	45.921	
1,400.00	1,397.30	1,405.33	1,397.30	4.80	26.19	-162.387	-49.10	-1,302.60	1,374.37	1,343.46	30.91	44.466	
1,450.00	1,447.16	1,455.19	1,447.16	4.98	27.07	-162.435	-49.10	-1,302.60	1,377.95	1,345.98	31.96	43.108	
1,500.00	1,497.02	1,505.05	1,497.02	5.16	27.95	-162.482	-49.10	-1,302.60	1,381.53	1,348.51	33.02	41.840	
1,550.00	1,546.88	1,554.91	1,546.88	5.34	28.82	-162.528	-49.10	-1,302.60	1,385.11	1,351.04	34.07	40.656	
1,600.00	1,596.74	1,604.77	1,596.74	5.52	29.70	-162.575	-49.10	-1,302.60	1,388.69	1,353.57	35.12	39.543	
1,650.00	1,646.59	1,654.62	1,646.59	5.70	30.57	-162.621	-49.10	-1,302.60	1,392.27	1,356.11	36.17	38.495	
1,700.00	1,696.45	1,704.48	1,696.45	5.89	31.44	-162.667	-49.10	-1,302.60	1,395.86	1,358.64	37.22	37.505	
1,750.00	1,746.31	1,754.34	1,746.31	6.07	32.31	-162.713	-49.10	-1,302.60	1,399.44	1,361.18	38.27	36.570	
1,800.00	1,796.17	1,804.20	1,796.17	6.25	33.21	-162.758	-49.10	-1,302.60	1,403.03	1,363.69	39.34	35.668	
1,850.00	1,846.03	1,854.06	1,846.03	6.43	34.11	-162.804	-49.10	-1,302.60	1,406.62	1,366.20	40.41	34.808	
1,900.00	1,895.89	1,903.92	1,895.89	6.61	34.98	-162.849	-49.10	-1,302.60	1,410.20	1,368.74	41.46	34.015	
1,950.00	1,945.75	1,953.78	1,945.75	6.79	35.84	-162.894	-49.10	-1,302.60	1,413.79	1,371.29	42.50	33.264	
2,000.00	1,995.61	2,003.64	1,995.61	6.97	36.69	-162.938	-49.10	-1,302.60	1,417.38	1,373.86	43.52	32.565	
2,050.00	2,045.47	2,053.50	2,045.47	7.15	37.55	-162.983	-49.10	-1,302.60	1,420.97	1,376.41	44.56	31.887	
2,100.00	2,095.32	2,103.36	2,095.32	7.33	38.53	-163.027	-49.10	-1,302.60	1,424.56	1,378.85	45.71	31.163	
2,150.00	2,145.18	2,153.22	2,145.18	7.51	39.50	-163.071	-49.10	-1,302.60	1,428.15	1,381.29	46.87	30.474	
2,200.00	2,195.04	2,203.07	2,195.04	7.69	40.48	-163.115	-49.10	-1,302.60	1,431.75	1,383.73	48.02	29.817	
2,250.00	2,244.90	2,252.93	2,244.90	7.87	41.45	-163.158	-49.10	-1,302.60	1,435.34	1,386.17	49.17	29.192	
2,300.00	2,294.76	2,302.79	2,294.76	8.05	42.43	-163.201	-49.10	-1,302.60	1,438.93	1,388.61	50.32	28.595	
2,350.00	2,344.62	2,352.65	2,344.62	8.23	43.42	-163.245	-49.10	-1,302.60	1,442.53	1,391.04	51.49	28.014	
2,400.00	2,394.48	2,402.51	2,394.48	8.41	44.46	-163.287	-49.10	-1,302.60	1,446.13	1,393.42	52.70	27.439	
2,450.00	2,444.34	2,452.38	2,444.34	8.59	45.47	-163.330	-49.10	-1,302.60	1,449.72	1,395.82	53.90	26.898	
2,500.00	2,494.20	2,502.24	2,494.20	8.78	46.48	-163.372	-49.10	-1,302.60	1,453.32	1,398.24	55.08	26.388	
2,550.00	2,544.05	2,552.10	2,544.05	8.96	47.48	-163.415	-49.10	-1,302.60	1,456.92	1,400.67	56.25	25.900	
2,600.00	2,593.91	2,601.95	2,593.91	9.14	48.48	-163.457	-49.10	-1,302.60	1,460.52	1,403.09	57.43	25.431	
2,650.00	2,643.77	2,651.82	2,643.77	9.32	49.47	-163.499	-49.10	-1,302.60	1,464.12	1,405.52	58.60	24.984	
2,700.00	2,693.63	2,701.68	2,693.63	9.50	50.46	-163.540	-49.10	-1,302.60	1,467.72	1,407.95	59.77	24.557	
2,750.00	2,743.49	2,751.54	2,743.49	9.68	51.48	-163.582	-49.10	-1,302.60	1,471.32	1,410.36	60.96	24.137	
2,800.00	2,793.35	2,801.40	2,793.35	9.86	52.50	-163.623	-49.10	-1,302.60	1,474.92	1,412.76	62.16	23.728	
2,850.00	2,843.21	2,851.26	2,843.21	10.04	53.48	-163.664	-49.10	-1,302.60	1,478.52	1,415.21	63.31	23.352	
2,900.00	2,893.07	2,901.12	2,893.07	10.22	54.43	-163.705	-49.10	-1,302.60	1,482.13	1,417.68	64.45	22.998	
2,950.00	2,942.93	2,950.99	2,942.93	10.40	55.35	-163.745	-49.10	-1,302.60	1,485.73	1,420.19	65.54	22.669	
3,000.00	2,992.78	3,000.84	2,992.78	10.58	56.26	-163.786	-49.10	-1,302.60	1,489.34	1,422.71	66.62	22.354	
3,050.00	3,042.64	3,050.70	3,042.64	10.76	57.17	-163.826	-49.10	-1,302.60	1,492.94	1,425.23	67.71	22.049	
3,100.00	3,092.50	3,100.56	3,092.50	10.94	58.07	-163.866	-49.10	-1,302.60	1,496.55	1,427.76	68.79	21.754	
3,150.00	3,142.36	3,150.42	3,142.36	11.12	58.98	-163.906	-49.10	-1,302.60	1,500.16	1,430.28	69.88	21.468	
3,200.00	3,192.22	3,200.28	3,192.22	11.30	59.89	-163.945	-49.10	-1,302.60	1,503.77	1,432.80	70.96	21.191	
3,250.00	3,242.08	3,250.14	3,242.08	11.49	60.80	-163.985	-49.10	-1,302.60	1,507.37	1,435.33	72.05	20.922	
3,300.00	3,291.94	3,300.00	3,291.94	11.67	61.71	-164.024	-49.10	-1,302.60	1,510.98	1,437.84	73.14	20.658	
3,350.00	3,341.80	3,349.86	3,341.80	11.85	62.67	-164.063	-49.10	-1,302.60	1,514.59	1,440.32	74.27	20.392	
3,400.00	3,391.66	3,399.72	3,391.66	12.03	63.63	-164.102	-49.10	-1,302.60	1,518.21	1,442.80	75.41	20.133	
3,450.00	3,441.51	3,449.58	3,441.51	12.21	64.59	-164.141	-49.10	-1,302.60	1,521.82	1,445.26	76.55	19.880	
3,500.00	3,491.37	3,499.44	3,491.37	12.39	65.58	-164.179	-49.10	-1,302.60	1,525.43	1,447.72	77.71	19.629	
3,550.00	3,541.23	3,549.30	3,541.23	12.57	66.59	-164.218	-49.10	-1,302.60	1,529.04	1,450.14	78.90	19.378	
3,600.00	3,591.09	3,599.16	3,591.09	12.75	67.64	-164.256	-49.10	-1,302.60	1,532.66	1,452.53	80.12	19.129	
3,650.00	3,640.95	3,649.02	3,640.95	12.93	68.70	-164.294	-49.10	-1,302.60	1,536.27	1,454.91	81.36	18.882	
3,700.00	3,690.81	3,698.88	3,690.81	13.11	69.74	-164.332	-49.10	-1,302.60	1,539.88	1,457.31	82.58	18.648	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: GERONIMO 28 STATE SWD 2 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 48-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis					Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toelface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
3,712.87	3,703.64	3,711.71	3,703.64	13.16	70.00	-164.341	-49.10	-1,302.60	1,540.82	1,457.93	82.89	18.589	
3,750.00	3,740.71	3,748.78	3,740.71	13.29	70.77	-146.502	-49.10	-1,302.60	1,542.78	1,458.86	83.92	18.383	
3,800.00	3,790.69	3,798.77	3,790.69	13.46	71.76	-53.011	-49.10	-1,302.60	1,543.15	1,458.08	85.07	18.139	
3,850.00	3,840.62	3,848.70	3,840.62	13.63	72.74	-21.266	-49.10	-1,302.60	1,540.91	1,454.93	85.98	17.923	
3,900.00	3,890.35	3,898.44	3,890.35	13.79	73.71	-13.923	-49.10	-1,302.60	1,536.06	1,449.44	86.62	17.734	
3,950.00	3,939.77	3,947.85	3,939.77	13.95	74.67	-10.861	-49.10	-1,302.60	1,528.62	1,441.62	87.00	17.570	
4,000.00	3,988.72	3,996.80	3,988.72	14.10	75.58	-9.236	-49.10	-1,302.60	1,518.61	1,431.53	87.08	17.439	
4,050.00	4,037.07	4,045.16	4,037.07	14.26	76.47	-8.268	-49.10	-1,302.60	1,506.05	1,419.17	86.88	17.334	
4,100.00	4,084.70	4,092.79	4,084.70	14.41	77.35	-7.661	-49.10	-1,302.60	1,490.99	1,404.58	86.41	17.254	
4,150.00	4,131.47	4,139.56	4,131.47	14.56	78.21	-7.280	-49.10	-1,302.60	1,473.46	1,387.80	85.66	17.201	
4,200.00	4,177.26	4,185.34	4,177.26	14.71	79.06	-7.056	-49.10	-1,302.60	1,453.51	1,368.88	84.63	17.175	
4,250.00	4,221.93	4,230.02	4,221.93	14.86	79.88	-6.949	-49.10	-1,302.60	1,431.20	1,347.88	83.32	17.178	
4,300.00	4,265.37	4,273.45	4,265.37	15.01	80.68	-6.938	-49.10	-1,302.60	1,406.59	1,324.86	81.72	17.212	
4,350.00	4,307.45	4,315.54	4,307.45	15.15	81.46	-7.013	-49.10	-1,302.60	1,379.74	1,299.89	79.85	17.279	
4,400.00	4,348.07	4,356.16	4,348.07	15.31	82.21	-7.169	-49.10	-1,302.60	1,350.74	1,273.03	77.71	17.382	
4,450.00	4,387.11	4,395.19	4,387.11	15.46	82.93	-7.406	-49.10	-1,302.60	1,319.66	1,244.35	75.31	17.523	
4,500.00	4,424.45	4,432.54	4,424.45	15.61	83.62	-7.731	-49.10	-1,302.60	1,286.59	1,213.92	72.66	17.706	
4,550.00	4,460.01	4,468.10	4,460.01	15.77	84.28	-8.152	-49.10	-1,302.60	1,251.62	1,181.82	69.80	17.932	
4,600.00	4,493.69	4,501.77	4,493.69	15.94	84.90	-8.686	-49.10	-1,302.60	1,214.84	1,148.11	66.74	18.203	
4,650.00	4,525.38	4,533.47	4,525.38	16.11	85.48	-9.355	-49.10	-1,302.60	1,176.37	1,112.84	63.53	18.517	
4,700.00	4,555.01	4,563.10	4,555.01	16.29	86.03	-10.188	-49.10	-1,302.60	1,136.31	1,076.07	60.24	18.864	
4,750.00	4,582.49	4,590.58	4,582.49	16.47	86.54	-11.232	-49.10	-1,302.60	1,094.77	1,037.81	56.96	19.220	
4,780.77	4,598.30	4,606.39	4,598.30	16.59	86.83	-12.003	-49.10	-1,302.60	1,068.52	1,013.50	55.02	19.422	
4,800.00	4,607.92	4,616.00	4,607.92	16.66	87.01	-12.189	-49.10	-1,302.60	1,051.96	996.71	55.25	19.039	
4,850.00	4,632.92	4,641.00	4,632.92	16.87	87.47	-12.699	-49.10	-1,302.60	1,008.92	953.02	55.90	18.049	
4,900.00	4,657.92	4,666.00	4,657.92	17.08	87.93	-13.252	-49.10	-1,302.60	965.90	909.32	56.59	17.069	
4,950.00	4,682.92	4,691.00	4,682.92	17.31	88.39	-13.855	-49.10	-1,302.60	922.91	865.59	57.32	16.101	
4,980.77	4,698.30	4,706.39	4,698.30	17.45	88.67	-14.253	-49.10	-1,302.60	896.47	838.67	57.80	15.510	
5,000.00	4,707.64	4,715.72	4,707.64	17.54	88.85	-15.380	-49.10	-1,302.60	879.80	823.69	56.10	15.682	
5,050.00	4,729.21	4,737.30	4,729.21	17.78	89.25	-19.202	-49.10	-1,302.60	835.10	781.77	53.33	15.658	
5,100.00	4,746.78	4,754.87	4,746.78	18.02	89.57	-25.001	-49.10	-1,302.60	788.76	733.77	55.00	14.342	
5,150.00	4,760.20	4,768.29	4,760.20	18.27	89.82	-34.277	-49.10	-1,302.60	741.14	676.76	64.38	11.512	
5,200.00	4,769.38	4,777.47	4,769.38	18.52	89.99	-49.636	-49.10	-1,302.60	692.62	609.36	83.27	8.318	
5,250.00	4,774.24	4,782.32	4,774.24	18.76	90.08	-73.243	-49.10	-1,302.60	643.59	539.46	104.14	6.180	
5,289.28	4,775.00	4,783.09	4,775.00	18.95	90.09	-94.470	-49.10	-1,302.60	604.97	496.23	108.75	5.563	
5,300.00	4,774.84	4,782.93	4,774.84	19.01	90.09	-94.390	-49.10	-1,302.60	594.45	485.64	108.81	5.463	
5,350.00	4,774.10	4,782.18	4,774.10	19.27	90.07	-94.015	-49.10	-1,302.60	545.45	436.34	109.11	4.999	
5,400.00	4,773.36	4,781.44	4,773.36	19.53	90.06	-93.640	-49.10	-1,302.60	496.65	387.25	109.40	4.540	
5,450.00	4,772.61	4,780.70	4,772.61	19.82	90.05	-93.264	-49.10	-1,302.60	448.11	338.40	109.71	4.084	
5,500.00	4,771.87	4,779.96	4,771.87	20.10	90.03	-92.889	-49.10	-1,302.60	399.93	289.91	110.02	3.635	
5,550.00	4,771.13	4,779.21	4,771.13	20.41	90.02	-92.513	-49.10	-1,302.60	352.25	241.90	110.35	3.192	
5,600.00	4,770.38	4,778.47	4,770.38	20.72	90.01	-92.137	-49.10	-1,302.60	305.32	194.65	110.67	2.759	
5,650.00	4,769.64	4,777.73	4,769.64	21.05	89.99	-91.760	-49.10	-1,302.60	259.53	148.53	111.00	2.338	
5,700.00	4,768.90	4,776.98	4,768.90	21.38	89.98	-91.384	-49.10	-1,302.60	215.62	104.28	111.34	1.937	
5,750.00	4,768.15	4,776.24	4,768.15	21.73	89.96	-91.007	-49.10	-1,302.60	175.01	63.32	111.68	1.567	
5,800.00	4,767.41	4,775.50	4,767.41	22.08	89.95	-90.631	-49.10	-1,302.60	140.57	28.55	112.03	1.255 Level 3	
5,850.00	4,766.67	4,774.76	4,766.67	22.45	89.94	-90.254	-49.10	-1,302.60	117.87	5.49	112.38	1.049 Level 2	
5,883.68	4,766.17	4,774.25	4,766.17	22.69	89.93	-90.000	-49.10	-1,302.60	112.96	0.34	112.62	1.003 Level 2, CC, ES, SF	
5,900.00	4,765.93	4,774.01	4,765.93	22.81	89.92	-89.877	-49.10	-1,302.60	114.13	1.40	112.73	1.012 Level 2	
5,950.00	4,765.18	4,773.27	4,765.18	23.20	89.91	-89.500	-49.10	-1,302.60	130.98	17.89	113.09	1.158 Level 2	
6,000.00	4,764.44	4,772.53	4,764.44	23.58	89.90	-89.124	-49.10	-1,302.60	162.13	48.68	113.45	1.429 Level 3	
6,050.00	4,763.70	4,771.78	4,763.70	23.97	89.88	-88.747	-49.10	-1,302.60	201.03	87.22	113.81	1.766	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: GERONIMO 28 STATE SWD 2 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 48-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis					Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
6,100.00	4,762.95	4,771.04	4,762.95	24.37	89.87	-88.370	-49.10	-1,302.60	244.01	129.84	114.17	2.137	
6,150.00	4,762.21	4,770.30	4,762.21	24.78	89.85	-87.994	-49.10	-1,302.60	289.25	174.71	114.54	2.525	
6,200.00	4,761.47	4,769.56	4,761.47	25.18	89.84	-87.618	-49.10	-1,302.60	335.85	220.94	114.90	2.923	
6,250.00	4,760.73	4,768.81	4,760.73	25.60	89.83	-87.242	-49.10	-1,302.60	383.30	268.03	115.27	3.325	
6,300.00	4,759.98	4,768.07	4,759.98	26.02	89.81	-86.866	-49.10	-1,302.60	431.32	315.69	115.64	3.730	
6,350.00	4,759.24	4,767.33	4,759.24	26.45	89.80	-86.490	-49.10	-1,302.60	479.75	363.75	116.01	4.136	
6,400.00	4,758.50	4,766.58	4,758.50	26.89	89.79	-86.115	-49.10	-1,302.60	528.47	412.10	116.37	4.541	
6,450.00	4,757.75	4,765.84	4,757.75	27.33	89.77	-85.740	-49.10	-1,302.60	577.41	460.67	116.74	4.946	
6,500.00	4,757.01	4,765.10	4,757.01	27.76	89.76	-85.366	-49.10	-1,302.60	626.51	509.41	117.10	5.350	
6,550.00	4,756.27	4,764.35	4,756.27	28.21	89.74	-84.992	-49.10	-1,302.60	675.75	558.28	117.47	5.753	
6,600.00	4,755.53	4,763.61	4,755.53	28.66	89.73	-84.618	-49.10	-1,302.60	725.09	607.26	117.83	6.154	
6,650.00	4,754.78	4,762.87	4,754.78	29.12	89.72	-84.245	-49.10	-1,302.60	774.51	656.32	118.19	6.553	
6,700.00	4,754.04	4,762.13	4,754.04	29.57	89.70	-83.872	-49.10	-1,302.60	824.00	705.45	118.55	6.950	
6,750.00	4,753.30	4,761.38	4,753.30	30.04	89.69	-83.500	-49.10	-1,302.60	873.55	754.64	118.91	7.346	
6,800.00	4,752.55	4,760.64	4,752.55	30.50	89.68	-83.128	-49.10	-1,302.60	923.15	803.88	119.27	7.740	
6,850.00	4,751.81	4,759.90	4,751.81	30.97	89.66	-82.757	-49.10	-1,302.60	972.79	853.16	119.63	8.132	
6,900.00	4,751.07	4,759.15	4,751.07	31.44	89.65	-82.387	-49.10	-1,302.60	1,022.46	902.48	119.98	8.522	
6,950.00	4,750.33	4,758.41	4,750.33	31.92	89.63	-82.017	-49.10	-1,302.60	1,072.16	951.84	120.33	8.910	
7,000.00	4,749.58	4,757.67	4,749.58	32.39	89.62	-81.648	-49.10	-1,302.60	1,121.89	1,001.22	120.68	9.297	
7,050.00	4,748.84	4,756.93	4,748.84	32.87	89.61	-81.279	-49.10	-1,302.60	1,171.64	1,050.62	121.02	9.681	
7,100.00	4,748.10	4,756.18	4,748.10	33.35	89.59	-80.911	-49.10	-1,302.60	1,221.42	1,100.05	121.36	10.064	
7,150.00	4,747.35	4,755.44	4,747.35	33.84	89.58	-80.544	-49.10	-1,302.60	1,271.20	1,149.50	121.70	10.445	
7,200.00	4,746.61	4,754.70	4,746.61	34.33	89.57	-80.178	-49.10	-1,302.60	1,321.01	1,198.97	122.04	10.824	
7,250.00	4,745.87	4,753.95	4,745.87	34.82	89.55	-79.813	-49.10	-1,302.60	1,370.83	1,248.45	122.37	11.202	
7,300.00	4,745.13	4,753.21	4,745.13	35.31	89.54	-79.448	-49.10	-1,302.60	1,420.66	1,297.95	122.70	11.578	
7,350.00	4,744.38	4,752.47	4,744.38	35.80	89.53	-79.085	-49.10	-1,302.60	1,470.50	1,347.47	123.03	11.952	
7,400.00	4,743.64	4,751.73	4,743.64	36.30	89.51	-78.722	-49.10	-1,302.60	1,520.35	1,397.00	123.35	12.325	
7,450.00	4,742.90	4,750.98	4,742.90	36.80	89.50	-78.360	-49.10	-1,302.60	1,570.21	1,446.54	123.68	12.696	
7,500.00	4,742.15	4,750.24	4,742.15	37.29	89.48	-77.999	-49.10	-1,302.60	1,620.08	1,496.09	123.99	13.066	
7,550.00	4,741.41	4,749.50	4,741.41	37.80	89.47	-77.639	-49.10	-1,302.60	1,669.96	1,545.65	124.31	13.434	
7,600.00	4,740.67	4,748.75	4,740.67	38.30	89.46	-77.280	-49.10	-1,302.60	1,719.84	1,595.23	124.61	13.801	
7,650.00	4,739.93	4,748.01	4,739.93	38.80	89.44	-76.922	-49.10	-1,302.60	1,769.73	1,644.81	124.92	14.167	
7,700.00	4,739.18	4,747.27	4,739.18	39.31	89.43	-76.565	-49.10	-1,302.60	1,819.62	1,694.40	125.22	14.531	
7,750.00	4,738.44	4,746.53	4,738.44	39.82	89.42	-76.209	-49.10	-1,302.60	1,869.53	1,744.00	125.52	14.894	
7,800.00	4,737.70	4,745.78	4,737.70	40.33	89.40	-75.854	-49.10	-1,302.60	1,919.43	1,793.62	125.81	15.256	
7,850.00	4,736.95	4,745.04	4,736.95	40.84	89.39	-75.500	-49.10	-1,302.60	1,969.34	1,843.24	126.11	15.617	
7,900.00	4,736.21	4,744.30	4,736.21	41.35	89.37	-75.148	-49.10	-1,302.60	2,019.26	1,892.86	126.39	15.976	
7,950.00	4,735.47	4,743.55	4,735.47	41.86	89.36	-74.796	-49.10	-1,302.60	2,069.17	1,942.50	126.67	16.335	
8,000.00	4,734.72	4,742.81	4,734.72	42.38	89.35	-74.446	-49.10	-1,302.60	2,119.09	1,992.14	126.95	16.692	
8,050.00	4,733.98	4,742.07	4,733.98	42.89	89.33	-74.097	-49.10	-1,302.60	2,169.02	2,041.79	127.23	17.048	
8,100.00	4,733.24	4,741.33	4,733.24	43.41	89.32	-73.749	-49.10	-1,302.60	2,218.95	2,091.45	127.50	17.404	
8,150.00	4,732.50	4,740.58	4,732.50	43.93	89.31	-73.403	-49.10	-1,302.60	2,268.88	2,141.11	127.77	17.758	
8,200.00	4,731.75	4,739.84	4,731.75	44.45	89.29	-73.057	-49.10	-1,302.60	2,318.81	2,190.78	128.03	18.112	
8,250.00	4,731.01	4,739.10	4,731.01	44.97	89.28	-72.713	-49.10	-1,302.60	2,368.75	2,240.46	128.29	18.464	
8,300.00	4,730.27	4,738.35	4,730.27	45.49	89.26	-72.370	-49.10	-1,302.60	2,418.69	2,290.15	128.54	18.816	
8,350.00	4,729.52	4,737.61	4,729.52	46.01	89.25	-72.029	-49.10	-1,302.60	2,468.63	2,339.84	128.79	19.167	
8,400.00	4,728.78	4,736.87	4,728.78	46.53	89.24	-71.688	-49.10	-1,302.60	2,518.57	2,389.53	129.04	19.518	
8,450.00	4,728.04	4,736.13	4,728.04	47.06	89.22	-71.349	-49.10	-1,302.60	2,568.52	2,439.24	129.28	19.868	
8,500.00	4,727.30	4,735.38	4,727.30	47.58	89.21	-71.012	-49.10	-1,302.60	2,618.46	2,488.94	129.52	20.217	
8,550.00	4,726.55	4,734.64	4,726.55	48.11	89.20	-70.676	-49.10	-1,302.60	2,668.41	2,538.66	129.76	20.565	
8,600.00	4,725.81	4,733.90	4,725.81	48.63	89.18	-70.341	-49.10	-1,302.60	2,718.36	2,588.38	129.99	20.913	
8,650.00	4,725.07	4,733.15	4,725.07	49.16	89.17	-70.007	-49.10	-1,302.60	2,768.32	2,638.10	130.21	21.260	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: GERONIMO 28 STATE SWD 2 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 48-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis			Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
8,700.00	4,724.32	4,732.41	4,724.32	49.69	89.15	-69.675	-49.10	-1,302.60	2,818.27	2,687.83	130.44	21.607	
8,750.00	4,723.58	4,731.67	4,723.58	50.22	89.14	-69.345	-49.10	-1,302.60	2,868.22	2,737.57	130.65	21.953	
8,800.00	4,722.84	4,730.92	4,722.84	50.75	89.13	-69.016	-49.10	-1,302.60	2,918.18	2,787.31	130.87	22.298	
8,850.00	4,722.10	4,730.18	4,722.10	51.28	89.11	-68.688	-49.10	-1,302.60	2,968.14	2,837.06	131.08	22.644	
8,900.00	4,721.35	4,729.44	4,721.35	51.81	89.10	-68.362	-49.10	-1,302.60	3,018.10	2,886.81	131.29	22.988	
8,950.00	4,720.61	4,728.70	4,720.61	52.34	89.09	-68.037	-49.10	-1,302.60	3,068.06	2,936.57	131.49	23.333	
9,000.00	4,719.87	4,727.95	4,719.87	52.87	89.07	-67.713	-49.10	-1,302.60	3,118.02	2,986.33	131.69	23.677	
9,050.00	4,719.12	4,727.21	4,719.12	53.41	89.06	-67.392	-49.10	-1,302.60	3,167.98	3,036.09	131.89	24.021	
9,100.00	4,718.38	4,726.47	4,718.38	53.94	89.05	-67.071	-49.10	-1,302.60	3,217.94	3,085.87	132.08	24.364	
9,150.00	4,717.64	4,725.72	4,717.64	54.47	89.03	-66.752	-49.10	-1,302.60	3,267.91	3,135.64	132.27	24.707	
9,200.00	4,716.90	4,724.98	4,716.90	55.01	89.02	-66.435	-49.10	-1,302.60	3,317.87	3,185.42	132.45	25.050	
9,250.00	4,716.15	4,724.24	4,716.15	55.54	89.00	-66.119	-49.10	-1,302.60	3,367.84	3,235.21	132.63	25.392	
9,300.00	4,715.41	4,723.50	4,715.41	56.08	88.99	-65.805	-49.10	-1,302.60	3,417.81	3,285.00	132.81	25.735	
9,350.00	4,714.67	4,722.75	4,714.67	56.62	88.98	-65.492	-49.10	-1,302.60	3,467.77	3,334.79	132.98	26.077	
9,400.00	4,713.92	4,722.01	4,713.92	57.15	88.96	-65.181	-49.10	-1,302.60	3,517.74	3,384.59	133.15	26.419	
9,450.00	4,713.18	4,721.27	4,713.18	57.69	88.95	-64.872	-49.10	-1,302.60	3,567.71	3,434.39	133.32	26.761	
9,500.00	4,712.44	4,720.52	4,712.44	58.23	88.94	-64.563	-49.10	-1,302.60	3,617.68	3,484.20	133.48	27.102	
9,550.00	4,711.70	4,719.78	4,711.70	58.77	88.92	-64.257	-49.10	-1,302.60	3,667.65	3,534.01	133.64	27.444	
9,600.00	4,710.95	4,719.04	4,710.95	59.30	88.91	-63.952	-49.10	-1,302.60	3,717.62	3,583.82	133.80	27.785	
9,650.00	4,710.21	4,718.30	4,710.21	59.84	88.89	-63.649	-49.10	-1,302.60	3,767.59	3,633.64	133.95	28.126	
9,700.00	4,709.47	4,717.55	4,709.47	60.38	88.88	-63.347	-49.10	-1,302.60	3,817.57	3,683.46	134.10	28.468	
9,750.00	4,708.72	4,716.81	4,708.72	60.92	88.87	-63.047	-49.10	-1,302.60	3,867.54	3,733.29	134.25	28.809	
9,800.00	4,707.98	4,716.07	4,707.98	61.46	88.85	-62.748	-49.10	-1,302.60	3,917.51	3,783.12	134.39	29.150	
9,850.00	4,707.24	4,715.32	4,707.24	62.00	88.84	-62.451	-49.10	-1,302.60	3,967.49	3,832.96	134.53	29.491	
9,900.00	4,706.50	4,714.58	4,706.50	62.55	88.83	-62.156	-49.10	-1,302.60	4,017.46	3,882.79	134.67	29.832	
9,950.00	4,705.75	4,713.84	4,705.75	63.09	88.81	-61.862	-49.10	-1,302.60	4,067.44	3,932.63	134.80	30.174	
10,000.00	4,705.01	4,713.10	4,705.01	63.63	88.80	-61.570	-49.10	-1,302.60	4,117.41	3,982.48	134.93	30.515	
10,050.00	4,704.27	4,712.35	4,704.27	64.17	88.78	-61.279	-49.10	-1,302.60	4,167.39	4,032.33	135.06	30.856	
10,100.00	4,703.52	4,711.61	4,703.52	64.71	88.77	-60.990	-49.10	-1,302.60	4,217.36	4,082.18	135.18	31.197	
10,150.00	4,702.78	4,710.87	4,702.78	65.26	88.76	-60.703	-49.10	-1,302.60	4,267.34	4,132.03	135.31	31.538	
10,200.00	4,702.04	4,710.12	4,702.04	65.80	88.74	-60.417	-49.10	-1,302.60	4,317.32	4,181.89	135.43	31.880	
10,250.00	4,701.29	4,709.38	4,701.29	66.34	88.73	-60.133	-49.10	-1,302.60	4,367.29	4,231.75	135.54	32.221	
10,287.12	4,700.74	4,708.83	4,700.74	66.75	88.72	-59.923	-49.10	-1,302.60	4,404.40	4,268.77	135.63	32.475	
10,300.00	4,700.55	4,708.64	4,700.55	66.89	88.72	-59.851	-49.10	-1,302.60	4,417.27	4,281.62	135.65	32.563	
10,337.14	4,700.00	4,708.09	4,700.00	67.29	88.71	-59.642	-49.10	-1,302.60	4,454.40	4,318.66	135.74	32.817	



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: MALOOF STATE 1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 240-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis					Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
1,300.00	1,297.58	1,293.64	1,297.58	4.44	24.69	-178.504	-492.24	-1,417.10	1,567.14	1,538.08	29.05	53.938	CC, ES
1,350.00	1,347.44	1,343.50	1,347.44	4.62	25.59	-178.508	-492.24	-1,417.10	1,570.89	1,540.76	30.13	52.142	
1,400.00	1,397.30	1,393.36	1,397.30	4.80	26.49	-178.512	-492.24	-1,417.10	1,574.64	1,543.44	31.20	50.469	
1,450.00	1,447.16	1,443.22	1,447.16	4.98	27.38	-178.515	-492.24	-1,417.10	1,578.40	1,546.12	32.27	48.907	
1,500.00	1,497.02	1,493.08	1,497.02	5.16	28.28	-178.519	-492.24	-1,417.10	1,582.15	1,548.80	33.35	47.446	
1,550.00	1,546.88	1,542.94	1,546.88	5.34	29.18	-178.522	-492.24	-1,417.10	1,585.90	1,551.48	34.42	46.075	
1,600.00	1,596.74	1,592.80	1,596.74	5.52	30.07	-178.526	-492.24	-1,417.10	1,589.65	1,554.16	35.49	44.788	
1,650.00	1,646.59	1,642.65	1,646.59	5.70	30.97	-178.529	-492.24	-1,417.10	1,593.41	1,556.84	36.57	43.576	
1,700.00	1,696.45	1,692.51	1,696.45	5.89	31.87	-178.533	-492.24	-1,417.10	1,597.16	1,559.52	37.64	42.433	
1,750.00	1,746.31	1,742.37	1,746.31	6.07	32.76	-178.536	-492.24	-1,417.10	1,600.91	1,562.20	38.71	41.353	
1,800.00	1,796.17	1,792.24	1,796.17	6.25	33.67	-178.539	-492.24	-1,417.10	1,604.67	1,564.87	39.79	40.325	
1,850.00	1,846.03	1,842.10	1,846.03	6.43	34.58	-178.543	-492.24	-1,417.10	1,608.42	1,567.54	40.88	39.347	
1,900.00	1,895.89	1,891.96	1,895.89	6.61	35.48	-178.546	-492.24	-1,417.10	1,612.17	1,570.21	41.96	38.419	
1,950.00	1,945.75	1,941.82	1,945.75	6.79	36.39	-178.550	-492.24	-1,417.10	1,615.92	1,572.88	43.05	37.539	
2,000.00	1,995.61	1,991.68	1,995.61	6.97	37.30	-178.553	-492.24	-1,417.10	1,619.68	1,575.54	44.13	36.701	
2,050.00	2,045.47	2,041.54	2,045.47	7.15	38.21	-178.556	-492.24	-1,417.10	1,623.43	1,578.21	45.22	35.904	
2,100.00	2,095.32	2,091.40	2,095.32	7.33	39.12	-178.560	-492.24	-1,417.10	1,627.18	1,580.88	46.30	35.144	
2,150.00	2,145.18	2,141.26	2,145.18	7.51	40.02	-178.563	-492.24	-1,417.10	1,630.94	1,583.55	47.39	34.418	
2,200.00	2,195.04	2,191.11	2,195.04	7.69	40.93	-178.566	-492.24	-1,417.10	1,634.69	1,586.22	48.47	33.726	
2,250.00	2,244.90	2,240.97	2,244.90	7.87	41.84	-178.569	-492.24	-1,417.10	1,638.44	1,588.89	49.55	33.063	
2,300.00	2,294.76	2,290.83	2,294.76	8.05	42.76	-178.573	-492.24	-1,417.10	1,642.19	1,591.54	50.66	32.419	
2,350.00	2,344.62	2,340.69	2,344.62	8.23	43.78	-178.576	-492.24	-1,417.10	1,645.95	1,594.10	51.84	31.749	
2,400.00	2,394.48	2,390.55	2,394.48	8.41	44.79	-178.579	-492.24	-1,417.10	1,649.70	1,596.67	53.03	31.109	
2,450.00	2,444.34	2,440.41	2,444.34	8.59	45.80	-178.582	-492.24	-1,417.10	1,653.45	1,599.24	54.22	30.497	
2,500.00	2,494.20	2,490.27	2,494.20	8.78	46.81	-178.586	-492.24	-1,417.10	1,657.21	1,601.80	55.40	29.911	
2,550.00	2,544.05	2,540.13	2,544.05	8.96	47.82	-178.589	-492.24	-1,417.10	1,660.96	1,604.37	56.59	29.350	
2,600.00	2,593.91	2,589.99	2,593.91	9.14	48.83	-178.592	-492.24	-1,417.10	1,664.71	1,606.93	57.78	28.812	
2,650.00	2,643.77	2,639.85	2,643.77	9.32	49.84	-178.595	-492.24	-1,417.10	1,668.46	1,609.50	58.97	28.295	
2,700.00	2,693.63	2,689.71	2,693.63	9.50	50.85	-178.598	-492.24	-1,417.10	1,672.22	1,612.06	60.15	27.799	
2,750.00	2,743.49	2,739.56	2,743.49	9.68	51.86	-178.602	-492.24	-1,417.10	1,675.97	1,614.63	61.34	27.322	
2,800.00	2,793.35	2,789.42	2,793.35	9.86	52.87	-178.605	-492.24	-1,417.10	1,679.72	1,617.19	62.53	26.863	
2,850.00	2,843.21	2,839.30	2,843.21	10.04	53.88	-178.608	-492.24	-1,417.10	1,683.48	1,619.76	63.72	26.422	
2,900.00	2,893.07	2,889.15	2,893.07	10.22	54.88	-178.611	-492.24	-1,417.10	1,687.23	1,622.34	64.89	26.002	
2,950.00	2,942.93	2,939.01	2,942.93	10.40	55.88	-178.614	-492.24	-1,417.10	1,690.98	1,624.92	66.06	25.597	
3,000.00	2,992.78	2,988.87	2,992.78	10.58	56.87	-178.617	-492.24	-1,417.10	1,694.74	1,627.50	67.24	25.206	
3,050.00	3,042.64	3,038.73	3,042.64	10.76	57.87	-178.620	-492.24	-1,417.10	1,698.49	1,630.08	68.41	24.829	
3,100.00	3,092.50	3,088.59	3,092.50	10.94	58.87	-178.623	-492.24	-1,417.10	1,702.24	1,632.66	69.58	24.464	
3,150.00	3,142.36	3,109.00	3,112.90	11.12	59.27	-178.624	-492.24	-1,417.10	1,706.25	1,636.08	70.17	24.317	SF
3,200.00	3,192.22	3,109.00	3,112.90	11.30	59.27	-178.624	-492.24	-1,417.10	1,711.59	1,641.24	70.35	24.330	
3,250.00	3,242.08	3,109.00	3,112.90	11.49	59.27	-178.624	-492.24	-1,417.10	1,718.36	1,647.84	70.53	24.365	
3,300.00	3,291.94	3,109.00	3,112.90	11.67	59.27	-178.624	-492.24	-1,417.10	1,726.56	1,655.85	70.71	24.419	
3,350.00	3,341.80	3,109.00	3,112.90	11.85	59.27	-178.624	-492.24	-1,417.10	1,736.16	1,665.28	70.89	24.492	
3,400.00	3,391.66	3,109.00	3,112.90	12.03	59.27	-178.624	-492.24	-1,417.10	1,747.14	1,676.08	71.07	24.585	
3,450.00	3,441.51	3,109.00	3,112.90	12.21	59.27	-178.624	-492.24	-1,417.10	1,759.47	1,688.23	71.24	24.696	
3,500.00	3,491.37	3,109.00	3,112.90	12.39	59.27	-178.624	-492.24	-1,417.10	1,773.13	1,701.70	71.42	24.825	
3,550.00	3,541.23	3,109.00	3,112.90	12.57	59.27	-178.624	-492.24	-1,417.10	1,788.08	1,716.48	71.60	24.972	
3,600.00	3,591.09	3,109.00	3,112.90	12.75	59.27	-178.624	-492.24	-1,417.10	1,804.29	1,732.51	71.78	25.135	
3,650.00	3,640.95	3,109.00	3,112.90	12.93	59.27	-178.624	-492.24	-1,417.10	1,821.73	1,749.77	71.96	25.315	
3,700.00	3,690.81	3,109.00	3,112.90	13.11	59.27	-178.624	-492.24	-1,417.10	1,840.37	1,768.23	72.14	25.510	
3,712.87	3,703.64	3,109.00	3,112.90	13.16	59.27	-178.624	-492.24	-1,417.10	1,845.35	1,773.17	72.19	25.563	
3,750.00	3,740.71	3,109.00	3,112.90	13.29	59.27	-160.492	-492.24	-1,417.10	1,859.53	1,787.09	72.44	25.670	
3,800.00	3,790.69	3,109.00	3,112.90	13.46	59.27	-66.625	-492.24	-1,417.10	1,877.60	1,804.98	72.61	25.857	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: MALOOF STATE 1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 240-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
3,850.00	3,840.62	3,109.00	3,112.90	13.63	59.27	-34.520	-492.24	-1,417.10	1,894.48	1,821.89	72.60	26.096	
3,900.00	3,890.35	3,109.00	3,112.90	13.79	59.27	-26.832	-492.24	-1,417.10	1,910.17	1,837.78	72.39	26.386	
3,950.00	3,939.77	3,109.00	3,112.90	13.95	59.27	-23.439	-492.24	-1,417.10	1,924.65	1,852.65	72.00	26.731	
4,000.00	3,988.72	3,109.00	3,112.90	14.10	59.27	-21.491	-492.24	-1,417.10	1,937.91	1,866.49	71.42	27.133	
4,050.00	4,037.07	3,109.00	3,112.90	14.26	59.27	-20.208	-492.24	-1,417.10	1,949.93	1,879.27	70.66	27.595	
4,100.00	4,084.70	3,109.00	3,112.90	14.41	59.27	-19.291	-492.24	-1,417.10	1,960.71	1,891.00	69.72	28.123	
4,150.00	4,131.47	3,109.00	3,112.90	14.56	59.27	-18.600	-492.24	-1,417.10	1,970.24	1,901.65	68.60	28.722	
4,200.00	4,177.26	3,109.00	3,112.90	14.71	59.27	-18.063	-492.24	-1,417.10	1,978.51	1,911.21	67.30	29.398	
4,250.00	4,221.93	3,109.00	3,112.90	14.86	59.27	-17.636	-492.24	-1,417.10	1,985.51	1,919.68	65.83	30.159	
4,300.00	4,265.37	3,109.00	3,112.90	15.01	59.27	-17.294	-492.24	-1,417.10	1,991.24	1,927.04	64.20	31.014	
4,350.00	4,307.45	3,109.00	3,112.90	15.15	59.27	-17.019	-492.24	-1,417.10	1,995.70	1,933.28	62.42	31.973	
4,400.00	4,348.07	3,109.00	3,112.90	15.31	59.27	-16.800	-492.24	-1,417.10	1,998.87	1,938.39	60.48	33.048	
4,450.00	4,387.11	3,109.00	3,112.90	15.46	59.27	-16.628	-492.24	-1,417.10	2,000.76	1,942.35	58.41	34.253	
4,500.00	4,424.45	3,109.00	3,112.90	15.61	59.27	-16.497	-492.24	-1,417.10	2,001.36	1,945.15	56.21	35.605	
4,550.00	4,460.01	3,109.00	3,112.90	15.77	59.27	-16.404	-492.24	-1,417.10	2,000.68	1,946.79	53.89	37.123	
4,600.00	4,493.69	3,109.00	3,112.90	15.94	59.27	-16.346	-492.24	-1,417.10	1,998.71	1,947.24	51.47	38.829	
4,650.00	4,525.38	3,109.00	3,112.90	16.11	59.27	-16.319	-492.24	-1,417.10	1,995.46	1,946.49	48.97	40.747	
4,700.00	4,555.01	3,109.00	3,112.90	16.29	59.27	-16.322	-492.24	-1,417.10	1,990.93	1,944.53	46.40	42.905	
4,750.00	4,582.49	3,109.00	3,112.90	16.47	59.27	-16.355	-492.24	-1,417.10	1,985.13	1,941.33	43.79	45.330	
4,780.77	4,598.30	3,109.00	3,112.90	16.59	59.27	-16.389	-492.24	-1,417.10	1,980.92	1,938.74	42.18	46.966	
4,800.00	4,607.92	3,109.00	3,112.90	16.66	59.27	-16.389	-492.24	-1,417.10	1,978.23	1,936.01	42.23	46.849	
4,850.00	4,632.92	3,109.00	3,112.90	16.87	59.27	-16.389	-492.24	-1,417.10	1,972.11	1,929.75	42.36	46.561	
4,900.00	4,657.92	3,109.00	3,112.90	17.08	59.27	-16.389	-492.24	-1,417.10	1,967.23	1,924.74	42.49	46.297	
4,950.00	4,682.92	3,109.00	3,112.90	17.31	59.27	-16.389	-492.24	-1,417.10	1,963.62	1,920.99	42.63	46.061	
4,980.77	4,698.30	3,109.00	3,112.90	17.45	59.27	-16.389	-492.24	-1,417.10	1,962.02	1,919.30	42.72	45.928	
5,000.00	4,707.64	3,109.00	3,112.90	17.54	59.27	-16.419	-492.24	-1,417.10	1,960.96	1,919.95	41.01	47.817	
5,050.00	4,729.21	3,109.00	3,112.90	17.78	59.27	-16.555	-492.24	-1,417.10	1,956.19	1,919.56	36.64	53.392	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 512-INC-ONLY												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
3,700.00	3,690.81	3,682.91	3,690.81	13.11	68.81	-168.233	-606.75	-4,162.58	4,448.30	4,366.65	81.65	54.480	
3,712.87	3,703.64	3,695.74	3,703.64	13.16	69.08	-168.235	-606.75	-4,162.58	4,449.25	4,367.28	81.97	54.281	
3,750.00	3,740.71	3,732.81	3,740.71	13.29	69.87	-150.367	-606.75	-4,162.58	4,451.26	4,368.24	83.02	53.614	
3,800.00	3,790.69	3,755.00	3,762.89	13.46	70.34	-56.836	-606.75	-4,162.58	4,451.80	4,368.13	83.66	53.213	
3,850.00	3,840.62	3,755.00	3,762.89	13.63	70.34	-25.045	-606.75	-4,162.58	4,450.24	4,366.64	83.59	53.237	
3,900.00	3,890.35	3,755.00	3,762.89	13.79	70.34	-17.659	-606.75	-4,162.58	4,446.64	4,363.35	83.30	53.382	
3,950.00	3,939.77	3,755.00	3,762.89	13.95	70.34	-14.553	-606.75	-4,162.58	4,441.02	4,358.24	82.78	53.650	
4,000.00	3,988.72	3,755.00	3,762.89	14.10	70.34	-12.883	-606.75	-4,162.58	4,433.37	4,351.34	82.03	54.045	
4,050.00	4,037.07	3,755.00	3,762.89	14.26	70.34	-11.869	-606.75	-4,162.58	4,423.71	4,342.65	81.07	54.570	
6,200.00	4,761.47	3,755.00	3,762.89	25.18	70.34	-31.922	-606.75	-4,162.58	2,809.39	2,757.70	51.69	54.355	
6,250.00	4,760.73	3,755.00	3,762.89	25.60	70.34	-31.922	-606.75	-4,162.58	2,763.69	2,711.73	51.97	53.181	
6,300.00	4,759.98	3,755.00	3,762.89	26.02	70.34	-31.922	-606.75	-4,162.58	2,718.16	2,665.91	52.25	52.023	
6,350.00	4,759.24	3,755.00	3,762.89	26.45	70.34	-31.922	-606.75	-4,162.58	2,672.78	2,620.24	52.54	50.875	
6,400.00	4,758.50	3,755.00	3,762.89	26.89	70.34	-31.922	-606.75	-4,162.58	2,627.56	2,574.74	52.82	49.743	
6,450.00	4,757.75	3,755.00	3,762.89	27.33	70.34	-31.922	-606.75	-4,162.58	2,582.53	2,529.41	53.11	48.622	
6,500.00	4,757.01	3,755.00	3,762.89	27.76	70.34	-31.922	-606.75	-4,162.58	2,537.68	2,484.27	53.41	47.516	
6,550.00	4,756.27	3,755.00	3,762.89	28.21	70.34	-31.922	-606.75	-4,162.58	2,493.02	2,439.32	53.70	46.422	
6,600.00	4,755.53	3,755.00	3,762.89	28.66	70.34	-31.922	-606.75	-4,162.58	2,448.58	2,394.58	54.00	45.344	
6,650.00	4,754.78	3,755.00	3,762.89	29.12	70.34	-31.922	-606.75	-4,162.58	2,404.35	2,350.05	54.30	44.278	
6,700.00	4,754.04	3,755.00	3,762.89	29.57	70.34	-31.922	-606.75	-4,162.58	2,360.35	2,305.75	54.60	43.229	
6,750.00	4,753.30	3,755.00	3,762.89	30.04	70.34	-31.922	-606.75	-4,162.58	2,316.59	2,261.69	54.91	42.192	
6,800.00	4,752.55	3,755.00	3,762.89	30.50	70.34	-31.922	-606.75	-4,162.58	2,273.10	2,217.89	55.21	41.172	
6,850.00	4,751.81	3,755.00	3,762.89	30.97	70.34	-31.922	-606.75	-4,162.58	2,229.87	2,174.35	55.52	40.165	
6,900.00	4,751.07	3,755.00	3,762.89	31.44	70.34	-31.922	-606.75	-4,162.58	2,186.94	2,131.11	55.82	39.175	
6,950.00	4,750.33	3,755.00	3,762.89	31.92	70.34	-31.922	-606.75	-4,162.58	2,144.31	2,088.17	56.14	38.199	
7,000.00	4,749.58	3,755.00	3,762.89	32.39	70.34	-31.922	-606.75	-4,162.58	2,102.00	2,045.56	56.45	37.239	
7,050.00	4,748.84	3,755.00	3,762.89	32.87	70.34	-31.922	-606.75	-4,162.58	2,060.04	2,003.28	56.76	36.294	
7,100.00	4,748.10	3,755.00	3,762.89	33.35	70.34	-31.922	-606.75	-4,162.58	2,018.45	1,961.37	57.07	35.366	
7,150.00	4,747.35	3,755.00	3,762.89	33.84	70.34	-31.922	-606.75	-4,162.58	1,977.24	1,919.85	57.39	34.454	
7,200.00	4,746.61	3,755.00	3,762.89	34.33	70.34	-31.922	-606.75	-4,162.58	1,936.45	1,878.75	57.70	33.559	
7,250.00	4,745.87	3,755.00	3,762.89	34.82	70.34	-31.922	-606.75	-4,162.58	1,896.10	1,838.08	58.02	32.679	
7,300.00	4,745.13	3,755.00	3,762.89	35.31	70.34	-31.922	-606.75	-4,162.58	1,856.22	1,797.88	58.34	31.818	
7,350.00	4,744.38	3,755.00	3,762.89	35.80	70.34	-31.922	-606.75	-4,162.58	1,816.85	1,758.19	58.66	30.973	
7,400.00	4,743.64	3,755.00	3,762.89	36.30	70.34	-31.922	-606.75	-4,162.58	1,778.00	1,719.02	58.98	30.146	
7,450.00	4,742.90	3,755.00	3,762.89	36.80	70.34	-31.922	-606.75	-4,162.58	1,739.73	1,680.43	59.30	29.337	
7,500.00	4,742.15	3,755.00	3,762.89	37.29	70.34	-31.922	-606.75	-4,162.58	1,702.06	1,642.44	59.62	28.547	
7,550.00	4,741.41	3,755.00	3,762.89	37.80	70.34	-31.922	-606.75	-4,162.58	1,665.04	1,605.10	59.95	27.776	
7,600.00	4,740.67	3,755.00	3,762.89	38.30	70.34	-31.922	-606.75	-4,162.58	1,628.72	1,568.45	60.27	27.024	
7,650.00	4,739.93	3,755.00	3,762.89	38.80	70.34	-31.922	-606.75	-4,162.58	1,593.14	1,532.54	60.59	26.292	
7,700.00	4,739.18	3,755.00	3,762.89	39.31	70.34	-31.922	-606.75	-4,162.58	1,558.35	1,497.43	60.92	25.580	
7,750.00	4,738.44	3,755.00	3,762.89	39.82	70.34	-31.922	-606.75	-4,162.58	1,524.40	1,463.16	61.25	24.890	
7,800.00	4,737.70	3,755.00	3,762.89	40.33	70.34	-31.922	-606.75	-4,162.58	1,491.37	1,429.79	61.57	24.221	
7,850.00	4,736.95	3,755.00	3,762.89	40.84	70.34	-31.922	-606.75	-4,162.58	1,459.29	1,397.39	61.90	23.575	
7,900.00	4,736.21	3,755.00	3,762.89	41.35	70.34	-31.922	-606.75	-4,162.58	1,428.25	1,366.02	62.23	22.952	
7,950.00	4,735.47	3,755.00	3,762.89	41.86	70.34	-31.922	-606.75	-4,162.58	1,398.30	1,335.75	62.56	22.352	
8,000.00	4,734.72	3,755.00	3,762.89	42.38	70.34	-31.922	-606.75	-4,162.58	1,369.53	1,306.64	62.89	21.778	
8,050.00	4,733.98	3,755.00	3,762.89	42.89	70.34	-31.922	-606.75	-4,162.58	1,342.00	1,278.79	63.22	21.229	
8,100.00	4,733.24	3,755.00	3,762.89	43.41	70.34	-31.922	-606.75	-4,162.58	1,315.80	1,252.25	63.55	20.706	
8,150.00	4,732.50	3,755.00	3,762.89	43.93	70.34	-31.922	-606.75	-4,162.58	1,291.00	1,227.13	63.88	20.210	
8,200.00	4,731.75	3,755.00	3,762.89	44.45	70.34	-31.922	-606.75	-4,162.58	1,267.70	1,203.49	64.21	19.743	
8,250.00	4,731.01	3,755.00	3,762.89	44.97	70.34	-31.922	-606.75	-4,162.58	1,245.96	1,181.42	64.54	19.305	
8,300.00	4,730.27	3,755.00	3,762.89	45.49	70.34	-31.922	-606.75	-4,162.58	1,225.88	1,161.00	64.87	18.896	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 512-INC-ONLY												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
8,350.00	4,729.52	3,755.00	3,762.89	46.01	70.34	-31.922	-606.75	-4,162.58	1,207.53	1,142.32	65.21	18.519	
8,400.00	4,728.78	3,755.00	3,762.89	46.53	70.34	-31.922	-606.75	-4,162.58	1,191.00	1,125.46	65.54	18.172	
8,450.00	4,728.04	3,755.00	3,762.89	47.06	70.34	-31.922	-606.75	-4,162.58	1,176.37	1,110.50	65.87	17.858	
8,500.00	4,727.30	3,755.00	3,762.89	47.58	70.34	-31.922	-606.75	-4,162.58	1,163.71	1,097.50	66.21	17.577	
8,550.00	4,726.55	3,755.00	3,762.89	48.11	70.34	-31.922	-606.75	-4,162.58	1,153.07	1,086.53	66.54	17.328	
8,600.00	4,725.81	3,755.00	3,762.89	48.63	70.34	-31.922	-606.75	-4,162.58	1,144.52	1,077.65	66.88	17.114	
8,650.00	4,725.07	3,755.00	3,762.89	49.16	70.34	-31.922	-606.75	-4,162.58	1,138.11	1,070.90	67.21	16.933	
8,700.00	4,724.32	3,755.00	3,762.89	49.69	70.34	-31.922	-606.75	-4,162.58	1,133.87	1,066.32	67.55	16.786	
8,750.00	4,723.58	3,755.00	3,762.89	50.22	70.34	-31.922	-606.75	-4,162.58	1,131.82	1,063.93	67.88	16.673	
8,771.40	4,723.26	3,755.00	3,762.89	50.45	70.34	-31.922	-606.75	-4,162.58	1,131.62	1,063.59	68.03	16.635 CC, ES	
8,800.00	4,722.84	3,755.00	3,762.89	50.75	70.34	-31.922	-606.75	-4,162.58	1,131.98	1,063.76	68.22	16.593	
8,850.00	4,722.10	3,755.00	3,762.89	51.28	70.34	-31.922	-606.75	-4,162.58	1,134.34	1,065.79	68.56	16.546	
8,900.00	4,721.35	3,755.00	3,762.89	51.81	70.34	-31.922	-606.75	-4,162.58	1,138.90	1,070.01	68.89	16.531 SF	
8,950.00	4,720.61	3,755.00	3,762.89	52.34	70.34	-31.922	-606.75	-4,162.58	1,145.62	1,076.39	69.23	16.548	
9,000.00	4,719.87	3,755.00	3,762.89	52.87	70.34	-31.922	-606.75	-4,162.58	1,154.47	1,084.91	69.57	16.595	
9,050.00	4,719.12	3,755.00	3,762.89	53.41	70.34	-31.922	-606.75	-4,162.58	1,165.41	1,095.50	69.91	16.671	
9,100.00	4,718.38	3,755.00	3,762.89	53.94	70.34	-31.922	-606.75	-4,162.58	1,178.36	1,108.12	70.24	16.775	
9,150.00	4,717.64	3,755.00	3,762.89	54.47	70.34	-31.922	-606.75	-4,162.58	1,193.27	1,122.69	70.58	16.906	
9,200.00	4,716.90	3,755.00	3,762.89	55.01	70.34	-31.922	-606.75	-4,162.58	1,210.06	1,139.14	70.92	17.062	
9,250.00	4,716.15	3,755.00	3,762.89	55.54	70.34	-31.922	-606.75	-4,162.58	1,228.66	1,157.40	71.26	17.242	
9,300.00	4,715.41	3,755.00	3,762.89	56.08	70.34	-31.922	-606.75	-4,162.58	1,248.99	1,177.39	71.60	17.444	
9,350.00	4,714.67	3,755.00	3,762.89	56.62	70.34	-31.922	-606.75	-4,162.58	1,270.96	1,199.02	71.94	17.667	
9,400.00	4,713.92	3,755.00	3,762.89	57.15	70.34	-31.922	-606.75	-4,162.58	1,294.49	1,222.21	72.28	17.910	
9,450.00	4,713.18	3,755.00	3,762.89	57.69	70.34	-31.922	-606.75	-4,162.58	1,319.49	1,246.87	72.62	18.171	
9,500.00	4,712.44	3,755.00	3,762.89	58.23	70.34	-31.922	-606.75	-4,162.58	1,345.89	1,272.93	72.96	18.448	
9,550.00	4,711.70	3,755.00	3,762.89	58.77	70.34	-31.922	-606.75	-4,162.58	1,373.60	1,300.30	73.30	18.740	
9,600.00	4,710.95	3,755.00	3,762.89	59.30	70.34	-31.922	-606.75	-4,162.58	1,402.55	1,328.91	73.64	19.047	
9,650.00	4,710.21	3,755.00	3,762.89	59.84	70.34	-31.922	-606.75	-4,162.58	1,432.65	1,358.67	73.98	19.366	
9,700.00	4,709.47	3,755.00	3,762.89	60.38	70.34	-31.922	-606.75	-4,162.58	1,463.85	1,389.53	74.32	19.697	
9,750.00	4,708.72	3,755.00	3,762.89	60.92	70.34	-31.922	-606.75	-4,162.58	1,496.07	1,421.41	74.66	20.038	
9,800.00	4,707.98	3,755.00	3,762.89	61.46	70.34	-31.922	-606.75	-4,162.58	1,529.24	1,454.24	75.00	20.390	
9,850.00	4,707.24	3,755.00	3,762.89	62.00	70.34	-31.922	-606.75	-4,162.58	1,563.31	1,487.97	75.34	20.749	
9,900.00	4,706.50	3,755.00	3,762.89	62.55	70.34	-31.922	-606.75	-4,162.58	1,598.22	1,522.53	75.68	21.117	
9,950.00	4,705.75	3,755.00	3,762.89	63.09	70.34	-31.922	-606.75	-4,162.58	1,633.91	1,557.88	76.03	21.492	
10,000.00	4,705.01	3,755.00	3,762.89	63.63	70.34	-31.922	-606.75	-4,162.58	1,670.33	1,593.97	76.37	21.872	
10,050.00	4,704.27	3,755.00	3,762.89	64.17	70.34	-31.922	-606.75	-4,162.58	1,707.45	1,630.74	76.71	22.259	
10,100.00	4,703.52	3,755.00	3,762.89	64.71	70.34	-31.922	-606.75	-4,162.58	1,745.20	1,668.15	77.05	22.650	
10,150.00	4,702.78	3,755.00	3,762.89	65.26	70.34	-31.922	-606.75	-4,162.58	1,783.56	1,706.17	77.39	23.045	
10,200.00	4,702.04	3,755.00	3,762.89	65.80	70.34	-31.922	-606.75	-4,162.58	1,822.49	1,744.75	77.74	23.445	
10,250.00	4,701.29	3,755.00	3,762.89	66.34	70.34	-31.922	-606.75	-4,162.58	1,861.94	1,783.86	78.08	23.847	
10,287.12	4,700.74	3,755.00	3,762.89	66.75	70.34	-31.922	-606.75	-4,162.58	1,891.55	1,813.22	78.33	24.148	
10,300.00	4,700.55	3,755.00	3,762.89	66.89	70.34	-31.922	-606.75	-4,162.58	1,901.89	1,823.47	78.42	24.252	
10,337.14	4,700.00	3,755.00	3,762.89	67.29	70.34	-31.922	-606.75	-4,162.58	1,931.87	1,853.19	78.68	24.555	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: Red Lake 28 K State 2 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 420-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis					Distance					Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
3,250.00	3,242.08	3,201.13	3,242.08	11.49	56.42	-159.310	70.52	-3,494.70	3,694.32	3,626.63	67.69	54.580	
3,300.00	3,291.94	3,250.99	3,291.94	11.67	57.37	-159.331	70.52	-3,494.70	3,697.83	3,629.02	68.81	53.738	
3,350.00	3,341.80	3,300.85	3,341.80	11.85	58.32	-159.351	70.52	-3,494.70	3,701.35	3,631.41	69.94	52.923	
3,400.00	3,391.66	3,350.70	3,391.66	12.03	59.27	-159.372	70.52	-3,494.70	3,704.86	3,633.80	71.06	52.134	
3,450.00	3,441.51	3,400.56	3,441.51	12.21	60.21	-159.392	70.52	-3,494.70	3,708.38	3,636.19	72.19	51.369	
3,500.00	3,491.37	3,450.42	3,491.37	12.39	61.16	-159.413	70.52	-3,494.70	3,711.89	3,638.58	73.32	50.628	
3,550.00	3,541.23	3,500.28	3,541.23	12.57	62.11	-159.433	70.52	-3,494.70	3,715.41	3,640.97	74.44	49.910	
3,600.00	3,591.09	3,550.15	3,591.09	12.75	63.06	-159.453	70.52	-3,494.70	3,718.92	3,643.36	75.57	49.212	
3,650.00	3,640.95	3,600.01	3,640.95	12.93	64.04	-159.474	70.52	-3,494.70	3,722.44	3,645.72	76.72	48.517	
3,700.00	3,690.81	3,649.86	3,690.81	13.11	65.02	-159.494	70.52	-3,494.70	3,725.96	3,648.08	77.88	47.842	
3,712.87	3,703.64	3,662.70	3,703.64	13.16	65.27	-159.499	70.52	-3,494.70	3,726.86	3,648.69	78.18	47.672	
3,750.00	3,740.71	3,699.76	3,740.71	13.29	66.00	-141.655	70.52	-3,494.70	3,728.76	3,649.60	79.16	47.104	
3,800.00	3,790.69	3,749.74	3,790.69	13.46	66.98	-48.141	70.52	-3,494.70	3,729.03	3,648.73	80.29	46.443	
3,850.00	3,840.62	3,760.00	3,800.94	13.63	67.18	-16.339	70.52	-3,494.70	3,726.89	3,646.47	80.42	46.344	
3,900.00	3,890.35	3,760.00	3,800.94	13.79	67.18	-8.918	70.52	-3,494.70	3,722.80	3,642.68	80.12	46.466	
3,950.00	3,939.77	3,760.00	3,800.94	13.95	67.18	-5.760	70.52	-3,494.70	3,716.77	3,637.17	79.60	46.693	
4,000.00	3,988.72	3,760.00	3,800.94	14.10	67.18	-4.018	70.52	-3,494.70	3,708.81	3,629.95	78.86	47.030	
4,050.00	4,037.07	3,760.00	3,800.94	14.26	67.18	-2.912	70.52	-3,494.70	3,698.93	3,621.03	77.90	47.481	
4,100.00	4,084.70	3,760.00	3,800.94	14.41	67.18	-2.143	70.52	-3,494.70	3,687.14	3,610.41	76.73	48.053	
4,150.00	4,131.47	3,760.00	3,800.94	14.56	67.18	-1.573	70.52	-3,494.70	3,673.45	3,598.10	75.35	48.755	
4,200.00	4,177.26	3,760.00	3,800.94	14.71	67.18	-1.129	70.52	-3,494.70	3,657.88	3,584.13	73.75	49.597	
4,250.00	4,221.93	3,760.00	3,800.94	14.86	67.18	-0.770	70.52	-3,494.70	3,640.45	3,568.50	71.95	50.594	
4,300.00	4,265.37	3,760.00	3,800.94	15.01	67.18	-0.469	70.52	-3,494.70	3,621.19	3,551.23	69.96	51.762	
4,350.00	4,307.45	3,760.00	3,800.94	15.15	67.18	-0.208	70.52	-3,494.70	3,600.10	3,532.34	67.77	53.124	
4,400.00	4,348.07	3,760.00	3,800.94	15.31	67.18	0.024	70.52	-3,494.70	3,577.23	3,511.84	65.39	54.705	
7,600.00	4,740.67	3,760.00	3,800.94	38.30	67.18	3.795	70.52	-3,494.70	1,053.54	1,034.13	19.42	54.258	
7,650.00	4,739.93	3,760.00	3,800.94	38.80	67.18	3.795	70.52	-3,494.70	1,031.42	1,011.78	19.64	52.504	
7,700.00	4,739.18	3,760.00	3,800.94	39.31	67.18	3.795	70.52	-3,494.70	1,011.29	991.42	19.87	50.891	
7,750.00	4,738.44	3,760.00	3,800.94	39.82	67.18	3.795	70.52	-3,494.70	993.28	973.18	20.10	49.418	
7,800.00	4,737.70	3,760.00	3,800.94	40.33	67.18	3.795	70.52	-3,494.70	977.49	957.16	20.33	48.088	
7,850.00	4,736.95	3,760.00	3,800.94	40.84	67.18	3.795	70.52	-3,494.70	964.04	943.48	20.55	46.901	
7,900.00	4,736.21	3,760.00	3,800.94	41.35	67.18	3.795	70.52	-3,494.70	953.02	932.24	20.78	45.857	
7,950.00	4,735.47	3,760.00	3,800.94	41.86	67.18	3.795	70.52	-3,494.70	944.53	923.52	21.01	44.956	
8,000.00	4,734.72	3,760.00	3,800.94	42.38	67.18	3.795	70.52	-3,494.70	938.62	917.38	21.24	44.195	
8,050.00	4,733.98	3,760.00	3,800.94	42.89	67.18	3.795	70.52	-3,494.70	935.36	913.89	21.47	43.574	
8,086.17	4,733.44	3,760.00	3,800.94	43.27	67.18	3.795	70.52	-3,494.70	934.66	913.03	21.63	43.209 CC, ES	
8,100.00	4,733.24	3,760.00	3,800.94	43.41	67.18	3.795	70.52	-3,494.70	934.76	913.07	21.69	43.088	
8,150.00	4,732.50	3,760.00	3,800.94	43.93	67.18	3.795	70.52	-3,494.70	936.84	914.91	21.92	42.734	
8,200.00	4,731.75	3,760.00	3,800.94	44.45	67.18	3.795	70.52	-3,494.70	941.56	919.41	22.15	42.508	
8,250.00	4,731.01	3,760.00	3,800.94	44.97	67.18	3.795	70.52	-3,494.70	948.91	926.53	22.38	42.402 SF	
8,300.00	4,730.27	3,760.00	3,800.94	45.49	67.18	3.795	70.52	-3,494.70	958.81	936.20	22.61	42.412	
8,350.00	4,729.52	3,760.00	3,800.94	46.01	67.18	3.795	70.52	-3,494.70	971.18	948.35	22.84	42.530	
8,400.00	4,728.78	3,760.00	3,800.94	46.53	67.18	3.795	70.52	-3,494.70	985.94	962.87	23.06	42.748	
8,450.00	4,728.04	3,760.00	3,800.94	47.06	67.18	3.795	70.52	-3,494.70	1,002.97	979.68	23.29	43.060	
8,500.00	4,727.30	3,760.00	3,800.94	47.58	67.18	3.795	70.52	-3,494.70	1,022.17	998.65	23.52	43.458	
8,550.00	4,726.55	3,760.00	3,800.94	48.11	67.18	3.795	70.52	-3,494.70	1,043.42	1,019.67	23.75	43.934	
8,600.00	4,725.81	3,760.00	3,800.94	48.63	67.18	3.795	70.52	-3,494.70	1,066.59	1,042.61	23.98	44.482	
8,650.00	4,725.07	3,760.00	3,800.94	49.16	67.18	3.795	70.52	-3,494.70	1,091.55	1,067.35	24.21	45.093	
8,700.00	4,724.32	3,760.00	3,800.94	49.69	67.18	3.795	70.52	-3,494.70	1,118.20	1,093.76	24.44	45.761	
8,750.00	4,723.58	3,760.00	3,800.94	50.22	67.18	3.795	70.52	-3,494.70	1,146.41	1,121.74	24.66	46.481	
8,800.00	4,722.84	3,760.00	3,800.94	50.75	67.18	3.795	70.52	-3,494.70	1,176.07	1,151.18	24.89	47.245	
8,850.00	4,722.10	3,760.00	3,800.94	51.28	67.18	3.795	70.52	-3,494.70	1,207.07	1,181.95	25.12	48.048	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: Red Lake 28 K State 2 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 420-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
8,900.00	4,721.35	3,760.00	3,800.94	51.81	67.18	3.795	70.52	-3,494.70	1,239.32	1,213.96	25.35	48.887	
8,950.00	4,720.61	3,760.00	3,800.94	52.34	67.18	3.795	70.52	-3,494.70	1,272.71	1,247.13	25.58	49.754	
9,000.00	4,719.87	3,760.00	3,800.94	52.87	67.18	3.795	70.52	-3,494.70	1,307.16	1,281.35	25.81	50.648	
9,050.00	4,719.12	3,760.00	3,800.94	53.41	67.18	3.795	70.52	-3,494.70	1,342.59	1,316.55	26.04	51.563	
9,100.00	4,718.38	3,760.00	3,800.94	53.94	67.18	3.795	70.52	-3,494.70	1,378.92	1,352.66	26.27	52.497	
9,150.00	4,717.64	3,760.00	3,800.94	54.47	67.18	3.795	70.52	-3,494.70	1,416.09	1,389.60	26.50	53.446	
9,200.00	4,716.90	3,760.00	3,800.94	55.01	67.18	3.795	70.52	-3,494.70	1,454.03	1,427.30	26.72	54.407	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: RED LAKE 28 K STATE 3 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 420-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis					Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toelface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
3,800.00	3,790.69	3,743.74	3,790.69	13.46	66.87	-48.314	53.79	-4,155.10	4,389.52	4,309.34	80.19	54.742	
3,850.00	3,840.62	3,793.67	3,840.62	13.63	67.85	-16.523	53.79	-4,155.10	4,387.18	4,306.09	81.09	54.104	
3,900.00	3,890.35	3,843.41	3,890.35	13.79	68.83	-9.116	53.79	-4,155.10	4,382.23	4,300.48	81.75	53.602	
3,950.00	3,939.77	3,892.82	3,939.77	13.95	69.80	-5.968	53.79	-4,155.10	4,374.68	4,292.51	82.18	53.235	
4,000.00	3,988.72	3,941.77	3,988.72	14.10	70.76	-4.236	53.79	-4,155.10	4,364.56	4,282.22	82.35	53.003	
4,050.00	4,037.07	3,950.00	3,996.93	14.26	70.92	-3.128	53.79	-4,155.10	4,352.08	4,270.58	81.50	53.402	
4,100.00	4,084.70	3,950.00	3,996.93	14.41	70.92	-2.356	53.79	-4,155.10	4,337.60	4,257.34	80.26	54.042	
4,150.00	4,131.47	3,950.00	3,996.93	14.56	70.92	-1.784	53.79	-4,155.10	4,321.16	4,242.35	78.81	54.830	
7,800.00	4,737.70	3,950.00	3,996.93	40.33	70.92	4.859	53.79	-4,155.10	1,192.83	1,170.88	21.95	54.339	
7,850.00	4,736.95	3,950.00	3,996.93	40.84	70.92	4.859	53.79	-4,155.10	1,153.67	1,131.49	22.18	52.012	
7,900.00	4,736.21	3,950.00	3,996.93	41.35	70.92	4.859	53.79	-4,155.10	1,115.39	1,092.98	22.41	49.772	
7,950.00	4,735.47	3,950.00	3,996.93	41.86	70.92	4.859	53.79	-4,155.10	1,078.06	1,055.42	22.64	47.619	
8,000.00	4,734.72	3,950.00	3,996.93	42.38	70.92	4.859	53.79	-4,155.10	1,041.79	1,018.92	22.87	45.556	
8,050.00	4,733.98	3,950.00	3,996.93	42.89	70.92	4.859	53.79	-4,155.10	1,006.70	983.60	23.10	43.584	
8,100.00	4,733.24	3,950.00	3,996.93	43.41	70.92	4.859	53.79	-4,155.10	972.92	949.59	23.33	41.707	
8,150.00	4,732.50	3,950.00	3,996.93	43.93	70.92	4.859	53.79	-4,155.10	940.58	917.02	23.56	39.928	
8,200.00	4,731.75	3,950.00	3,996.93	44.45	70.92	4.859	53.79	-4,155.10	909.84	886.05	23.79	38.250	
8,250.00	4,731.01	3,950.00	3,996.93	44.97	70.92	4.859	53.79	-4,155.10	880.87	856.85	24.02	36.678	
8,300.00	4,730.27	3,950.00	3,996.93	45.49	70.92	4.859	53.79	-4,155.10	853.84	829.60	24.25	35.216	
8,350.00	4,729.52	3,950.00	3,996.93	46.01	70.92	4.859	53.79	-4,155.10	828.95	804.48	24.48	33.868	
8,400.00	4,728.78	3,950.00	3,996.93	46.53	70.92	4.859	53.79	-4,155.10	806.40	781.70	24.71	32.640	
8,450.00	4,728.04	3,950.00	3,996.93	47.06	70.92	4.859	53.79	-4,155.10	786.39	761.45	24.94	31.537	
8,500.00	4,727.30	3,950.00	3,996.93	47.58	70.92	4.859	53.79	-4,155.10	769.11	743.94	25.17	30.562	
8,550.00	4,726.55	3,950.00	3,996.93	48.11	70.92	4.859	53.79	-4,155.10	754.75	729.35	25.40	29.720	
8,600.00	4,725.81	3,950.00	3,996.93	48.63	70.92	4.859	53.79	-4,155.10	743.48	717.86	25.63	29.013	
8,650.00	4,725.07	3,950.00	3,996.93	49.16	70.92	4.859	53.79	-4,155.10	735.45	709.59	25.86	28.444	
8,700.00	4,724.32	3,950.00	3,996.93	49.69	70.92	4.859	53.79	-4,155.10	730.76	704.67	26.09	28.013	
8,743.80	4,723.67	3,950.00	3,996.93	50.15	70.92	4.859	53.79	-4,155.10	729.44	703.15	26.29	27.748 CC	
8,750.00	4,723.58	3,950.00	3,996.93	50.22	70.92	4.859	53.79	-4,155.10	729.47	703.15	26.32	27.719 ES	
8,800.00	4,722.84	3,950.00	3,996.93	50.75	70.92	4.859	53.79	-4,155.10	731.60	705.06	26.55	27.559	
8,850.00	4,722.10	3,950.00	3,996.93	51.28	70.92	4.859	53.79	-4,155.10	737.13	710.36	26.78	27.528 SF	
8,900.00	4,721.35	3,950.00	3,996.93	51.81	70.92	4.859	53.79	-4,155.10	745.98	718.97	27.01	27.621	
8,950.00	4,720.61	3,950.00	3,996.93	52.34	70.92	4.859	53.79	-4,155.10	758.03	730.79	27.24	27.830	
9,000.00	4,719.87	3,950.00	3,996.93	52.87	70.92	4.859	53.79	-4,155.10	773.13	745.66	27.47	28.146	
9,050.00	4,719.12	3,950.00	3,996.93	53.41	70.92	4.859	53.79	-4,155.10	791.10	763.40	27.70	28.560	
9,100.00	4,718.38	3,950.00	3,996.93	53.94	70.92	4.859	53.79	-4,155.10	811.77	783.84	27.93	29.064	
9,150.00	4,717.64	3,950.00	3,996.93	54.47	70.92	4.859	53.79	-4,155.10	834.92	806.76	28.16	29.648	
9,200.00	4,716.90	3,950.00	3,996.93	55.01	70.92	4.859	53.79	-4,155.10	860.35	831.96	28.39	30.303	
9,250.00	4,716.15	3,950.00	3,996.93	55.54	70.92	4.859	53.79	-4,155.10	887.88	859.25	28.62	31.021	
9,300.00	4,715.41	3,950.00	3,996.93	56.08	70.92	4.859	53.79	-4,155.10	917.30	888.45	28.85	31.793	
9,350.00	4,714.67	3,950.00	3,996.93	56.62	70.92	4.859	53.79	-4,155.10	948.45	919.37	29.08	32.611	
9,400.00	4,713.92	3,950.00	3,996.93	57.15	70.92	4.859	53.79	-4,155.10	981.16	951.85	29.31	33.471	
9,450.00	4,713.18	3,950.00	3,996.93	57.69	70.92	4.859	53.79	-4,155.10	1,015.29	985.74	29.55	34.364	
9,500.00	4,712.44	3,950.00	3,996.93	58.23	70.92	4.859	53.79	-4,155.10	1,050.68	1,020.90	29.78	35.286	
9,550.00	4,711.70	3,950.00	3,996.93	58.77	70.92	4.859	53.79	-4,155.10	1,087.22	1,057.21	30.01	36.232	
9,600.00	4,710.95	3,950.00	3,996.93	59.30	70.92	4.859	53.79	-4,155.10	1,124.80	1,094.56	30.24	37.198	
9,650.00	4,710.21	3,950.00	3,996.93	59.84	70.92	4.859	53.79	-4,155.10	1,163.31	1,132.84	30.47	38.180	
9,700.00	4,709.47	3,950.00	3,996.93	60.38	70.92	4.859	53.79	-4,155.10	1,202.67	1,171.97	30.70	39.175	
9,750.00	4,708.72	3,950.00	3,996.93	60.92	70.92	4.859	53.79	-4,155.10	1,242.79	1,211.86	30.93	40.180	
9,800.00	4,707.98	3,950.00	3,996.93	61.46	70.92	4.859	53.79	-4,155.10	1,283.61	1,252.44	31.16	41.192	
9,850.00	4,707.24	3,950.00	3,996.93	62.00	70.92	4.859	53.79	-4,155.10	1,325.05	1,293.66	31.39	42.209	
9,900.00	4,706.50	3,950.00	3,996.93	62.55	70.92	4.859	53.79	-4,155.10	1,367.07	1,335.45	31.62	43.229	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: RED LAKE 28 K STATE 3 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 420-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,950.00	4,705.75	3,950.00	3,996.93	63.09	70.92	4.859	53.79	-4,155.10	1,409.61	1,377.76	31.86	44.251	
10,000.00	4,705.01	3,950.00	3,996.93	63.63	70.92	4.859	53.79	-4,155.10	1,452.63	1,420.54	32.09	45.273	
10,050.00	4,704.27	3,950.00	3,996.93	64.17	70.92	4.859	53.79	-4,155.10	1,496.08	1,463.76	32.32	46.293	
10,100.00	4,703.52	3,950.00	3,996.93	64.71	70.92	4.859	53.79	-4,155.10	1,539.92	1,507.38	32.55	47.312	
10,150.00	4,702.78	3,950.00	3,996.93	65.26	70.92	4.859	53.79	-4,155.10	1,584.14	1,551.36	32.78	48.327	
10,200.00	4,702.04	3,950.00	3,996.93	65.80	70.92	4.859	53.79	-4,155.10	1,628.68	1,595.67	33.01	49.338	
10,250.00	4,701.29	3,950.00	3,996.93	66.34	70.92	4.859	53.79	-4,155.10	1,673.54	1,640.29	33.24	50.344	
10,287.12	4,700.74	3,950.00	3,996.93	66.75	70.92	4.859	53.79	-4,155.10	1,707.02	1,673.61	33.41	51.087	
10,300.00	4,700.55	3,950.00	3,996.93	66.89	70.92	4.859	53.79	-4,155.10	1,718.68	1,685.20	33.47	51.344	
10,337.14	4,700.00	3,950.00	3,996.93	67.29	70.92	4.859	53.79	-4,155.10	1,752.38	1,718.73	33.65	52.084	

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

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COMPASS 5000.1 Build 74



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: RED LAKE 28 K STATE 4 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 1014-INC-ONLY												Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
3,600.00	3,591.09	3,582.13	3,591.09	12.75	56.56	-169.522	-590.02	-3,502.17	3,786.97	3,717.90	69.08	54.823	
3,650.00	3,640.95	3,631.99	3,640.95	12.93	57.49	-169.533	-590.02	-3,502.17	3,790.66	3,720.49	70.18	54.017	
3,700.00	3,690.81	3,681.84	3,690.81	13.11	58.41	-169.543	-590.02	-3,502.17	3,794.36	3,723.08	71.27	53.236	
3,712.87	3,703.64	3,694.68	3,703.64	13.16	58.64	-169.546	-590.02	-3,502.17	3,795.31	3,723.75	71.56	53.039	
3,750.00	3,740.71	3,731.75	3,740.71	13.29	59.33	-151.675	-590.02	-3,502.17	3,797.34	3,724.84	72.49	52.383	
3,800.00	3,790.69	3,781.72	3,790.69	13.46	60.25	-58.155	-590.02	-3,502.17	3,797.81	3,724.23	73.58	51.616	
3,850.00	3,840.62	3,831.65	3,840.62	13.63	61.18	-26.394	-590.02	-3,502.17	3,795.69	3,721.24	74.46	50.978	
3,900.00	3,890.35	3,881.39	3,890.35	13.79	62.10	-19.051	-590.02	-3,502.17	3,790.99	3,715.87	75.13	50.462	
3,950.00	3,939.77	3,930.80	3,939.77	13.95	63.01	-16.002	-590.02	-3,502.17	3,783.72	3,708.15	75.57	50.067	
4,000.00	3,988.72	3,950.00	3,958.96	14.10	63.36	-14.378	-590.02	-3,502.17	3,774.02	3,698.76	75.26	50.148	
4,050.00	4,037.07	3,950.00	3,958.96	14.26	63.36	-13.398	-590.02	-3,502.17	3,762.37	3,687.98	74.39	50.575	
4,100.00	4,084.70	3,950.00	3,958.96	14.41	63.36	-12.780	-590.02	-3,502.17	3,748.83	3,675.51	73.33	51.124	
4,150.00	4,131.47	3,950.00	3,958.96	14.56	63.36	-12.387	-590.02	-3,502.17	3,733.43	3,661.36	72.07	51.801	
4,200.00	4,177.26	3,950.00	3,958.96	14.71	63.36	-12.149	-590.02	-3,502.17	3,716.19	3,645.56	70.63	52.617	
4,250.00	4,221.93	3,950.00	3,958.96	14.86	63.36	-12.025	-590.02	-3,502.17	3,697.11	3,628.11	69.00	53.581	
4,300.00	4,265.37	3,950.00	3,958.96	15.01	63.36	-11.992	-590.02	-3,502.17	3,676.24	3,609.04	67.20	54.706	
5,500.00	4,771.87	3,950.00	3,958.96	20.10	63.36	-37.694	-590.02	-3,502.17	2,785.45	2,734.19	51.26	54.344	
5,550.00	4,771.13	3,950.00	3,958.96	20.41	63.36	-37.694	-590.02	-3,502.17	2,738.69	2,687.21	51.48	53.195	
5,600.00	4,770.38	3,950.00	3,958.96	20.72	63.36	-37.694	-590.02	-3,502.17	2,692.05	2,640.34	51.71	52.057	
5,650.00	4,769.64	3,950.00	3,958.96	21.05	63.36	-37.694	-590.02	-3,502.17	2,645.53	2,593.58	51.96	50.918	
5,700.00	4,768.90	3,950.00	3,958.96	21.38	63.36	-37.694	-590.02	-3,502.17	2,599.14	2,546.94	52.20	49.791	
5,750.00	4,768.15	3,950.00	3,958.96	21.73	63.36	-37.694	-590.02	-3,502.17	2,552.89	2,500.44	52.46	48.667	
5,800.00	4,767.41	3,950.00	3,958.96	22.08	63.36	-37.694	-590.02	-3,502.17	2,506.78	2,454.07	52.71	47.555	
5,850.00	4,766.67	3,950.00	3,958.96	22.45	63.36	-37.694	-590.02	-3,502.17	2,460.83	2,407.85	52.98	46.448	
5,900.00	4,765.93	3,950.00	3,958.96	22.81	63.36	-37.694	-590.02	-3,502.17	2,415.03	2,361.78	53.25	45.354	
5,950.00	4,765.18	3,950.00	3,958.96	23.20	63.36	-37.694	-590.02	-3,502.17	2,369.41	2,315.88	53.53	44.267	
6,000.00	4,764.44	3,950.00	3,958.96	23.58	63.36	-37.694	-590.02	-3,502.17	2,323.96	2,270.16	53.80	43.193	
6,050.00	4,763.70	3,950.00	3,958.96	23.97	63.36	-37.694	-590.02	-3,502.17	2,278.70	2,224.61	54.09	42.128	
6,100.00	4,762.95	3,950.00	3,958.96	24.37	63.36	-37.694	-590.02	-3,502.17	2,233.65	2,179.27	54.38	41.077	
6,150.00	4,762.21	3,950.00	3,958.96	24.78	63.36	-37.694	-590.02	-3,502.17	2,188.81	2,134.14	54.67	40.035	
6,200.00	4,761.47	3,950.00	3,958.96	25.18	63.36	-37.694	-590.02	-3,502.17	2,144.20	2,089.24	54.97	39.009	
6,250.00	4,760.73	3,950.00	3,958.96	25.60	63.36	-37.694	-590.02	-3,502.17	2,099.84	2,044.57	55.27	37.993	
6,300.00	4,759.98	3,950.00	3,958.96	26.02	63.36	-37.694	-590.02	-3,502.17	2,055.73	2,000.16	55.57	36.993	
6,350.00	4,759.24	3,950.00	3,958.96	26.45	63.36	-37.694	-590.02	-3,502.17	2,011.90	1,956.02	55.88	36.004	
6,400.00	4,758.50	3,950.00	3,958.96	26.89	63.36	-37.694	-590.02	-3,502.17	1,968.36	1,912.17	56.19	35.031	
6,450.00	4,757.75	3,950.00	3,958.96	27.33	63.36	-37.694	-590.02	-3,502.17	1,925.14	1,868.63	56.50	34.071	
6,500.00	4,757.01	3,950.00	3,958.96	27.76	63.36	-37.694	-590.02	-3,502.17	1,882.25	1,825.43	56.82	33.128	
6,550.00	4,756.27	3,950.00	3,958.96	28.21	63.36	-37.694	-590.02	-3,502.17	1,839.72	1,782.58	57.14	32.198	
6,600.00	4,755.53	3,950.00	3,958.96	28.66	63.36	-37.694	-590.02	-3,502.17	1,797.57	1,740.11	57.46	31.285	
6,650.00	4,754.78	3,950.00	3,958.96	29.12	63.36	-37.694	-590.02	-3,502.17	1,755.84	1,698.06	57.78	30.387	
6,700.00	4,754.04	3,950.00	3,958.96	29.57	63.36	-37.694	-590.02	-3,502.17	1,714.55	1,656.44	58.11	29.507	
6,750.00	4,753.30	3,950.00	3,958.96	30.04	63.36	-37.694	-590.02	-3,502.17	1,673.73	1,615.30	58.44	28.643	
6,800.00	4,752.55	3,950.00	3,958.96	30.50	63.36	-37.694	-590.02	-3,502.17	1,633.43	1,574.67	58.76	27.797	
6,850.00	4,751.81	3,950.00	3,958.96	30.97	63.36	-37.694	-590.02	-3,502.17	1,593.67	1,534.58	59.10	26.967	
6,900.00	4,751.07	3,950.00	3,958.96	31.44	63.36	-37.694	-590.02	-3,502.17	1,554.51	1,495.08	59.43	26.157	
6,950.00	4,750.33	3,950.00	3,958.96	31.92	63.36	-37.694	-590.02	-3,502.17	1,515.98	1,456.22	59.77	25.366	
7,000.00	4,749.58	3,950.00	3,958.96	32.39	63.36	-37.694	-590.02	-3,502.17	1,478.15	1,418.04	60.10	24.594	
7,050.00	4,748.84	3,950.00	3,958.96	32.87	63.36	-37.694	-590.02	-3,502.17	1,441.05	1,380.61	60.44	23.842	
7,100.00	4,748.10	3,950.00	3,958.96	33.35	63.36	-37.694	-590.02	-3,502.17	1,404.75	1,343.97	60.78	23.112	
7,150.00	4,747.35	3,950.00	3,958.96	33.84	63.36	-37.694	-590.02	-3,502.17	1,369.32	1,308.20	61.12	22.403	
7,200.00	4,746.61	3,950.00	3,958.96	34.33	63.36	-37.694	-590.02	-3,502.17	1,334.82	1,273.35	61.46	21.717	
7,250.00	4,745.87	3,950.00	3,958.96	34.82	63.36	-37.694	-590.02	-3,502.17	1,301.32	1,239.52	61.81	21.054	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: RED LAKE 28 K STATE 4 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 1014-INC-ONLY												Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toelface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,300.00	4,745.13	3,950.00	3,958.96	35.31	63.36	-37.694	-590.02	-3,502.17	1,268.92	1,206.76	62.15	20.416	
7,350.00	4,744.38	3,950.00	3,958.96	35.80	63.36	-37.694	-590.02	-3,502.17	1,237.68	1,175.18	62.50	19.803	
7,400.00	4,743.64	3,950.00	3,958.96	36.30	63.36	-37.694	-590.02	-3,502.17	1,207.71	1,144.86	62.85	19.216	
7,450.00	4,742.90	3,950.00	3,958.96	36.80	63.36	-37.694	-590.02	-3,502.17	1,179.10	1,115.90	63.20	18.657	
7,500.00	4,742.15	3,950.00	3,958.96	37.29	63.36	-37.694	-590.02	-3,502.17	1,151.95	1,088.40	63.55	18.127	
7,550.00	4,741.41	3,950.00	3,958.96	37.80	63.36	-37.694	-590.02	-3,502.17	1,126.36	1,062.46	63.90	17.627	
7,600.00	4,740.67	3,950.00	3,958.96	38.30	63.36	-37.694	-590.02	-3,502.17	1,102.45	1,038.20	64.25	17.159	
7,650.00	4,739.93	3,950.00	3,958.96	38.80	63.36	-37.694	-590.02	-3,502.17	1,080.32	1,015.72	64.60	16.722	
7,700.00	4,739.18	3,950.00	3,958.96	39.31	63.36	-37.694	-590.02	-3,502.17	1,060.10	995.14	64.96	16.320	
7,750.00	4,738.44	3,950.00	3,958.96	39.82	63.36	-37.694	-590.02	-3,502.17	1,041.88	976.57	65.31	15.952	
7,800.00	4,737.70	3,950.00	3,958.96	40.33	63.36	-37.694	-590.02	-3,502.17	1,025.78	960.11	65.67	15.621	
7,850.00	4,736.95	3,950.00	3,958.96	40.84	63.36	-37.694	-590.02	-3,502.17	1,011.89	945.87	66.02	15.326	
7,900.00	4,736.21	3,950.00	3,958.96	41.35	63.36	-37.694	-590.02	-3,502.17	1,000.31	933.93	66.38	15.069	
7,950.00	4,735.47	3,950.00	3,958.96	41.86	63.36	-37.694	-590.02	-3,502.17	991.13	924.39	66.74	14.851	
8,000.00	4,734.72	3,950.00	3,958.96	42.38	63.36	-37.694	-590.02	-3,502.17	984.40	917.30	67.10	14.671	
8,050.00	4,733.98	3,950.00	3,958.96	42.89	63.36	-37.694	-590.02	-3,502.17	980.18	912.72	67.46	14.531	
8,100.00	4,733.24	3,950.00	3,958.96	43.41	63.36	-37.694	-590.02	-3,502.17	978.50	910.68	67.82	14.429	
8,107.94	4,733.12	3,950.00	3,958.96	43.49	63.36	-37.694	-590.02	-3,502.17	978.46	910.59	67.87	14.416	CC, ES
8,150.00	4,732.50	3,950.00	3,958.96	43.93	63.36	-37.694	-590.02	-3,502.17	979.37	911.19	68.18	14.365	
8,200.00	4,731.75	3,950.00	3,958.96	44.45	63.36	-37.694	-590.02	-3,502.17	982.79	914.25	68.54	14.340	SF
8,250.00	4,731.01	3,950.00	3,958.96	44.97	63.36	-37.694	-590.02	-3,502.17	988.72	919.82	68.90	14.350	
8,300.00	4,730.27	3,950.00	3,958.96	45.49	63.36	-37.694	-590.02	-3,502.17	997.14	927.88	69.26	14.397	
8,350.00	4,729.52	3,950.00	3,958.96	46.01	63.36	-37.694	-590.02	-3,502.17	1,007.96	938.34	69.62	14.477	
8,400.00	4,728.78	3,950.00	3,958.96	46.53	63.36	-37.694	-590.02	-3,502.17	1,021.12	951.14	69.99	14.590	
8,450.00	4,728.04	3,950.00	3,958.96	47.06	63.36	-37.694	-590.02	-3,502.17	1,036.53	966.18	70.35	14.734	
8,500.00	4,727.30	3,950.00	3,958.96	47.58	63.36	-37.694	-590.02	-3,502.17	1,054.09	983.38	70.71	14.906	
8,550.00	4,726.55	3,950.00	3,958.96	48.11	63.36	-37.694	-590.02	-3,502.17	1,073.69	1,002.61	71.08	15.106	
8,600.00	4,725.81	3,950.00	3,958.96	48.63	63.36	-37.694	-590.02	-3,502.17	1,095.22	1,023.78	71.44	15.330	
8,650.00	4,725.07	3,950.00	3,958.96	49.16	63.36	-37.694	-590.02	-3,502.17	1,118.58	1,046.77	71.81	15.577	
8,700.00	4,724.32	3,950.00	3,958.96	49.69	63.36	-37.694	-590.02	-3,502.17	1,143.65	1,071.47	72.18	15.845	
8,750.00	4,723.58	3,950.00	3,958.96	50.22	63.36	-37.694	-590.02	-3,502.17	1,170.31	1,097.77	72.54	16.133	
8,800.00	4,722.84	3,950.00	3,958.96	50.75	63.36	-37.694	-590.02	-3,502.17	1,198.47	1,125.57	72.91	16.438	
8,850.00	4,722.10	3,950.00	3,958.96	51.28	63.36	-37.694	-590.02	-3,502.17	1,228.03	1,154.75	73.28	16.759	
8,900.00	4,721.35	3,950.00	3,958.96	51.81	63.36	-37.694	-590.02	-3,502.17	1,258.87	1,185.23	73.64	17.094	
8,950.00	4,720.61	3,950.00	3,958.96	52.34	63.36	-37.694	-590.02	-3,502.17	1,290.91	1,216.90	74.01	17.442	
9,000.00	4,719.87	3,950.00	3,958.96	52.87	63.36	-37.694	-590.02	-3,502.17	1,324.07	1,249.69	74.38	17.802	
9,050.00	4,719.12	3,950.00	3,958.96	53.41	63.36	-37.694	-590.02	-3,502.17	1,358.26	1,283.51	74.75	18.171	
9,100.00	4,718.38	3,950.00	3,958.96	53.94	63.36	-37.694	-590.02	-3,502.17	1,393.41	1,318.29	75.12	18.550	
9,150.00	4,717.64	3,950.00	3,958.96	54.47	63.36	-37.694	-590.02	-3,502.17	1,429.44	1,353.95	75.49	18.936	
9,200.00	4,716.90	3,950.00	3,958.96	55.01	63.36	-37.694	-590.02	-3,502.17	1,466.29	1,390.43	75.86	19.330	
9,250.00	4,716.15	3,950.00	3,958.96	55.54	63.36	-37.694	-590.02	-3,502.17	1,503.89	1,427.67	76.23	19.729	
9,300.00	4,715.41	3,950.00	3,958.96	56.08	63.36	-37.694	-590.02	-3,502.17	1,542.21	1,465.61	76.60	20.134	
9,350.00	4,714.67	3,950.00	3,958.96	56.62	63.36	-37.694	-590.02	-3,502.17	1,581.17	1,504.21	76.97	20.544	
9,400.00	4,713.92	3,950.00	3,958.96	57.15	63.36	-37.694	-590.02	-3,502.17	1,620.75	1,543.41	77.34	20.957	
9,450.00	4,713.18	3,950.00	3,958.96	57.69	63.36	-37.694	-590.02	-3,502.17	1,660.88	1,583.17	77.71	21.373	
9,500.00	4,712.44	3,950.00	3,958.96	58.23	63.36	-37.694	-590.02	-3,502.17	1,701.54	1,623.46	78.08	21.792	
9,550.00	4,711.70	3,950.00	3,958.96	58.77	63.36	-37.694	-590.02	-3,502.17	1,742.68	1,664.23	78.45	22.214	
9,600.00	4,710.95	3,950.00	3,958.96	59.30	63.36	-37.694	-590.02	-3,502.17	1,784.28	1,705.45	78.82	22.637	
9,650.00	4,710.21	3,950.00	3,958.96	59.84	63.36	-37.694	-590.02	-3,502.17	1,826.29	1,747.10	79.19	23.061	
9,700.00	4,709.47	3,950.00	3,958.96	60.38	63.36	-37.694	-590.02	-3,502.17	1,868.70	1,789.14	79.57	23.486	
9,750.00	4,708.72	3,950.00	3,958.96	60.92	63.36	-37.694	-590.02	-3,502.17	1,911.48	1,831.54	79.94	23.912	
9,800.00	4,707.98	3,950.00	3,958.96	61.46	63.36	-37.694	-590.02	-3,502.17	1,954.60	1,874.29	80.31	24.338	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: RED LAKE 28 K STATE 4 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 1014-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis			Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
9,850.00	4,707.24	3,950.00	3,958.96	62.00	63.36	-37.694	-590.02	-3,502.17	1,998.04	1,917.36	80.69	24.763	
9,900.00	4,706.50	3,950.00	3,958.96	62.55	63.36	-37.694	-590.02	-3,502.17	2,041.78	1,960.73	81.06	25.189	
9,950.00	4,705.75	3,950.00	3,958.96	63.09	63.36	-37.694	-590.02	-3,502.17	2,085.81	2,004.37	81.43	25.614	
10,000.00	4,705.01	3,950.00	3,958.96	63.63	63.36	-37.694	-590.02	-3,502.17	2,130.09	2,048.29	81.80	26.039	
10,050.00	4,704.27	3,950.00	3,958.96	64.17	63.36	-37.694	-590.02	-3,502.17	2,174.63	2,092.45	82.18	26.462	
10,100.00	4,703.52	3,950.00	3,958.96	64.71	63.36	-37.694	-590.02	-3,502.17	2,219.39	2,136.84	82.55	26.885	
10,150.00	4,702.78	3,950.00	3,958.96	65.26	63.36	-37.694	-590.02	-3,502.17	2,264.38	2,181.45	82.93	27.306	
10,200.00	4,702.04	3,950.00	3,958.96	65.80	63.36	-37.694	-590.02	-3,502.17	2,309.57	2,226.27	83.30	27.726	
10,250.00	4,701.29	3,950.00	3,958.96	66.34	63.36	-37.694	-590.02	-3,502.17	2,354.96	2,271.28	83.68	28.144	
10,287.12	4,700.74	3,950.00	3,958.96	66.75	63.36	-37.694	-590.02	-3,502.17	2,388.77	2,304.82	83.95	28.454	
10,300.00	4,700.55	3,950.00	3,958.96	66.89	63.36	-37.694	-590.02	-3,502.17	2,400.53	2,316.48	84.05	28.561	
10,337.14	4,700.00	3,950.00	3,958.96	67.29	63.36	-37.694	-590.02	-3,502.17	2,434.49	2,350.16	84.33	28.870	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: SUNRAY-STATE 1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 770-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
900.00	898.71	892.71	898.71	3.00	8.77	78.635	-506.65	360.72	613.58	601.82	11.76	52.156	
950.00	948.57	942.57	948.57	3.18	9.66	78.978	-506.65	360.72	612.85	600.01	12.84	47.732	
1,000.00	998.43	992.43	998.43	3.36	10.56	79.322	-506.65	360.72	612.14	598.23	13.92	43.987	
1,050.00	1,048.29	1,042.29	1,048.29	3.54	11.46	79.667	-506.65	360.72	611.46	596.46	15.00	40.764	
1,100.00	1,098.15	1,092.15	1,098.15	3.72	12.37	80.013	-506.65	360.72	610.79	594.71	16.08	37.975	
1,150.00	1,148.01	1,142.01	1,148.01	3.90	13.28	80.359	-506.65	360.72	610.15	592.98	17.17	35.531	
1,200.00	1,197.86	1,191.87	1,197.86	4.08	14.19	80.706	-506.65	360.72	609.53	591.27	18.26	33.379	
1,250.00	1,247.72	1,241.73	1,247.72	4.26	15.10	81.053	-506.65	360.72	608.93	589.58	19.35	31.466	
1,300.00	1,297.58	1,291.59	1,297.58	4.44	16.01	81.402	-506.65	360.72	608.36	587.92	20.44	29.757	
1,350.00	1,347.44	1,341.45	1,347.44	4.62	16.91	81.751	-506.65	360.72	607.81	586.28	21.52	28.237	
1,400.00	1,397.30	1,391.31	1,397.30	4.80	17.81	82.100	-506.65	360.72	607.28	584.68	22.60	26.867	
1,450.00	1,447.16	1,441.17	1,447.16	4.98	18.69	82.450	-506.65	360.72	606.77	583.10	23.67	25.636	
1,500.00	1,497.02	1,491.03	1,497.02	5.16	19.58	82.801	-506.65	360.72	606.29	581.56	24.73	24.514	
1,550.00	1,546.88	1,540.89	1,546.88	5.34	20.46	83.152	-506.65	360.72	605.83	580.03	25.80	23.486	
1,600.00	1,596.74	1,590.74	1,596.74	5.52	21.34	83.504	-506.65	360.72	605.39	578.53	26.86	22.540	
1,650.00	1,646.59	1,640.60	1,646.59	5.70	22.24	83.856	-506.65	360.72	604.98	577.04	27.93	21.657	
1,700.00	1,696.45	1,690.46	1,696.45	5.89	23.14	84.209	-506.65	360.72	604.59	575.57	29.01	20.838	
1,750.00	1,746.31	1,740.32	1,746.31	6.07	24.05	84.562	-506.65	360.72	604.22	574.11	30.11	20.070	
1,800.00	1,796.17	1,790.18	1,796.17	6.25	24.96	84.916	-506.65	360.72	603.87	572.67	31.20	19.355	
1,850.00	1,846.03	1,840.04	1,846.03	6.43	25.90	85.270	-506.65	360.72	603.55	571.23	32.32	18.673	
1,900.00	1,895.89	1,889.90	1,895.89	6.61	26.85	85.624	-506.65	360.72	603.25	569.80	33.45	18.033	
1,950.00	1,945.75	1,939.76	1,945.75	6.79	27.84	85.979	-506.65	360.72	602.98	568.36	34.62	17.419	
2,000.00	1,995.61	1,989.62	1,995.61	6.97	28.83	86.334	-506.65	360.72	602.72	566.94	35.79	16.841	
2,050.00	2,045.47	2,039.48	2,045.47	7.15	29.83	86.689	-506.65	360.72	602.50	565.53	36.97	16.297	
2,100.00	2,095.32	2,089.34	2,095.32	7.33	30.83	87.045	-506.65	360.72	602.29	564.14	38.15	15.787	
2,150.00	2,145.18	2,139.20	2,145.18	7.51	31.82	87.400	-506.65	360.72	602.11	562.79	39.32	15.313	
2,200.00	2,195.04	2,189.06	2,195.04	7.69	32.80	87.756	-506.65	360.72	601.95	561.46	40.49	14.867	
2,250.00	2,244.90	2,238.93	2,244.90	7.87	33.78	88.112	-506.65	360.72	601.81	560.17	41.64	14.453	
2,300.00	2,294.76	2,288.79	2,294.76	8.05	34.74	88.469	-506.65	360.72	601.70	558.91	42.79	14.063	
2,350.00	2,344.62	2,338.65	2,344.62	8.23	35.71	88.825	-506.65	360.72	601.61	557.68	43.94	13.693	
2,400.00	2,394.48	2,388.51	2,394.48	8.41	36.68	89.182	-506.65	360.72	601.55	556.46	45.08	13.343	
2,450.00	2,444.34	2,438.37	2,444.34	8.59	37.63	89.538	-506.65	360.72	601.50	555.29	46.22	13.015	
2,500.00	2,494.20	2,488.23	2,494.20	8.78	38.58	89.895	-506.65	360.72	601.49	554.14	47.34	12.705	
2,514.76	2,508.91	2,502.95	2,508.91	8.83	38.86	90.000	-506.65	360.72	601.48	553.81	47.68	12.616 CC	
2,550.00	2,544.05	2,538.09	2,544.05	8.96	39.54	90.251	-506.65	360.72	601.49	553.00	48.49	12.405	
2,600.00	2,593.91	2,587.95	2,593.91	9.14	40.51	90.608	-506.65	360.72	601.52	551.88	49.64	12.118	
2,650.00	2,643.77	2,637.81	2,643.77	9.32	41.50	90.964	-506.65	360.72	601.57	550.76	50.81	11.840	
2,700.00	2,693.63	2,687.67	2,693.63	9.50	42.50	91.321	-506.65	360.72	601.64	549.66	51.99	11.573	
2,750.00	2,743.49	2,737.53	2,743.49	9.68	43.44	91.677	-506.65	360.72	601.74	548.63	53.11	11.330	
2,800.00	2,793.35	2,787.39	2,793.35	9.86	44.36	92.033	-506.65	360.72	601.87	547.65	54.21	11.102	
2,850.00	2,843.21	2,837.25	2,843.21	10.04	45.26	92.390	-506.65	360.72	602.01	546.72	55.29	10.887	
2,900.00	2,893.07	2,887.11	2,893.07	10.22	46.16	92.745	-506.65	360.72	602.18	545.81	56.37	10.682	
2,950.00	2,942.93	2,936.97	2,942.93	10.40	47.07	93.101	-506.65	360.72	602.37	544.90	57.47	10.482	
3,000.00	2,992.78	2,986.83	2,992.78	10.58	47.99	93.456	-506.65	360.72	602.59	544.02	58.57	10.288	
3,050.00	3,042.64	3,036.69	3,042.64	10.76	48.94	93.812	-506.65	360.72	602.83	543.13	59.69	10.099	
3,100.00	3,092.50	3,086.55	3,092.50	10.94	49.88	94.167	-506.65	360.72	603.09	542.27	60.82	9.916	
3,150.00	3,142.36	3,136.41	3,142.36	11.12	50.87	94.521	-506.65	360.72	603.37	541.39	61.98	9.734	
3,200.00	3,192.22	3,186.27	3,192.22	11.30	51.87	94.875	-506.65	360.72	603.68	540.52	63.16	9.557	
3,250.00	3,242.08	3,236.13	3,242.08	11.49	52.88	95.229	-506.65	360.72	604.01	539.65	64.36	9.384	
3,300.00	3,291.94	3,285.99	3,291.94	11.67	53.91	95.583	-506.65	360.72	604.37	538.80	65.57	9.217	
3,350.00	3,341.80	3,335.85	3,341.80	11.85	54.96	95.936	-506.65	360.72	604.74	537.95	66.80	9.053	
3,400.00	3,391.66	3,385.71	3,391.66	12.03	56.02	96.288	-506.65	360.72	605.15	537.11	68.04	8.894	

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



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: SUNRAY-STATE 1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 770-INC-ONLY												Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
3,450.00	3,441.51	3,435.57	3,441.51	12.21	57.10	96.640	-506.65	360.72	605.57	536.27	69.30	8.739	
3,500.00	3,491.37	3,485.43	3,491.37	12.39	58.18	96.992	-506.65	360.72	606.02	535.45	70.57	8.588	
3,550.00	3,541.23	3,535.30	3,541.23	12.57	59.32	97.343	-506.65	360.72	606.49	534.61	71.88	8.437	
3,600.00	3,591.09	3,600.00	3,605.92	12.75	60.81	97.797	-506.65	360.72	607.16	533.60	73.56	8.254	
3,608.67	3,599.74	3,600.00	3,605.92	12.78	60.81	97.797	-506.65	360.72	607.10	533.51	73.59	8.250	
3,650.00	3,640.95	3,635.03	3,640.95	12.93	61.72	98.043	-506.65	360.72	607.49	532.85	74.64	8.139	
3,700.00	3,690.81	3,700.00	3,705.91	13.11	63.39	98.498	-506.65	360.72	608.22	531.72	76.49	7.951	
3,708.38	3,699.16	3,700.00	3,705.91	13.14	63.39	98.498	-506.65	360.72	608.16	531.64	76.52	7.947	
3,712.87	3,703.64	3,700.00	3,705.91	13.16	63.39	98.498	-506.65	360.72	608.18	531.64	76.54	7.946	
3,750.00	3,740.71	3,734.80	3,740.71	13.29	64.37	116.569	-506.65	360.72	608.72	531.07	77.65	7.840	
3,800.00	3,790.69	3,800.00	3,805.88	13.46	66.20	-149.805	-506.65	360.72	610.03	530.39	79.64	7.660 ES	
3,850.00	3,840.62	3,834.73	3,840.62	13.63	67.24	-118.083	-506.65	360.72	611.41	530.58	80.82	7.565	
3,900.00	3,890.35	3,900.00	3,905.85	13.79	69.20	-111.153	-506.65	360.72	613.64	530.73	82.91	7.401	
3,950.00	3,939.77	3,933.91	3,939.77	13.95	70.29	-108.347	-506.65	360.72	615.99	531.88	84.11	7.324	
4,000.00	3,988.72	4,000.00	4,005.81	14.10	72.41	-107.661	-506.65	360.72	619.38	533.07	86.31	7.176	
4,050.00	4,037.07	4,031.26	4,037.07	14.26	73.41	-107.088	-506.65	360.72	623.01	535.63	87.38	7.130	
4,100.00	4,084.70	4,100.00	4,105.77	14.41	75.61	-107.946	-506.65	360.72	628.05	538.49	89.56	7.012	
4,150.00	4,131.47	4,125.71	4,131.47	14.56	76.38	-107.909	-506.65	360.72	633.38	543.04	90.34	7.011	
4,200.00	4,177.26	4,171.49	4,177.26	14.71	77.76	-108.687	-506.65	360.72	640.20	548.58	91.61	6.988 SF	
4,250.00	4,221.93	4,216.19	4,221.93	14.86	79.08	-109.601	-506.65	360.72	648.33	555.56	92.76	6.989	
4,300.00	4,265.37	4,259.63	4,265.37	15.01	80.33	-110.591	-506.65	360.72	657.94	564.18	93.75	7.018	
4,350.00	4,307.45	4,301.74	4,307.45	15.15	81.53	-111.605	-506.65	360.72	669.19	574.57	94.62	7.073	
4,400.00	4,348.07	4,342.36	4,348.07	15.31	82.71	-112.598	-506.65	360.72	682.23	586.87	95.36	7.154	
4,450.00	4,387.11	4,400.00	4,405.69	15.46	84.37	-114.474	-506.65	360.72	697.44	601.22	96.23	7.248	
4,500.00	4,424.45	4,418.77	4,424.45	15.61	84.96	-114.360	-506.65	360.72	714.19	617.66	96.53	7.398	
4,550.00	4,460.01	4,454.33	4,460.01	15.77	86.09	-115.058	-506.65	360.72	733.29	636.25	97.05	7.556	
4,600.00	4,493.69	4,488.00	4,493.69	15.94	87.15	-115.591	-506.65	360.72	754.56	657.06	97.50	7.739	
4,650.00	4,525.38	4,500.00	4,505.66	16.11	87.53	-114.733	-506.65	360.72	778.24	680.34	97.90	7.949	
4,700.00	4,555.01	4,500.00	4,505.66	16.29	87.53	-112.896	-506.65	360.72	805.11	706.63	98.47	8.176	
4,750.00	4,582.49	4,500.00	4,505.66	16.47	87.53	-110.753	-506.65	360.72	834.86	735.59	99.27	8.410	
4,780.77	4,598.30	4,500.00	4,505.66	16.59	87.53	-109.277	-506.65	360.72	854.44	754.57	99.87	8.556	
4,800.00	4,607.92	4,500.00	4,505.66	16.66	87.53	-109.277	-506.65	360.72	867.08	767.14	99.94	8.676	
4,850.00	4,632.92	4,500.00	4,505.66	16.87	87.53	-109.277	-506.65	360.72	901.04	800.90	100.14	8.998	
4,900.00	4,657.92	4,500.00	4,505.66	17.08	87.53	-109.277	-506.65	360.72	936.44	836.09	100.34	9.332	
4,950.00	4,682.92	4,500.00	4,505.66	17.31	87.53	-109.277	-506.65	360.72	973.11	872.55	100.56	9.677	
4,980.77	4,698.30	4,500.00	4,505.66	17.45	87.53	-109.277	-506.65	360.72	996.26	895.56	100.70	9.893	
5,000.00	4,707.64	4,500.00	4,505.66	17.54	87.53	-107.096	-506.65	360.72	1,011.00	909.43	101.57	9.954	
5,050.00	4,729.21	4,500.00	4,505.66	17.78	87.53	-100.841	-506.65	360.72	1,050.50	946.72	103.79	10.122	
5,100.00	4,746.78	4,500.00	4,505.66	18.02	87.53	-93.825	-506.65	360.72	1,091.34	985.97	105.36	10.358	
5,150.00	4,760.20	4,500.00	4,505.66	18.27	87.53	-86.257	-506.65	360.72	1,133.06	1,027.50	105.56	10.734	
5,200.00	4,769.38	4,500.00	4,505.66	18.52	87.53	-78.452	-506.65	360.72	1,175.28	1,071.41	103.87	11.315	
5,250.00	4,774.24	4,500.00	4,505.66	18.76	87.53	-70.771	-506.65	360.72	1,217.64	1,117.36	100.28	12.143	
5,289.28	4,775.00	4,500.00	4,505.66	18.95	87.53	-65.039	-506.65	360.72	1,250.81	1,154.39	96.42	12.972	
5,300.00	4,774.84	4,500.00	4,505.66	19.01	87.53	-65.039	-506.65	360.72	1,259.84	1,163.37	96.47	13.060	
5,350.00	4,774.10	4,500.00	4,505.66	19.27	87.53	-65.039	-506.65	360.72	1,302.33	1,205.61	96.71	13.466	
5,400.00	4,773.36	4,500.00	4,505.66	19.53	87.53	-65.039	-506.65	360.72	1,345.33	1,248.37	96.96	13.876	
5,450.00	4,772.61	4,500.00	4,505.66	19.82	87.53	-65.039	-506.65	360.72	1,388.80	1,291.57	97.22	14.285	
5,500.00	4,771.87	4,500.00	4,505.66	20.10	87.53	-65.039	-506.65	360.72	1,432.69	1,335.20	97.49	14.696	
5,550.00	4,771.13	4,500.00	4,505.66	20.41	87.53	-65.039	-506.65	360.72	1,476.98	1,379.20	97.78	15.105	
5,600.00	4,770.38	4,500.00	4,505.66	20.72	87.53	-65.039	-506.65	360.72	1,521.62	1,423.55	98.07	15.516	
5,650.00	4,769.64	4,500.00	4,505.66	21.05	87.53	-65.039	-506.65	360.72	1,566.58	1,468.21	98.37	15.925	
5,700.00	4,768.90	4,500.00	4,505.66	21.38	87.53	-65.039	-506.65	360.72	1,611.84	1,513.16	98.68	16.334	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: SUNRAY-STATE 1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 770-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis					Distance					Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
5,750.00	4,768.15	4,500.00	4,505.66	21.73	87.53	-65.039	-506.65	360.72	1,657.37	1,558.37	99.00	16.740	
5,800.00	4,767.41	4,500.00	4,505.66	22.08	87.53	-65.039	-506.65	360.72	1,703.15	1,603.82	99.33	17.147	
5,850.00	4,766.67	4,500.00	4,505.66	22.45	87.53	-65.039	-506.65	360.72	1,749.16	1,649.50	99.67	17.550	
5,900.00	4,765.93	4,500.00	4,505.66	22.81	87.53	-65.039	-506.65	360.72	1,795.39	1,695.38	100.01	17.952	
5,950.00	4,765.18	4,500.00	4,505.66	23.20	87.53	-65.039	-506.65	360.72	1,841.81	1,741.45	100.36	18.352	
6,000.00	4,764.44	4,500.00	4,505.66	23.58	87.53	-65.039	-506.65	360.72	1,888.42	1,787.70	100.72	18.750	
6,050.00	4,763.70	4,500.00	4,505.66	23.97	87.53	-65.039	-506.65	360.72	1,935.20	1,834.11	101.08	19.145	
6,100.00	4,762.95	4,500.00	4,505.66	24.37	87.53	-65.039	-506.65	360.72	1,982.13	1,880.68	101.45	19.538	
6,150.00	4,762.21	4,500.00	4,505.66	24.78	87.53	-65.039	-506.65	360.72	2,029.21	1,927.38	101.83	19.928	
6,200.00	4,761.47	4,500.00	4,505.66	25.18	87.53	-65.039	-506.65	360.72	2,076.43	1,974.22	102.21	20.316	
6,250.00	4,760.73	4,500.00	4,505.66	25.60	87.53	-65.039	-506.65	360.72	2,123.77	2,021.17	102.60	20.700	
6,300.00	4,759.98	4,500.00	4,505.66	26.02	87.53	-65.039	-506.65	360.72	2,171.23	2,068.25	102.99	21.083	
6,350.00	4,759.24	4,500.00	4,505.66	26.45	87.53	-65.039	-506.65	360.72	2,218.81	2,115.42	103.38	21.462	
6,400.00	4,758.50	4,500.00	4,505.66	26.89	87.53	-65.039	-506.65	360.72	2,266.48	2,162.70	103.78	21.839	
6,450.00	4,757.75	4,500.00	4,505.66	27.33	87.53	-65.039	-506.65	360.72	2,314.26	2,210.07	104.19	22.212	
6,500.00	4,757.01	4,500.00	4,505.66	27.76	87.53	-65.039	-506.65	360.72	2,362.13	2,257.53	104.60	22.583	
6,550.00	4,756.27	4,500.00	4,505.66	28.21	87.53	-65.039	-506.65	360.72	2,410.09	2,305.07	105.01	22.950	
6,600.00	4,755.53	4,500.00	4,505.66	28.66	87.53	-65.039	-506.65	360.72	2,458.12	2,352.69	105.43	23.316	
6,650.00	4,754.78	4,500.00	4,505.66	29.12	87.53	-65.039	-506.65	360.72	2,506.24	2,400.39	105.85	23.677	
6,700.00	4,754.04	4,500.00	4,505.66	29.57	87.53	-65.039	-506.65	360.72	2,554.42	2,448.15	106.27	24.037	
6,750.00	4,753.30	4,500.00	4,505.66	30.04	87.53	-65.039	-506.65	360.72	2,602.68	2,495.98	106.70	24.392	
6,800.00	4,752.55	4,500.00	4,505.66	30.50	87.53	-65.039	-506.65	360.72	2,650.99	2,543.87	107.13	24.746	
6,850.00	4,751.81	4,500.00	4,505.66	30.97	87.53	-65.039	-506.65	360.72	2,699.37	2,591.81	107.56	25.096	
6,900.00	4,751.07	4,500.00	4,505.66	31.44	87.53	-65.039	-506.65	360.72	2,747.81	2,639.82	108.00	25.443	
6,950.00	4,750.33	4,500.00	4,505.66	31.92	87.53	-65.039	-506.65	360.72	2,796.31	2,687.87	108.44	25.787	
7,000.00	4,749.58	4,500.00	4,505.66	32.39	87.53	-65.039	-506.65	360.72	2,844.85	2,735.98	108.88	26.129	
7,050.00	4,748.84	4,500.00	4,505.66	32.87	87.53	-65.039	-506.65	360.72	2,893.45	2,784.13	109.32	26.467	
7,100.00	4,748.10	4,500.00	4,505.66	33.35	87.53	-65.039	-506.65	360.72	2,942.09	2,832.32	109.77	26.803	
7,150.00	4,747.35	4,500.00	4,505.66	33.84	87.53	-65.039	-506.65	360.72	2,990.78	2,880.56	110.21	27.136	
7,200.00	4,746.61	4,500.00	4,505.66	34.33	87.53	-65.039	-506.65	360.72	3,039.51	2,928.84	110.66	27.466	
7,250.00	4,745.87	4,500.00	4,505.66	34.82	87.53	-65.039	-506.65	360.72	3,088.28	2,977.16	111.12	27.793	
7,300.00	4,745.13	4,500.00	4,505.66	35.31	87.53	-65.039	-506.65	360.72	3,137.08	3,025.51	111.57	28.118	
7,350.00	4,744.38	4,500.00	4,505.66	35.80	87.53	-65.039	-506.65	360.72	3,185.93	3,073.90	112.03	28.439	
7,400.00	4,743.64	4,500.00	4,505.66	36.30	87.53	-65.039	-506.65	360.72	3,234.81	3,122.33	112.48	28.758	
7,450.00	4,742.90	4,500.00	4,505.66	36.80	87.53	-65.039	-506.65	360.72	3,283.73	3,170.78	112.94	29.074	
7,500.00	4,742.15	4,500.00	4,505.66	37.29	87.53	-65.039	-506.65	360.72	3,332.67	3,219.27	113.40	29.388	
7,550.00	4,741.41	4,500.00	4,505.66	37.80	87.53	-65.039	-506.65	360.72	3,381.65	3,267.78	113.87	29.698	
7,600.00	4,740.67	4,500.00	4,505.66	38.30	87.53	-65.039	-506.65	360.72	3,430.66	3,316.33	114.33	30.007	
7,650.00	4,739.93	4,500.00	4,505.66	38.80	87.53	-65.039	-506.65	360.72	3,479.69	3,364.90	114.80	30.312	
7,700.00	4,739.18	4,500.00	4,505.66	39.31	87.53	-65.039	-506.65	360.72	3,528.76	3,413.49	115.26	30.615	
7,750.00	4,738.44	4,500.00	4,505.66	39.82	87.53	-65.039	-506.65	360.72	3,577.84	3,462.11	115.73	30.915	
7,800.00	4,737.70	4,500.00	4,505.66	40.33	87.53	-65.039	-506.65	360.72	3,626.96	3,510.76	116.20	31.213	
7,850.00	4,736.95	4,500.00	4,505.66	40.84	87.53	-65.039	-506.65	360.72	3,676.09	3,559.42	116.67	31.508	
7,900.00	4,736.21	4,500.00	4,505.66	41.35	87.53	-65.039	-506.65	360.72	3,725.25	3,608.11	117.14	31.801	
7,950.00	4,735.47	4,500.00	4,505.66	41.86	87.53	-65.039	-506.65	360.72	3,774.44	3,656.82	117.62	32.091	
8,000.00	4,734.72	4,500.00	4,505.66	42.38	87.53	-65.039	-506.65	360.72	3,823.64	3,705.55	118.09	32.379	
8,050.00	4,733.98	4,500.00	4,505.66	42.89	87.53	-65.039	-506.65	360.72	3,872.86	3,754.30	118.57	32.664	
8,100.00	4,733.24	4,500.00	4,505.66	43.41	87.53	-65.039	-506.65	360.72	3,922.11	3,803.07	119.04	32.947	
8,150.00	4,732.50	4,500.00	4,505.66	43.93	87.53	-65.039	-506.65	360.72	3,971.37	3,851.85	119.52	33.227	
8,200.00	4,731.75	4,500.00	4,505.66	44.45	87.53	-65.039	-506.65	360.72	4,020.65	3,900.65	120.00	33.506	
8,250.00	4,731.01	4,500.00	4,505.66	44.97	87.53	-65.039	-506.65	360.72	4,069.95	3,949.47	120.48	33.782	
8,300.00	4,730.27	4,500.00	4,505.66	45.49	87.53	-65.039	-506.65	360.72	4,119.26	3,998.31	120.96	34.055	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: SUNRAY-STATE 1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 770-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
8,350.00	4,729.52	4,500.00	4,505.66	46.01	87.53	-65.039	-506.65	360.72	4,168.60	4,047.16	121.44	34.326	
8,400.00	4,728.78	4,500.00	4,505.66	46.53	87.53	-65.039	-506.65	360.72	4,217.94	4,096.02	121.92	34.596	
8,450.00	4,728.04	4,500.00	4,505.66	47.06	87.53	-65.039	-506.65	360.72	4,267.31	4,144.90	122.40	34.862	
8,500.00	4,727.30	4,500.00	4,505.66	47.58	87.53	-65.039	-506.65	360.72	4,316.68	4,193.80	122.89	35.127	
8,550.00	4,726.55	4,500.00	4,505.66	48.11	87.53	-65.039	-506.65	360.72	4,366.07	4,242.70	123.37	35.389	
8,600.00	4,725.81	4,500.00	4,505.66	48.63	87.53	-65.039	-506.65	360.72	4,415.48	4,291.62	123.86	35.650	
8,650.00	4,725.07	4,500.00	4,505.66	49.16	87.53	-65.039	-506.65	360.72	4,464.90	4,340.55	124.34	35.908	
8,700.00	4,724.32	4,500.00	4,505.66	49.69	87.53	-65.039	-506.65	360.72	4,514.33	4,389.50	124.83	36.164	
8,750.00	4,723.58	4,500.00	4,505.66	50.22	87.53	-65.039	-506.65	360.72	4,563.77	4,438.46	125.32	36.418	
8,800.00	4,722.84	4,500.00	4,505.66	50.75	87.53	-65.039	-506.65	360.72	4,613.23	4,487.42	125.80	36.670	
8,850.00	4,722.10	4,500.00	4,505.66	51.28	87.53	-65.039	-506.65	360.72	4,662.69	4,536.40	126.29	36.920	
8,900.00	4,721.35	4,500.00	4,505.66	51.81	87.53	-65.039	-506.65	360.72	4,712.17	4,585.39	126.78	37.168	
8,950.00	4,720.61	4,500.00	4,505.66	52.34	87.53	-65.039	-506.65	360.72	4,761.66	4,634.39	127.27	37.413	
9,000.00	4,719.87	4,500.00	4,505.66	52.87	87.53	-65.039	-506.65	360.72	4,811.16	4,683.40	127.76	37.657	
9,050.00	4,719.12	4,500.00	4,505.66	53.41	87.53	-65.039	-506.65	360.72	4,860.67	4,732.42	128.25	37.899	
9,100.00	4,718.38	4,500.00	4,505.66	53.94	87.53	-65.039	-506.65	360.72	4,910.19	4,781.45	128.74	38.139	
9,150.00	4,717.64	4,500.00	4,505.66	54.47	87.53	-65.039	-506.65	360.72	4,959.72	4,830.49	129.24	38.378	
9,200.00	4,716.90	4,500.00	4,505.66	55.01	87.53	-65.039	-506.65	360.72	5,009.26	4,879.53	129.73	38.614	
9,250.00	4,716.15	4,500.00	4,505.66	55.54	87.53	-65.039	-506.65	360.72	5,058.81	4,928.59	130.22	38.848	
9,300.00	4,715.41	4,500.00	4,505.66	56.08	87.53	-65.039	-506.65	360.72	5,108.36	4,977.65	130.71	39.081	
9,350.00	4,714.67	4,500.00	4,505.66	56.62	87.53	-65.039	-506.65	360.72	5,157.93	5,026.72	131.21	39.311	
9,400.00	4,713.92	4,500.00	4,505.66	57.15	87.53	-65.039	-506.65	360.72	5,207.50	5,075.80	131.70	39.540	
9,450.00	4,713.18	4,500.00	4,505.66	57.69	87.53	-65.039	-506.65	360.72	5,257.09	5,124.89	132.20	39.768	
9,500.00	4,712.44	4,500.00	4,505.66	58.23	87.53	-65.039	-506.65	360.72	5,306.68	5,173.98	132.69	39.993	
9,550.00	4,711.70	4,500.00	4,505.66	58.77	87.53	-65.039	-506.65	360.72	5,356.27	5,223.09	133.19	40.217	
9,600.00	4,710.95	4,500.00	4,505.66	59.30	87.53	-65.039	-506.65	360.72	5,405.88	5,272.20	133.68	40.439	
9,650.00	4,710.21	4,500.00	4,505.66	59.84	87.53	-65.039	-506.65	360.72	5,455.49	5,321.31	134.18	40.659	
9,700.00	4,709.47	4,500.00	4,505.66	60.38	87.53	-65.039	-506.65	360.72	5,505.11	5,370.43	134.67	40.877	
9,750.00	4,708.72	4,500.00	4,505.66	60.92	87.53	-65.039	-506.65	360.72	5,554.73	5,419.56	135.17	41.094	
9,800.00	4,707.98	4,500.00	4,505.66	61.46	87.53	-65.039	-506.65	360.72	5,604.37	5,468.70	135.67	41.309	
9,850.00	4,707.24	4,500.00	4,505.66	62.00	87.53	-65.039	-506.65	360.72	5,654.00	5,517.84	136.17	41.523	
9,900.00	4,706.50	4,500.00	4,505.66	62.55	87.53	-65.039	-506.65	360.72	5,703.65	5,566.99	136.66	41.735	
9,950.00	4,705.75	4,500.00	4,505.66	63.09	87.53	-65.039	-506.65	360.72	5,753.30	5,616.14	137.16	41.945	
10,000.00	4,705.01	4,500.00	4,505.66	63.63	87.53	-65.039	-506.65	360.72	5,802.96	5,665.30	137.66	42.154	
10,050.00	4,704.27	4,500.00	4,505.66	64.17	87.53	-65.039	-506.65	360.72	5,852.62	5,714.46	138.16	42.361	
10,100.00	4,703.52	4,500.00	4,505.66	64.71	87.53	-65.039	-506.65	360.72	5,902.29	5,763.63	138.66	42.567	
10,150.00	4,702.78	4,500.00	4,505.66	65.26	87.53	-65.039	-506.65	360.72	5,951.96	5,812.81	139.16	42.771	
10,200.00	4,702.04	4,500.00	4,505.66	65.80	87.53	-65.039	-506.65	360.72	6,001.64	5,861.99	139.66	42.974	
10,250.00	4,701.29	4,500.00	4,505.66	66.34	87.53	-65.039	-506.65	360.72	6,051.33	5,911.17	140.16	43.175	
10,287.12	4,700.74	4,500.00	4,505.66	66.75	87.53	-65.039	-506.65	360.72	6,088.22	5,947.69	140.53	43.323	
10,300.00	4,700.55	4,500.00	4,505.66	66.89	87.53	-65.039	-506.65	360.72	6,101.02	5,960.36	140.66	43.375	
10,337.14	4,700.00	4,500.00	4,505.66	67.29	87.53	-65.039	-506.65	360.72	6,137.94	5,996.91	141.03	43.522	

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

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COMPASS 5000.1 Build 74



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: TIGNER STATE 1 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 511-INC-ONLY													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
8,750.00	4,723.58	3,550.00	3,595.92	50.22	64.10	3.161	37.10	-4,815.50	1,299.87	1,276.08	23.79	54.636		
8,800.00	4,722.84	3,550.00	3,595.92	50.75	64.10	3.161	37.10	-4,815.50	1,275.20	1,251.18	24.02	53.090		
8,850.00	4,722.10	3,550.00	3,595.92	51.28	64.10	3.161	37.10	-4,815.50	1,252.04	1,227.79	24.25	51.635		
8,900.00	4,721.35	3,550.00	3,595.92	51.81	64.10	3.161	37.10	-4,815.50	1,230.48	1,206.00	24.48	50.273		
8,950.00	4,720.61	3,550.00	3,595.92	52.34	64.10	3.161	37.10	-4,815.50	1,210.60	1,185.89	24.70	49.004		
9,000.00	4,719.87	3,550.00	3,595.92	52.87	64.10	3.161	37.10	-4,815.50	1,192.48	1,167.55	24.93	47.829		
9,050.00	4,719.12	3,550.00	3,595.92	53.41	64.10	3.161	37.10	-4,815.50	1,176.22	1,151.06	25.16	46.749		
9,100.00	4,718.38	3,550.00	3,595.92	53.94	64.10	3.161	37.10	-4,815.50	1,161.88	1,136.49	25.39	45.764		
9,150.00	4,717.64	3,550.00	3,595.92	54.47	64.10	3.161	37.10	-4,815.50	1,149.53	1,123.92	25.62	44.874		
9,200.00	4,716.90	3,550.00	3,595.92	55.01	64.10	3.161	37.10	-4,815.50	1,139.25	1,113.41	25.85	44.080		
9,250.00	4,716.15	3,550.00	3,595.92	55.54	64.10	3.161	37.10	-4,815.50	1,131.09	1,105.02	26.07	43.381		
9,300.00	4,715.41	3,550.00	3,595.92	56.08	64.10	3.161	37.10	-4,815.50	1,125.10	1,098.79	26.30	42.776		
9,350.00	4,714.67	3,550.00	3,595.92	56.62	64.10	3.161	37.10	-4,815.50	1,121.30	1,094.77	26.53	42.265		
9,400.00	4,713.92	3,550.00	3,595.92	57.15	64.10	3.161	37.10	-4,815.50	1,119.72	1,092.97	26.76	41.845		
9,410.30	4,713.77	3,550.00	3,595.92	57.26	64.10	3.161	37.10	-4,815.50	1,119.68	1,092.87	26.81	41.770 CC, ES		
9,450.00	4,713.18	3,550.00	3,595.92	57.69	64.10	3.161	37.10	-4,815.50	1,120.38	1,093.39	26.99	41.515		
9,500.00	4,712.44	3,550.00	3,595.92	58.23	64.10	3.161	37.10	-4,815.50	1,123.26	1,096.05	27.22	41.273		
9,550.00	4,711.70	3,550.00	3,595.92	58.77	64.10	3.161	37.10	-4,815.50	1,128.36	1,100.91	27.44	41.115		
9,600.00	4,710.95	3,550.00	3,595.92	59.30	64.10	3.161	37.10	-4,815.50	1,135.63	1,107.96	27.67	41.038 SF		
9,650.00	4,710.21	3,550.00	3,595.92	59.84	64.10	3.161	37.10	-4,815.50	1,145.05	1,117.15	27.90	41.039		
9,700.00	4,709.47	3,550.00	3,595.92	60.38	64.10	3.161	37.10	-4,815.50	1,156.55	1,128.42	28.13	41.115		
9,750.00	4,708.72	3,550.00	3,595.92	60.92	64.10	3.161	37.10	-4,815.50	1,170.07	1,141.72	28.36	41.260		
9,800.00	4,707.98	3,550.00	3,595.92	61.46	64.10	3.161	37.10	-4,815.50	1,185.56	1,156.97	28.59	41.472		
9,850.00	4,707.24	3,550.00	3,595.92	62.00	64.10	3.161	37.10	-4,815.50	1,202.92	1,174.10	28.82	41.745		
9,900.00	4,706.50	3,550.00	3,595.92	62.55	64.10	3.161	37.10	-4,815.50	1,222.08	1,193.04	29.04	42.077		
9,950.00	4,705.75	3,550.00	3,595.92	63.09	64.10	3.161	37.10	-4,815.50	1,242.96	1,213.69	29.27	42.461		
10,000.00	4,705.01	3,550.00	3,595.92	63.63	64.10	3.161	37.10	-4,815.50	1,265.47	1,235.97	29.50	42.895		
10,050.00	4,704.27	3,550.00	3,595.92	64.17	64.10	3.161	37.10	-4,815.50	1,289.53	1,259.80	29.73	43.374		
10,100.00	4,703.52	3,550.00	3,595.92	64.71	64.10	3.161	37.10	-4,815.50	1,315.05	1,285.09	29.96	43.895		
10,150.00	4,702.78	3,550.00	3,595.92	65.26	64.10	3.161	37.10	-4,815.50	1,341.95	1,311.77	30.19	44.454		
10,200.00	4,702.04	3,550.00	3,595.92	65.80	64.10	3.161	37.10	-4,815.50	1,370.15	1,339.73	30.42	45.046		
10,250.00	4,701.29	3,550.00	3,595.92	66.34	64.10	3.161	37.10	-4,815.50	1,399.56	1,368.92	30.65	45.670		
10,287.12	4,700.74	3,550.00	3,595.92	66.75	64.10	3.161	37.10	-4,815.50	1,422.15	1,391.33	30.82	46.151		
10,300.00	4,700.55	3,550.00	3,595.92	66.89	64.10	3.161	37.10	-4,815.50	1,430.12	1,399.25	30.87	46.321		
10,337.14	4,700.00	3,550.00	3,595.92	67.29	64.10	3.161	37.10	-4,815.50	1,453.52	1,422.48	31.04	46.821		

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: TIGNER STATE 2 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 380-INC-ONLY													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis					Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
7,500.00	4,742.15	3,535.00	3,564.86	37.29	68.01	-27.707	-638.92	-5,433.35	2,852.34	2,800.01	52.33	54.507		
7,550.00	4,741.41	3,535.00	3,564.86	37.80	68.01	-27.707	-638.92	-5,433.35	2,807.81	2,755.17	52.63	53.347		
7,600.00	4,740.67	3,535.00	3,564.86	38.30	68.01	-27.707	-638.92	-5,433.35	2,763.47	2,710.53	52.94	52.204		
7,650.00	4,739.93	3,535.00	3,564.86	38.80	68.01	-27.707	-638.92	-5,433.35	2,719.32	2,666.08	53.24	51.076		
7,700.00	4,739.18	3,535.00	3,564.86	39.31	68.01	-27.707	-638.92	-5,433.35	2,675.38	2,621.84	53.55	49.965		
7,750.00	4,738.44	3,535.00	3,564.86	39.82	68.01	-27.707	-638.92	-5,433.35	2,631.66	2,577.81	53.85	48.869		
7,800.00	4,737.70	3,535.00	3,564.86	40.33	68.01	-27.707	-638.92	-5,433.35	2,588.16	2,534.01	54.16	47.790		
7,850.00	4,736.95	3,535.00	3,564.86	40.84	68.01	-27.707	-638.92	-5,433.35	2,544.91	2,490.44	54.46	46.726		
7,900.00	4,736.21	3,535.00	3,564.86	41.35	68.01	-27.707	-638.92	-5,433.35	2,501.90	2,447.13	54.77	45.679		
7,950.00	4,735.47	3,535.00	3,564.86	41.86	68.01	-27.707	-638.92	-5,433.35	2,459.16	2,404.08	55.08	44.648		
8,000.00	4,734.72	3,535.00	3,564.86	42.38	68.01	-27.707	-638.92	-5,433.35	2,416.70	2,361.31	55.39	43.633		
8,050.00	4,733.98	3,535.00	3,564.86	42.89	68.01	-27.707	-638.92	-5,433.35	2,374.53	2,318.84	55.70	42.633		
8,100.00	4,733.24	3,535.00	3,564.86	43.41	68.01	-27.707	-638.92	-5,433.35	2,332.67	2,276.67	56.01	41.651		
8,150.00	4,732.50	3,535.00	3,564.86	43.93	68.01	-27.707	-638.92	-5,433.35	2,291.14	2,234.83	56.32	40.684		
8,200.00	4,731.75	3,535.00	3,564.86	44.45	68.01	-27.707	-638.92	-5,433.35	2,249.95	2,193.33	56.63	39.734		
8,250.00	4,731.01	3,535.00	3,564.86	44.97	68.01	-27.707	-638.92	-5,433.35	2,209.13	2,152.19	56.94	38.800		
8,300.00	4,730.27	3,535.00	3,564.86	45.49	68.01	-27.707	-638.92	-5,433.35	2,168.69	2,111.44	57.25	37.883		
8,350.00	4,729.52	3,535.00	3,564.86	46.01	68.01	-27.707	-638.92	-5,433.35	2,128.66	2,071.10	57.56	36.983		
8,400.00	4,728.78	3,535.00	3,564.86	46.53	68.01	-27.707	-638.92	-5,433.35	2,089.05	2,031.18	57.87	36.099		
8,450.00	4,728.04	3,535.00	3,564.86	47.06	68.01	-27.707	-638.92	-5,433.35	2,049.90	1,991.72	58.18	35.233		
8,500.00	4,727.30	3,535.00	3,564.86	47.58	68.01	-27.707	-638.92	-5,433.35	2,011.23	1,952.74	58.49	34.384		
8,550.00	4,726.55	3,535.00	3,564.86	48.11	68.01	-27.707	-638.92	-5,433.35	1,973.07	1,914.27	58.81	33.552		
8,600.00	4,725.81	3,535.00	3,564.86	48.63	68.01	-27.707	-638.92	-5,433.35	1,935.46	1,876.34	59.12	32.738		
8,650.00	4,725.07	3,535.00	3,564.86	49.16	68.01	-27.707	-638.92	-5,433.35	1,898.41	1,838.97	59.43	31.942		
8,700.00	4,724.32	3,535.00	3,564.86	49.69	68.01	-27.707	-638.92	-5,433.35	1,861.96	1,802.22	59.75	31.164		
8,750.00	4,723.58	3,535.00	3,564.86	50.22	68.01	-27.707	-638.92	-5,433.35	1,826.16	1,766.10	60.06	30.405		
8,800.00	4,722.84	3,535.00	3,564.86	50.75	68.01	-27.707	-638.92	-5,433.35	1,791.04	1,730.67	60.37	29.665		
8,850.00	4,722.10	3,535.00	3,564.86	51.28	68.01	-27.707	-638.92	-5,433.35	1,756.64	1,695.95	60.69	28.945		
8,900.00	4,721.35	3,535.00	3,564.86	51.81	68.01	-27.707	-638.92	-5,433.35	1,723.01	1,662.00	61.00	28.244		
8,950.00	4,720.61	3,535.00	3,564.86	52.34	68.01	-27.707	-638.92	-5,433.35	1,690.18	1,628.86	61.32	27.564		
9,000.00	4,719.87	3,535.00	3,564.86	52.87	68.01	-27.707	-638.92	-5,433.35	1,658.22	1,596.58	61.63	26.904		
9,050.00	4,719.12	3,535.00	3,564.86	53.41	68.01	-27.707	-638.92	-5,433.35	1,627.16	1,565.21	61.95	26.266		
9,100.00	4,718.38	3,535.00	3,564.86	53.94	68.01	-27.707	-638.92	-5,433.35	1,597.06	1,534.80	62.27	25.649		
9,150.00	4,717.64	3,535.00	3,564.86	54.47	68.01	-27.707	-638.92	-5,433.35	1,567.98	1,505.40	62.58	25.055		
9,200.00	4,716.90	3,535.00	3,564.86	55.01	68.01	-27.707	-638.92	-5,433.35	1,539.98	1,477.08	62.90	24.484		
9,250.00	4,716.15	3,535.00	3,564.86	55.54	68.01	-27.707	-638.92	-5,433.35	1,513.11	1,449.89	63.21	23.936		
9,300.00	4,715.41	3,535.00	3,564.86	56.08	68.01	-27.707	-638.92	-5,433.35	1,487.43	1,423.90	63.53	23.413		
9,350.00	4,714.67	3,535.00	3,564.86	56.62	68.01	-27.707	-638.92	-5,433.35	1,463.02	1,399.17	63.85	22.914		
9,400.00	4,713.92	3,535.00	3,564.86	57.15	68.01	-27.707	-638.92	-5,433.35	1,439.92	1,375.76	64.16	22.441		
9,450.00	4,713.18	3,535.00	3,564.86	57.69	68.01	-27.707	-638.92	-5,433.35	1,418.22	1,353.74	64.48	21.994		
9,500.00	4,712.44	3,535.00	3,564.86	58.23	68.01	-27.707	-638.92	-5,433.35	1,397.96	1,333.17	64.80	21.574		
9,550.00	4,711.70	3,535.00	3,564.86	58.77	68.01	-27.707	-638.92	-5,433.35	1,379.23	1,314.11	65.12	21.181		
9,600.00	4,710.95	3,535.00	3,564.86	59.30	68.01	-27.707	-638.92	-5,433.35	1,362.07	1,296.64	65.43	20.816		
9,650.00	4,710.21	3,535.00	3,564.86	59.84	68.01	-27.707	-638.92	-5,433.35	1,346.55	1,280.80	65.75	20.480		
9,700.00	4,709.47	3,535.00	3,564.86	60.38	68.01	-27.707	-638.92	-5,433.35	1,332.72	1,266.66	66.07	20.172		
9,750.00	4,708.72	3,535.00	3,564.86	60.92	68.01	-27.707	-638.92	-5,433.35	1,320.65	1,254.26	66.39	19.893		
9,800.00	4,707.98	3,535.00	3,564.86	61.46	68.01	-27.707	-638.92	-5,433.35	1,310.37	1,243.67	66.71	19.644		
9,850.00	4,707.24	3,535.00	3,564.86	62.00	68.01	-27.707	-638.92	-5,433.35	1,301.94	1,234.91	67.02	19.425		
9,900.00	4,706.50	3,535.00	3,564.86	62.55	68.01	-27.707	-638.92	-5,433.35	1,295.38	1,228.04	67.34	19.236		
9,950.00	4,705.75	3,535.00	3,564.86	63.09	68.01	-27.707	-638.92	-5,433.35	1,290.72	1,223.06	67.66	19.076		
10,000.00	4,705.01	3,535.00	3,564.86	63.63	68.01	-27.707	-638.92	-5,433.35	1,287.99	1,220.01	67.98	18.947		
10,045.38	4,704.34	3,535.00	3,564.86	64.12	68.01	-27.707	-638.92	-5,433.35	1,287.19	1,218.92	68.27	18.855 CC		

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: TIGNER STATE 2 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 380-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,050.00	4,704.27	3,535.00	3,564.86	64.17	68.01	-27.707	-638.92	-5,433.35	1,287.20	1,218.90	68.30	18.847	ES
10,100.00	4,703.52	3,535.00	3,564.86	64.71	68.01	-27.707	-638.92	-5,433.35	1,288.35	1,219.73	68.62	18.776	
10,150.00	4,702.78	3,535.00	3,564.86	65.26	68.01	-27.707	-638.92	-5,433.35	1,291.44	1,222.50	68.94	18.734	
10,200.00	4,702.04	3,535.00	3,564.86	65.80	68.01	-27.707	-638.92	-5,433.35	1,296.45	1,227.19	69.26	18.720	SF
10,250.00	4,701.29	3,535.00	3,564.86	66.34	68.01	-27.707	-638.92	-5,433.35	1,303.36	1,233.78	69.58	18.733	
10,287.12	4,700.74	3,535.00	3,564.86	66.75	68.01	-27.707	-638.92	-5,433.35	1,309.70	1,239.89	69.81	18.760	
10,300.00	4,700.55	3,535.00	3,564.86	66.89	68.01	-27.707	-638.92	-5,433.35	1,312.14	1,242.24	69.90	18.773	
10,337.14	4,700.00	3,535.00	3,564.86	67.29	68.01	-27.707	-638.92	-5,433.35	1,319.85	1,249.71	70.13	18.819	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: TIGNER STATE 3 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 380-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,050.00	4,719.12	3,665.00	3,716.55	53.41	71.24	3.572	20.36	-5,475.90	1,420.38	1,394.39	26.00	54.637	
9,100.00	4,718.38	3,665.00	3,716.55	53.94	71.24	3.572	20.36	-5,475.90	1,384.95	1,358.72	26.23	52.809	
9,150.00	4,717.64	3,665.00	3,716.55	54.47	71.24	3.572	20.36	-5,475.90	1,350.44	1,323.98	26.45	51.048	
9,200.00	4,716.90	3,665.00	3,716.55	55.01	71.24	3.572	20.36	-5,475.90	1,316.92	1,290.24	26.68	49.354	
9,250.00	4,716.15	3,665.00	3,716.55	55.54	71.24	3.572	20.36	-5,475.90	1,284.47	1,257.56	26.91	47.729	
9,300.00	4,715.41	3,665.00	3,716.55	56.08	71.24	3.572	20.36	-5,475.90	1,253.18	1,226.04	27.14	46.173	
9,350.00	4,714.67	3,665.00	3,716.55	56.62	71.24	3.572	20.36	-5,475.90	1,223.14	1,195.77	27.37	44.689	
9,400.00	4,713.92	3,665.00	3,716.55	57.15	71.24	3.572	20.36	-5,475.90	1,194.43	1,166.83	27.60	43.278	
9,450.00	4,713.18	3,665.00	3,716.55	57.69	71.24	3.572	20.36	-5,475.90	1,167.16	1,139.33	27.83	41.942	
9,500.00	4,712.44	3,665.00	3,716.55	58.23	71.24	3.572	20.36	-5,475.90	1,141.43	1,113.37	28.06	40.683	
9,550.00	4,711.70	3,665.00	3,716.55	58.77	71.24	3.572	20.36	-5,475.90	1,117.34	1,089.05	28.29	39.502	
9,600.00	4,710.95	3,665.00	3,716.55	59.30	71.24	3.572	20.36	-5,475.90	1,095.01	1,066.49	28.51	38.402	
9,650.00	4,710.21	3,665.00	3,716.55	59.84	71.24	3.572	20.36	-5,475.90	1,074.54	1,045.80	28.74	37.384	
9,700.00	4,709.47	3,665.00	3,716.55	60.38	71.24	3.572	20.36	-5,475.90	1,056.05	1,027.07	28.97	36.450	
9,750.00	4,708.72	3,665.00	3,716.55	60.92	71.24	3.572	20.36	-5,475.90	1,039.63	1,010.43	29.20	35.601	
9,800.00	4,707.98	3,665.00	3,716.55	61.46	71.24	3.572	20.36	-5,475.90	1,025.39	995.96	29.43	34.841	
9,850.00	4,707.24	3,665.00	3,716.55	62.00	71.24	3.572	20.36	-5,475.90	1,013.42	983.76	29.66	34.168	
9,900.00	4,706.50	3,665.00	3,716.55	62.55	71.24	3.572	20.36	-5,475.90	1,003.80	973.91	29.89	33.584	
9,950.00	4,705.75	3,665.00	3,716.55	63.09	71.24	3.572	20.36	-5,475.90	996.60	966.48	30.12	33.089	
10,000.00	4,705.01	3,665.00	3,716.55	63.63	71.24	3.572	20.36	-5,475.90	991.87	961.52	30.35	32.684	
10,050.00	4,704.27	3,665.00	3,716.55	64.17	71.24	3.572	20.36	-5,475.90	989.65	959.07	30.58	32.366	
10,069.04	4,703.98	3,665.00	3,716.55	64.38	71.24	3.572	20.36	-5,475.90	989.47	958.80	30.66	32.268	CC, ES
10,100.00	4,703.52	3,665.00	3,716.55	64.71	71.24	3.572	20.36	-5,475.90	989.95	959.14	30.81	32.135	
10,150.00	4,702.78	3,665.00	3,716.55	65.26	71.24	3.572	20.36	-5,475.90	992.77	961.74	31.04	31.988	
10,200.00	4,702.04	3,665.00	3,716.55	65.80	71.24	3.572	20.36	-5,475.90	998.09	966.83	31.26	31.924	SF
10,250.00	4,701.29	3,665.00	3,716.55	66.34	71.24	3.572	20.36	-5,475.90	1,005.88	974.38	31.49	31.939	
10,287.12	4,700.74	3,665.00	3,716.55	66.75	71.24	3.572	20.36	-5,475.90	1,013.21	981.55	31.66	31.999	
10,300.00	4,700.55	3,665.00	3,716.55	66.89	71.24	3.572	20.36	-5,475.90	1,016.06	984.34	31.72	32.029	
10,337.14	4,700.00	3,665.00	3,716.55	67.29	71.24	3.572	20.36	-5,475.90	1,025.14	993.25	31.89	32.143	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: TIGNER STATE 4 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 380-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis					Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
6,950.00	4,750.33	3,660.00	3,678.85	31.92	71.03	-27.489	-563.41	-4,822.28	2,741.49	2,691.35	50.13	54.682	
7,000.00	4,749.58	3,660.00	3,678.85	32.39	71.03	-27.489	-563.41	-4,822.28	2,696.33	2,645.90	50.43	53.471	
7,050.00	4,748.84	3,660.00	3,678.85	32.87	71.03	-27.489	-563.41	-4,822.28	2,651.33	2,600.61	50.72	52.274	
7,100.00	4,748.10	3,660.00	3,678.85	33.35	71.03	-27.489	-563.41	-4,822.28	2,606.53	2,555.51	51.01	51.095	
7,150.00	4,747.35	3,660.00	3,678.85	33.84	71.03	-27.489	-563.41	-4,822.28	2,561.91	2,510.60	51.31	49.931	
7,200.00	4,746.61	3,660.00	3,678.85	34.33	71.03	-27.489	-563.41	-4,822.28	2,517.49	2,465.89	51.61	48.784	
7,250.00	4,745.87	3,660.00	3,678.85	34.82	71.03	-27.489	-563.41	-4,822.28	2,473.29	2,421.39	51.90	47.652	
7,300.00	4,745.13	3,660.00	3,678.85	35.31	71.03	-27.489	-563.41	-4,822.28	2,429.32	2,377.12	52.20	46.538	
7,350.00	4,744.38	3,660.00	3,678.85	35.80	71.03	-27.489	-563.41	-4,822.28	2,385.58	2,333.08	52.50	45.440	
7,400.00	4,743.64	3,660.00	3,678.85	36.30	71.03	-27.489	-563.41	-4,822.28	2,342.09	2,289.29	52.80	44.359	
7,450.00	4,742.90	3,660.00	3,678.85	36.80	71.03	-27.489	-563.41	-4,822.28	2,298.87	2,245.77	53.10	43.293	
7,500.00	4,742.15	3,660.00	3,678.85	37.29	71.03	-27.489	-563.41	-4,822.28	2,255.92	2,202.52	53.40	42.245	
7,550.00	4,741.41	3,660.00	3,678.85	37.80	71.03	-27.489	-563.41	-4,822.28	2,213.28	2,159.57	53.70	41.213	
7,600.00	4,740.67	3,660.00	3,678.85	38.30	71.03	-27.489	-563.41	-4,822.28	2,170.94	2,116.94	54.01	40.199	
7,650.00	4,739.93	3,660.00	3,678.85	38.80	71.03	-27.489	-563.41	-4,822.28	2,128.94	2,074.64	54.31	39.200	
7,700.00	4,739.18	3,660.00	3,678.85	39.31	71.03	-27.489	-563.41	-4,822.28	2,087.30	2,032.68	54.61	38.220	
7,750.00	4,738.44	3,660.00	3,678.85	39.82	71.03	-27.489	-563.41	-4,822.28	2,046.02	1,991.11	54.92	37.256	
7,800.00	4,737.70	3,660.00	3,678.85	40.33	71.03	-27.489	-563.41	-4,822.28	2,005.15	1,949.92	55.22	36.310	
7,850.00	4,736.95	3,660.00	3,678.85	40.84	71.03	-27.489	-563.41	-4,822.28	1,964.69	1,909.16	55.53	35.382	
7,900.00	4,736.21	3,660.00	3,678.85	41.35	71.03	-27.489	-563.41	-4,822.28	1,924.69	1,868.85	55.83	34.471	
7,950.00	4,735.47	3,660.00	3,678.85	41.86	71.03	-27.489	-563.41	-4,822.28	1,885.16	1,829.02	56.14	33.579	
8,000.00	4,734.72	3,660.00	3,678.85	42.38	71.03	-27.489	-563.41	-4,822.28	1,846.14	1,789.69	56.45	32.705	
8,050.00	4,733.98	3,660.00	3,678.85	42.89	71.03	-27.489	-563.41	-4,822.28	1,807.66	1,750.90	56.76	31.849	
8,100.00	4,733.24	3,660.00	3,678.85	43.41	71.03	-27.489	-563.41	-4,822.28	1,769.75	1,712.69	57.06	31.013	
8,150.00	4,732.50	3,660.00	3,678.85	43.93	71.03	-27.489	-563.41	-4,822.28	1,732.46	1,675.09	57.37	30.196	
8,200.00	4,731.75	3,660.00	3,678.85	44.45	71.03	-27.489	-563.41	-4,822.28	1,695.83	1,638.15	57.68	29.400	
8,250.00	4,731.01	3,660.00	3,678.85	44.97	71.03	-27.489	-563.41	-4,822.28	1,659.89	1,601.90	57.99	28.623	
8,300.00	4,730.27	3,660.00	3,678.85	45.49	71.03	-27.489	-563.41	-4,822.28	1,624.70	1,566.40	58.30	27.867	
8,350.00	4,729.52	3,660.00	3,678.85	46.01	71.03	-27.489	-563.41	-4,822.28	1,590.30	1,531.68	58.61	27.133	
8,400.00	4,728.78	3,660.00	3,678.85	46.53	71.03	-27.489	-563.41	-4,822.28	1,556.74	1,497.82	58.92	26.420	
8,450.00	4,728.04	3,660.00	3,678.85	47.06	71.03	-27.489	-563.41	-4,822.28	1,524.09	1,464.86	59.23	25.730	
8,500.00	4,727.30	3,660.00	3,678.85	47.58	71.03	-27.489	-563.41	-4,822.28	1,492.40	1,432.85	59.54	25.064	
8,550.00	4,726.55	3,660.00	3,678.85	48.11	71.03	-27.489	-563.41	-4,822.28	1,461.73	1,401.87	59.86	24.421	
8,600.00	4,725.81	3,660.00	3,678.85	48.63	71.03	-27.489	-563.41	-4,822.28	1,432.15	1,371.98	60.17	23.803	
8,650.00	4,725.07	3,660.00	3,678.85	49.16	71.03	-27.489	-563.41	-4,822.28	1,403.73	1,343.25	60.48	23.210	
8,700.00	4,724.32	3,660.00	3,678.85	49.69	71.03	-27.489	-563.41	-4,822.28	1,376.54	1,315.75	60.79	22.643	
8,750.00	4,723.58	3,660.00	3,678.85	50.22	71.03	-27.489	-563.41	-4,822.28	1,350.65	1,289.55	61.11	22.104	
8,800.00	4,722.84	3,660.00	3,678.85	50.75	71.03	-27.489	-563.41	-4,822.28	1,326.15	1,264.73	61.42	21.592	
8,850.00	4,722.10	3,660.00	3,678.85	51.28	71.03	-27.489	-563.41	-4,822.28	1,303.10	1,241.37	61.73	21.109	
8,900.00	4,721.35	3,660.00	3,678.85	51.81	71.03	-27.489	-563.41	-4,822.28	1,281.59	1,219.54	62.05	20.656	
8,950.00	4,720.61	3,660.00	3,678.85	52.34	71.03	-27.489	-563.41	-4,822.28	1,261.69	1,199.34	62.36	20.233	
9,000.00	4,719.87	3,660.00	3,678.85	52.87	71.03	-27.489	-563.41	-4,822.28	1,243.49	1,180.82	62.67	19.841	
9,050.00	4,719.12	3,660.00	3,678.85	53.41	71.03	-27.489	-563.41	-4,822.28	1,227.06	1,164.07	62.99	19.481	
9,100.00	4,718.38	3,660.00	3,678.85	53.94	71.03	-27.489	-563.41	-4,822.28	1,212.47	1,149.17	63.30	19.154	
9,150.00	4,717.64	3,660.00	3,678.85	54.47	71.03	-27.489	-563.41	-4,822.28	1,199.79	1,136.17	63.62	18.860	
9,200.00	4,716.90	3,660.00	3,678.85	55.01	71.03	-27.489	-563.41	-4,822.28	1,189.07	1,125.14	63.93	18.599	
9,250.00	4,716.15	3,660.00	3,678.85	55.54	71.03	-27.489	-563.41	-4,822.28	1,180.38	1,116.13	64.25	18.373	
9,300.00	4,715.41	3,660.00	3,678.85	56.08	71.03	-27.489	-563.41	-4,822.28	1,173.75	1,109.19	64.56	18.180	
9,350.00	4,714.67	3,660.00	3,678.85	56.62	71.03	-27.489	-563.41	-4,822.28	1,169.23	1,104.35	64.88	18.022	
9,400.00	4,713.92	3,660.00	3,678.85	57.15	71.03	-27.489	-563.41	-4,822.28	1,166.83	1,101.64	65.19	17.898	
9,430.97	4,713.46	3,660.00	3,678.85	57.49	71.03	-27.489	-563.41	-4,822.28	1,166.42	1,101.03	65.39	17.838 CC, ES	
9,450.00	4,713.18	3,660.00	3,678.85	57.69	71.03	-27.489	-563.41	-4,822.28	1,166.58	1,101.07	65.51	17.808	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - OFFSET: TIGNER STATE 4 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 380-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,500.00	4,712.44	3,660.00	3,678.85	58.23	71.03	-27.489	-563.41	-4,822.28	1,168.46	1,102.64	65.83	17.751	
9,550.00	4,711.70	3,660.00	3,678.85	58.77	71.03	-27.489	-563.41	-4,822.28	1,172.48	1,106.34	66.14	17.727 SF	
9,600.00	4,710.95	3,660.00	3,678.85	59.30	71.03	-27.489	-563.41	-4,822.28	1,178.60	1,112.15	66.46	17.735	
9,650.00	4,710.21	3,660.00	3,678.85	59.84	71.03	-27.489	-563.41	-4,822.28	1,186.81	1,120.03	66.77	17.773	
9,700.00	4,709.47	3,660.00	3,678.85	60.38	71.03	-27.489	-563.41	-4,822.28	1,197.04	1,129.95	67.09	17.842	
9,750.00	4,708.72	3,660.00	3,678.85	60.92	71.03	-27.489	-563.41	-4,822.28	1,209.26	1,141.85	67.41	17.939	
9,800.00	4,707.98	3,660.00	3,678.85	61.46	71.03	-27.489	-563.41	-4,822.28	1,223.40	1,155.68	67.73	18.064	
9,850.00	4,707.24	3,660.00	3,678.85	62.00	71.03	-27.489	-563.41	-4,822.28	1,239.40	1,171.36	68.04	18.215	
9,900.00	4,706.50	3,660.00	3,678.85	62.55	71.03	-27.489	-563.41	-4,822.28	1,257.19	1,188.83	68.36	18.391	
9,950.00	4,705.75	3,660.00	3,678.85	63.09	71.03	-27.489	-563.41	-4,822.28	1,276.69	1,208.01	68.68	18.590	
10,000.00	4,705.01	3,660.00	3,678.85	63.63	71.03	-27.489	-563.41	-4,822.28	1,297.82	1,228.82	69.00	18.810	
10,050.00	4,704.27	3,660.00	3,678.85	64.17	71.03	-27.489	-563.41	-4,822.28	1,320.50	1,251.19	69.31	19.051	
10,100.00	4,703.52	3,660.00	3,678.85	64.71	71.03	-27.489	-563.41	-4,822.28	1,344.67	1,275.04	69.63	19.311	
10,150.00	4,702.78	3,660.00	3,678.85	65.26	71.03	-27.489	-563.41	-4,822.28	1,370.23	1,300.28	69.95	19.589	
10,200.00	4,702.04	3,660.00	3,678.85	65.80	71.03	-27.489	-563.41	-4,822.28	1,397.12	1,326.85	70.27	19.883	
10,250.00	4,701.29	3,660.00	3,678.85	66.34	71.03	-27.489	-563.41	-4,822.28	1,425.25	1,354.67	70.59	20.192	
10,287.12	4,700.74	3,660.00	3,678.85	66.75	71.03	-27.489	-563.41	-4,822.28	1,446.90	1,376.08	70.82	20.430	
10,300.00	4,700.55	3,660.00	3,678.85	66.89	71.03	-27.489	-563.41	-4,822.28	1,454.56	1,383.66	70.90	20.515	
10,337.14	4,700.00	3,660.00	3,678.85	67.29	71.03	-27.489	-563.41	-4,822.28	1,477.05	1,405.91	71.14	20.763	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - SA 10H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
200.00	200.00	200.00	200.00	0.50	0.50	-158.942	-37.40	-14.40	40.08	39.07	1.00	39.928	
250.00	250.00	250.00	250.00	0.68	0.68	-158.942	-37.40	-14.40	40.08	38.71	1.36	29.421	
300.00	300.00	300.00	300.00	0.86	0.86	-158.942	-37.40	-14.40	40.08	38.36	1.72	23.291 CC, ES	
350.00	350.00	349.73	349.73	1.04	1.03	131.658	-37.70	-14.09	40.53	38.46	2.07	19.563	
400.00	399.98	399.43	399.41	1.21	1.20	131.333	-38.59	-13.15	41.90	39.48	2.43	17.274	
450.00	449.93	449.09	449.02	1.39	1.38	130.834	-40.07	-11.59	44.19	41.41	2.78	15.898	
500.00	499.84	498.67	498.51	1.57	1.55	130.214	-42.14	-9.41	47.39	44.26	3.13	15.127	
515.30	515.09	513.81	513.61	1.63	1.60	130.009	-42.89	-8.62	48.55	45.31	3.24	14.975	
550.00	549.70	548.15	547.84	1.75	1.72	129.392	-44.80	-6.61	51.37	47.89	3.48	14.745	
600.00	599.56	597.54	597.01	1.93	1.90	127.941	-48.03	-3.20	55.76	51.93	3.83	14.550	
650.00	649.42	646.81	645.97	2.11	2.07	125.989	-51.84	0.81	60.59	56.40	4.18	14.478 SF	
700.00	699.28	695.93	694.68	2.28	2.25	123.688	-56.21	5.41	65.90	61.36	4.54	14.527	
750.00	749.13	744.88	743.09	2.46	2.42	121.168	-61.14	10.60	71.76	66.87	4.89	14.673	
800.00	798.99	793.62	791.18	2.64	2.60	118.533	-66.61	16.36	78.23	72.98	5.24	14.919	
850.00	848.85	842.12	838.89	2.82	2.78	115.866	-72.61	22.69	85.36	79.76	5.60	15.249	
900.00	898.71	890.37	886.20	3.00	2.96	113.234	-79.13	29.56	93.19	87.24	5.95	15.659	
950.00	948.57	938.34	933.07	3.18	3.14	110.681	-86.16	36.96	101.76	95.46	6.30	16.142	
1,000.00	998.43	986.12	979.58	3.36	3.32	108.234	-93.70	44.90	111.09	104.43	6.66	16.687	
1,050.00	1,048.29	1,034.96	1,027.04	3.54	3.51	106.010	-101.62	53.25	120.84	113.83	7.01	17.232	
1,100.00	1,098.15	1,083.80	1,074.51	3.72	3.69	104.118	-109.55	61.59	130.74	123.38	7.37	17.752	
1,150.00	1,148.01	1,132.64	1,121.97	3.90	3.88	102.492	-117.47	69.94	140.76	133.05	7.72	18.239	
1,200.00	1,197.86	1,181.48	1,169.44	4.08	4.07	101.083	-125.39	78.29	150.88	142.81	8.07	18.695	
1,250.00	1,247.72	1,230.32	1,216.90	4.26	4.27	99.850	-133.32	86.63	161.07	152.65	8.42	19.122	
1,300.00	1,297.58	1,279.16	1,264.36	4.44	4.46	98.763	-141.24	94.98	171.33	162.55	8.78	19.521	
1,350.00	1,347.44	1,328.00	1,311.83	4.62	4.65	97.800	-149.17	103.33	181.63	172.50	9.13	19.895	
1,400.00	1,397.30	1,376.84	1,359.29	4.80	4.84	96.939	-157.09	111.67	191.99	182.50	9.48	20.246	
1,450.00	1,447.16	1,425.67	1,406.76	4.98	5.03	96.167	-165.01	120.02	202.38	192.54	9.84	20.574	
1,500.00	1,497.02	1,474.51	1,454.22	5.16	5.23	95.470	-172.94	128.37	212.80	202.61	10.19	20.883	
1,550.00	1,546.88	1,523.35	1,501.68	5.34	5.42	94.838	-180.86	136.71	223.24	212.70	10.54	21.174	
1,600.00	1,596.74	1,572.19	1,549.15	5.52	5.61	94.262	-188.79	145.06	233.72	222.82	10.90	21.447	
1,650.00	1,646.59	1,623.02	1,598.59	5.70	5.81	93.770	-197.03	153.51	244.14	232.88	11.26	21.687	
1,700.00	1,696.45	1,677.67	1,652.16	5.89	6.03	93.910	-205.76	159.74	253.69	242.06	11.63	21.816	
1,750.00	1,746.31	1,732.48	1,706.22	6.07	6.23	94.804	-214.34	162.34	262.17	250.17	12.00	21.849	
1,800.00	1,796.17	1,786.95	1,760.04	6.25	6.42	96.370	-222.65	161.29	269.71	257.34	12.37	21.811	
1,850.00	1,846.03	1,840.62	1,812.91	6.43	6.60	98.525	-230.58	156.74	276.53	263.80	12.73	21.727	
1,900.00	1,895.89	1,893.06	1,864.21	6.61	6.77	101.180	-238.05	148.91	282.94	269.86	13.08	21.628	
1,950.00	1,945.75	1,943.89	1,913.40	6.79	6.93	104.242	-245.01	138.19	289.34	275.91	13.43	21.544	
2,000.00	1,995.61	1,992.82	1,960.06	6.97	7.08	107.608	-251.42	124.97	296.14	282.37	13.77	21.505	
2,050.00	2,045.47	2,039.62	2,003.92	7.15	7.22	111.173	-257.25	109.73	303.77	289.67	14.10	21.539	
2,100.00	2,095.32	2,084.15	2,044.80	7.33	7.34	114.835	-262.52	92.90	312.67	298.24	14.43	21.670	
2,150.00	2,145.18	2,126.31	2,082.65	7.51	7.46	118.501	-267.25	74.93	323.20	308.45	14.75	21.919	
2,200.00	2,195.04	2,166.10	2,117.49	7.69	7.56	122.092	-271.46	56.20	335.66	320.60	15.05	22.298	
2,250.00	2,244.90	2,203.52	2,149.42	7.87	7.66	125.546	-275.19	37.04	350.27	334.92	15.35	22.817	
2,300.00	2,294.76	2,238.65	2,178.59	8.05	7.74	128.819	-278.48	17.75	367.18	351.53	15.64	23.474	
2,350.00	2,344.62	2,271.57	2,205.17	8.23	7.82	131.885	-281.37	-1.46	386.41	370.48	15.92	24.268	
2,400.00	2,394.48	2,300.00	2,227.49	8.41	7.89	134.511	-283.71	-18.89	407.95	391.76	16.19	25.201	
2,450.00	2,444.34	2,331.22	2,251.31	8.59	7.96	137.354	-286.12	-38.92	431.69	415.23	16.46	26.229	
2,500.00	2,494.20	2,358.18	2,271.27	8.78	8.01	139.763	-288.06	-56.94	457.54	440.83	16.71	27.375	
2,550.00	2,544.05	2,383.39	2,289.40	8.96	8.07	141.966	-289.76	-74.38	485.35	468.39	16.96	28.613	
2,600.00	2,593.91	2,400.00	2,301.06	9.14	8.12	143.388	-290.81	-86.17	515.02	497.84	17.19	29.965	
2,650.00	2,643.77	2,429.07	2,320.88	9.32	8.23	145.816	-292.52	-107.36	546.22	528.77	17.44	31.316	
2,700.00	2,693.63	2,450.00	2,334.68	9.50	8.31	147.513	-293.65	-123.05	578.97	561.30	17.67	32.761	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design WELCH CD 28 STATE COM - SA 10H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis			Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
2,750.00	2,743.49	2,469.15	2,346.97	9.68	8.39	149.026	-294.62	-137.71	613.09	595.19	17.90	34.252	
2,800.00	2,793.35	2,487.35	2,358.33	9.86	8.47	150.427	-295.46	-151.90	648.43	630.31	18.12	35.783	
2,850.00	2,843.21	2,500.00	2,366.04	10.04	8.53	151.379	-296.02	-161.91	684.91	666.58	18.33	37.372	
2,900.00	2,893.07	2,520.52	2,378.22	10.22	8.62	152.887	-296.84	-178.40	722.34	703.79	18.55	38.936	
2,950.00	2,942.93	2,535.65	2,386.95	10.40	8.69	153.968	-297.40	-190.76	760.70	741.94	18.76	40.544	
3,000.00	2,992.78	2,550.00	2,395.01	10.58	8.76	154.970	-297.89	-202.61	799.88	780.91	18.97	42.168	
3,050.00	3,042.64	2,563.37	2,402.33	10.76	8.83	155.883	-298.31	-213.79	839.80	820.62	19.18	43.796	
3,100.00	3,092.50	2,576.08	2,409.13	10.94	8.89	156.733	-298.67	-224.52	880.39	861.01	19.38	45.431	
3,150.00	3,142.36	2,588.09	2,415.41	11.12	8.95	157.520	-298.98	-234.76	921.60	902.02	19.58	47.070	
3,200.00	3,192.22	2,603.61	2,423.29	11.30	9.03	158.513	-299.35	-248.12	963.38	943.59	19.78	48.694	
3,250.00	3,242.08	2,617.21	2,430.09	11.49	9.10	159.356	-299.64	-259.90	1,005.58	985.60	19.99	50.309	
3,300.00	3,291.94	2,639.07	2,441.02	11.67	9.23	160.651	-300.12	-278.82	1,048.05	1,027.85	20.20	51.873	
3,350.00	3,341.80	2,660.93	2,451.95	11.85	9.35	161.874	-300.59	-297.75	1,090.72	1,070.30	20.42	53.423	
3,400.00	3,391.66	2,682.79	2,462.88	12.03	9.47	163.032	-301.07	-316.67	1,133.57	1,112.94	20.63	54.958	
8,650.00	4,725.07	6,429.16	2,555.76	49.16	46.31	-10.178	-394.54	-4,031.86	2,204.19	2,164.00	40.19	54.845	
8,700.00	4,724.32	6,479.16	2,555.09	49.69	46.86	-10.179	-395.80	-4,081.84	2,204.12	2,163.45	40.67	54.196	
8,750.00	4,723.58	6,529.16	2,554.42	50.22	47.41	-10.179	-397.06	-4,131.82	2,204.04	2,162.89	41.15	53.562	
8,800.00	4,722.84	6,579.16	2,553.76	50.75	47.96	-10.179	-398.32	-4,181.80	2,203.97	2,162.34	41.63	52.943	
8,850.00	4,722.10	6,629.16	2,553.09	51.28	48.52	-10.180	-399.57	-4,231.78	2,203.89	2,161.78	42.11	52.337	
8,900.00	4,721.35	6,679.16	2,552.42	51.81	49.07	-10.180	-400.83	-4,281.76	2,203.82	2,161.23	42.59	51.745	
8,950.00	4,720.61	6,729.16	2,551.76	52.34	49.62	-10.180	-402.09	-4,331.74	2,203.74	2,160.67	43.07	51.167	
9,000.00	4,719.87	6,779.16	2,551.09	52.87	50.17	-10.180	-403.35	-4,381.72	2,203.67	2,160.12	43.55	50.600	
9,050.00	4,719.12	6,829.16	2,550.42	53.41	50.72	-10.181	-404.60	-4,431.70	2,203.59	2,159.56	44.03	50.046	
9,084.94	4,718.61	6,860.77	2,550.00	53.78	51.07	-10.181	-405.40	-4,463.30	2,203.54	2,159.19	44.35	49.684	
9,100.00	4,718.38	6,860.77	2,550.00	53.94	51.07	-10.181	-405.40	-4,463.30	2,203.59	2,159.17	44.42	49.605	
9,150.00	4,717.64	6,860.77	2,550.00	54.47	51.07	-10.181	-405.40	-4,463.30	2,204.50	2,159.84	44.66	49.358	
9,200.00	4,716.90	6,860.77	2,550.00	55.01	51.07	-10.181	-405.40	-4,463.30	2,206.54	2,161.64	44.90	49.139	
9,250.00	4,716.15	6,860.77	2,550.00	55.54	51.07	-10.181	-405.40	-4,463.30	2,209.71	2,164.57	45.14	48.948	
9,300.00	4,715.41	6,860.77	2,550.00	56.08	51.07	-10.181	-405.40	-4,463.30	2,214.01	2,168.63	45.38	48.784	
9,350.00	4,714.67	6,860.77	2,550.00	56.62	51.07	-10.181	-405.40	-4,463.30	2,219.42	2,173.80	45.62	48.645	
9,400.00	4,713.92	6,860.77	2,550.00	57.15	51.07	-10.181	-405.40	-4,463.30	2,225.95	2,180.08	45.87	48.532	
9,450.00	4,713.18	6,860.77	2,550.00	57.69	51.07	-10.181	-405.40	-4,463.30	2,233.58	2,187.47	46.11	48.445	
9,500.00	4,712.44	6,860.77	2,550.00	58.23	51.07	-10.181	-405.40	-4,463.30	2,242.29	2,195.94	46.35	48.381	
9,550.00	4,711.70	6,860.77	2,550.00	58.77	51.07	-10.181	-405.40	-4,463.30	2,252.08	2,205.49	46.59	48.342	
9,600.00	4,710.95	6,860.77	2,550.00	59.30	51.07	-10.181	-405.40	-4,463.30	2,262.94	2,216.11	46.83	48.325	
9,650.00	4,710.21	6,860.77	2,550.00	59.84	51.07	-10.181	-405.40	-4,463.30	2,274.84	2,227.77	47.07	48.331	
9,700.00	4,709.47	6,860.77	2,550.00	60.38	51.07	-10.181	-405.40	-4,463.30	2,287.77	2,240.46	47.31	48.358	
9,750.00	4,708.72	6,860.77	2,550.00	60.92	51.07	-10.181	-405.40	-4,463.30	2,301.72	2,254.17	47.55	48.407	
9,800.00	4,707.98	6,860.77	2,550.00	61.46	51.07	-10.181	-405.40	-4,463.30	2,316.66	2,268.87	47.79	48.475	
9,850.00	4,707.24	6,860.77	2,550.00	62.00	51.07	-10.181	-405.40	-4,463.30	2,332.58	2,284.54	48.03	48.564	
9,900.00	4,706.50	6,860.77	2,550.00	62.55	51.07	-10.181	-405.40	-4,463.30	2,349.45	2,301.18	48.27	48.671	
9,950.00	4,705.75	6,860.77	2,550.00	63.09	51.07	-10.181	-405.40	-4,463.30	2,367.26	2,318.75	48.51	48.796	
10,000.00	4,705.01	6,860.77	2,550.00	63.63	51.07	-10.181	-405.40	-4,463.30	2,385.99	2,337.23	48.75	48.939	
10,050.00	4,704.27	6,860.77	2,550.00	64.17	51.07	-10.181	-405.40	-4,463.30	2,405.60	2,356.61	48.99	49.099	
10,100.00	4,703.52	6,860.77	2,550.00	64.71	51.07	-10.181	-405.40	-4,463.30	2,426.10	2,376.86	49.24	49.275	
10,150.00	4,702.78	6,860.77	2,550.00	65.26	51.07	-10.181	-405.40	-4,463.30	2,447.44	2,397.96	49.48	49.466	
10,200.00	4,702.04	6,860.77	2,550.00	65.80	51.07	-10.181	-405.40	-4,463.30	2,469.61	2,419.89	49.72	49.672	
10,250.00	4,701.29	6,860.77	2,550.00	66.34	51.07	-10.181	-405.40	-4,463.30	2,492.58	2,442.62	49.96	49.893	
10,287.12	4,700.74	6,860.77	2,550.00	66.75	51.07	-10.181	-405.40	-4,463.30	2,510.15	2,460.01	50.14	50.065	
10,300.00	4,700.55	6,860.77	2,550.00	66.89	51.07	-10.181	-405.40	-4,463.30	2,516.34	2,466.14	50.20	50.126	
10,337.14	4,700.00	6,860.77	2,550.00	67.29	51.07	-10.181	-405.40	-4,463.30	2,534.48	2,484.10	50.38	50.308	

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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

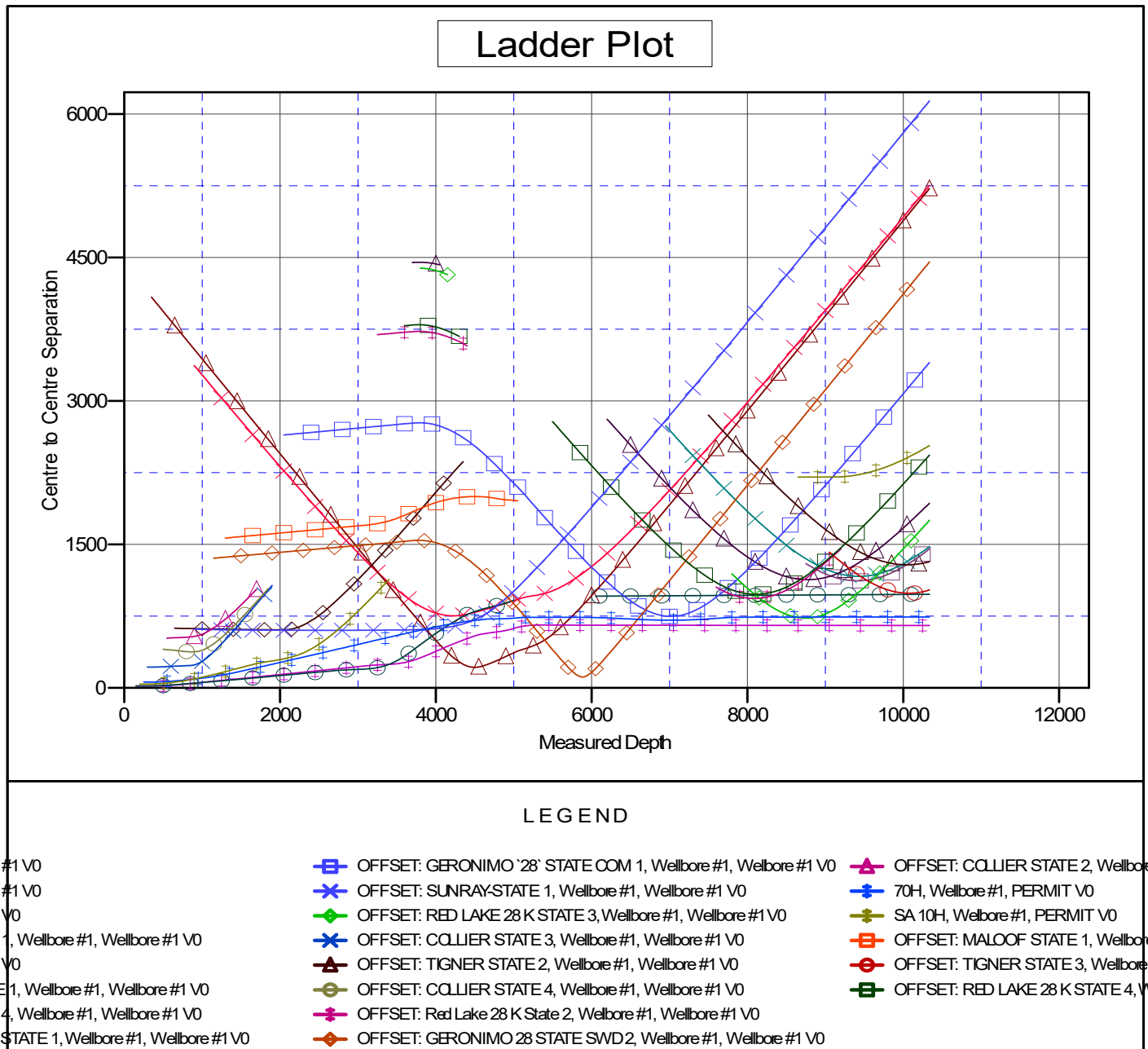
Reference Depths are relative to RKB = 20' @ 3701.00usft (AKITA 57) Coordinates are relative to: 90H

Offset Depths are relative to Offset Datum

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

Central Meridian is -104.3333333

Grid Convergence at Surface is: 0.088°



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 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Reference Site:	WELCH C 28 STATE COM	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Reference Depths are relative to RKB = 20' @ 3701.00usft (AKITA 57) Coordinates are relative to: 90H

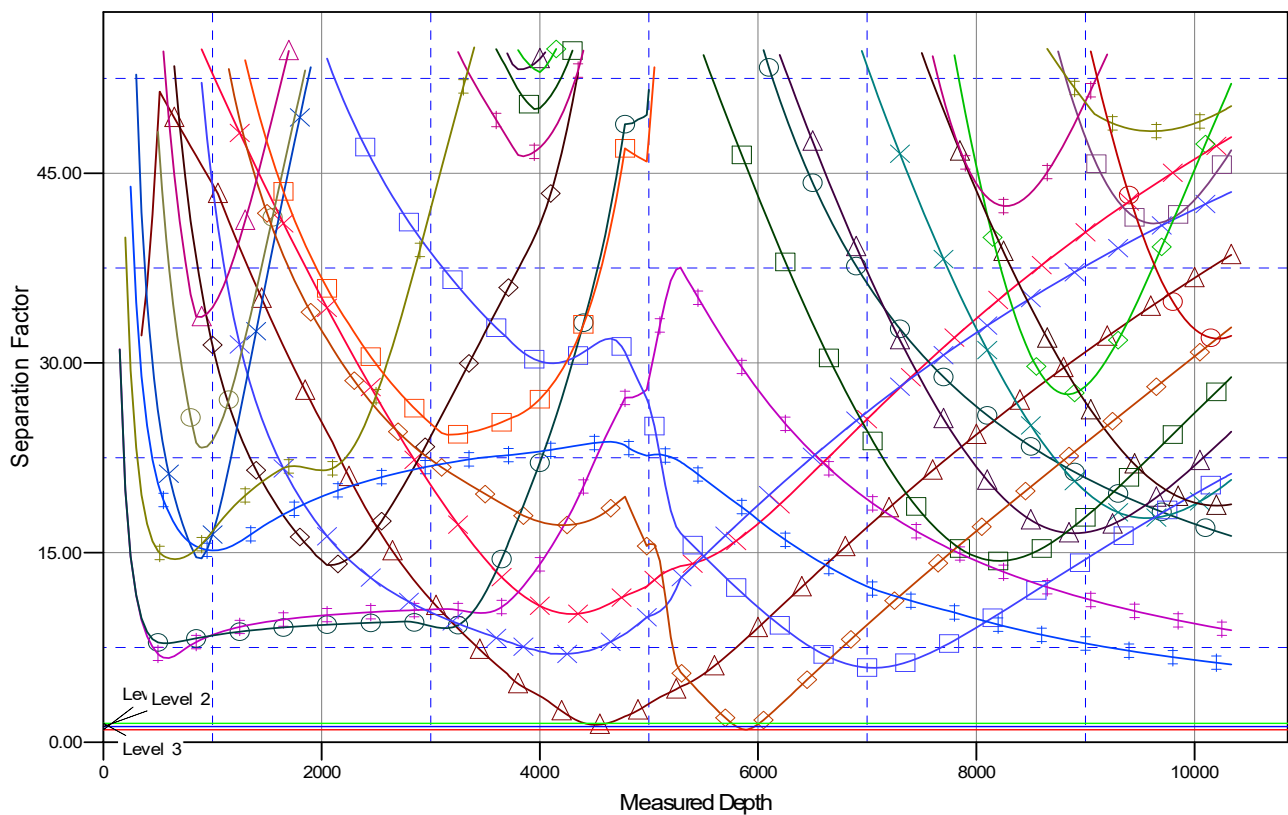
Offset Depths are relative to Offset Datum

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

Central Meridian is -104.3333333

Grid Convergence at Surface is: 0.088°

Separation Factor Plot



LEGEND

e#1 V0	OFFSET: GERONIMO '28' STATE COM 1, Wellbore #1, Wellbore #1 V0	OFFSET: COLLIER STATE 2, Wellbore #1, Wellbore #1 V0
e#1 V0	OFFSET: SUNRAY-STATE 1, Wellbore #1, Wellbore #1 V0	70H, Wellbore #1, PERMIT V0
T V0	OFFSET: RED LAKE 28 K STATE 3, Wellbore #1, Wellbore #1 V0	SA 10H, Wellbore #1, PERMIT V0
E1, Wellbore #1, Wellbore #1 V0	OFFSET: COLLIER STATE 3, Wellbore #1, Wellbore #1 V0	OFFSET: MALOOF STATE 1, Wellbore #1, Wellbore #1 V0
T V0	OFFSET: TIGNER STATE 2, Wellbore #1, Wellbore #1 V0	OFFSET: TIGNER STATE 3, Wellbore #1, Wellbore #1 V0
E1, Wellbore #1, Wellbore #1 V0	OFFSET: COLLIER STATE 4, Wellbore #1, Wellbore #1 V0	OFFSET: RED LAKE 28 K STATE 4, Wellbore #1, Wellbore #1 V0
E4, Wellbore #1, Wellbore #1 V0	OFFSET: Red Lake 28 K State 2, Wellbore #1, Wellbore #1 V0	
< STATE 1, Wellbore #1, Wellbore #1 V0	OFFSET: GERONIMO 28 STATE SWD2, Wellbore #1, Wellbore #1 V0	

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



SPUR ENERGY PARTNERS, LLC

EDDY COUNTY, NM (NAD 83 - NME)

WELCH C 28 STATE COM

90H

Wellbore #1

Plan: PERMIT

Standard Planning Report

13 July, 2023



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well 90H
Company:	SPUR ENERGY PARTNERS, LLC	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Project:	EDDY COUNTY, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site:	WELCH C 28 STATE COM	North Reference:	Grid
Well:	90H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Project	EDDY COUNTY, NM (NAD 83 - NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		WELCH C 28 STATE COM			
Site Position:		Northing:	656,403.00 usft	Latitude:	32.8043760
From:	Map	Easting:	591,376.60 usft	Longitude:	-104.1704729
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.088 °

Well	90H					
Well Position	+N/-S	0.00 usft	Northing:	656,403.00 usft	Latitude:	32.8043760
	+E/-W	0.00 usft	Easting:	591,376.60 usft	Longitude:	-104.1704729
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,681.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	07/12/23	6.627	60.270	47,557

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	268.56	

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	0.000	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.000	
515.30	4.31	69.29	515.09	2.86	7.56	2.00	2.00	0.00	69.287	
3,712.87	4.31	69.29	3,703.64	87.77	232.12	0.00	0.00	0.00	0.000	
4,780.77	60.00	268.56	4,598.30	90.60	-243.25	6.00	5.22	-15.05	-161.472	
4,980.77	60.00	268.56	4,698.30	86.23	-416.40	0.00	0.00	0.00	0.000	
5,289.28	90.85	268.56	4,775.00	78.80	-711.30	10.00	10.00	0.00	0.000	WELCH C 28 STAT
10,287.12	90.85	268.56	4,700.74	-47.14	-5,707.00	0.00	0.00	0.00	0.000	WELCH C 28 STAT
10,337.14	90.85	268.56	4,700.00	-48.40	-5,757.00	0.00	0.00	0.00	0.000	WELCH C 28 STAT



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well 90H
Company:	SPUR ENERGY PARTNERS, LLC	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Project:	EDDY COUNTY, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site:	WELCH C 28 STATE COM	North Reference:	Grid
Well:	90H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/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
WELCH C 28 STATE COM #90H SHL: 2161' FSL, 612' 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	69.29	399.98	0.62	1.63	-1.65	2.00	2.00	0.00
500.00	4.00	69.29	499.84	2.47	6.53	-6.59	2.00	2.00	0.00
515.30	4.31	69.29	515.09	2.86	7.56	-7.63	2.00	2.00	0.00
600.00	4.31	69.29	599.56	5.11	13.51	-13.64	0.00	0.00	0.00
700.00	4.31	69.29	699.28	7.76	20.54	-20.72	0.00	0.00	0.00
800.00	4.31	69.29	798.99	10.42	27.56	-27.81	0.00	0.00	0.00
900.00	4.31	69.29	898.71	13.08	34.58	-34.90	0.00	0.00	0.00
1,000.00	4.31	69.29	998.43	15.73	41.60	-41.99	0.00	0.00	0.00
1,100.00	4.31	69.29	1,098.15	18.39	48.63	-49.07	0.00	0.00	0.00
1,200.00	4.31	69.29	1,197.86	21.04	55.65	-56.16	0.00	0.00	0.00
1,300.00	4.31	69.29	1,297.58	23.70	62.67	-63.25	0.00	0.00	0.00
1,400.00	4.31	69.29	1,397.30	26.35	69.69	-70.34	0.00	0.00	0.00
1,500.00	4.31	69.29	1,497.02	29.01	76.72	-77.42	0.00	0.00	0.00
1,600.00	4.31	69.29	1,596.74	31.66	83.74	-84.51	0.00	0.00	0.00
1,700.00	4.31	69.29	1,696.45	34.32	90.76	-91.60	0.00	0.00	0.00
1,800.00	4.31	69.29	1,796.17	36.98	97.79	-98.68	0.00	0.00	0.00
1,900.00	4.31	69.29	1,895.89	39.63	104.81	-105.77	0.00	0.00	0.00
2,000.00	4.31	69.29	1,995.61	42.29	111.83	-112.86	0.00	0.00	0.00
2,100.00	4.31	69.29	2,095.32	44.94	118.85	-119.95	0.00	0.00	0.00
2,200.00	4.31	69.29	2,195.04	47.60	125.88	-127.03	0.00	0.00	0.00
2,300.00	4.31	69.29	2,294.76	50.25	132.90	-134.12	0.00	0.00	0.00
2,400.00	4.31	69.29	2,394.48	52.91	139.92	-141.21	0.00	0.00	0.00
2,500.00	4.31	69.29	2,494.20	55.56	146.95	-148.30	0.00	0.00	0.00
2,600.00	4.31	69.29	2,593.91	58.22	153.97	-155.38	0.00	0.00	0.00
2,700.00	4.31	69.29	2,693.63	60.88	160.99	-162.47	0.00	0.00	0.00
2,800.00	4.31	69.29	2,793.35	63.53	168.01	-169.56	0.00	0.00	0.00
2,900.00	4.31	69.29	2,893.07	66.19	175.04	-176.65	0.00	0.00	0.00
3,000.00	4.31	69.29	2,992.78	68.84	182.06	-183.73	0.00	0.00	0.00
3,100.00	4.31	69.29	3,092.50	71.50	189.08	-190.82	0.00	0.00	0.00
3,200.00	4.31	69.29	3,192.22	74.15	196.11	-197.91	0.00	0.00	0.00
3,300.00	4.31	69.29	3,291.94	76.81	203.13	-205.00	0.00	0.00	0.00
3,400.00	4.31	69.29	3,391.66	79.46	210.15	-212.08	0.00	0.00	0.00
3,500.00	4.31	69.29	3,491.37	82.12	217.17	-219.17	0.00	0.00	0.00
3,600.00	4.31	69.29	3,591.09	84.78	224.20	-226.26	0.00	0.00	0.00
3,700.00	4.31	69.29	3,690.81	87.43	231.22	-233.34	0.00	0.00	0.00
3,712.87	4.31	69.29	3,703.64	87.77	232.12	-234.26	0.00	0.00	0.00
WELCH C 28 STATE COM #90H KOP: 3712.87' MD									
3,750.00	2.30	51.40	3,740.71	88.73	234.01	-236.17	6.00	-5.39	-48.18
3,800.00	1.78	317.83	3,790.69	89.94	234.28	-236.46	6.00	-1.04	-187.14
3,850.00	4.36	285.99	3,840.62	91.04	231.92	-234.14	6.00	5.16	-63.67
3,900.00	7.27	278.54	3,890.35	92.03	226.96	-229.21	6.00	5.82	-14.90
3,950.00	10.24	275.36	3,939.77	92.92	219.41	-221.68	6.00	5.92	-6.36
4,000.00	13.21	273.60	3,988.72	93.69	209.28	-211.57	6.00	5.96	-3.52
4,050.00	16.20	272.48	4,037.07	94.35	196.61	-198.92	6.00	5.97	-2.24
4,100.00	19.19	271.70	4,084.70	94.90	181.42	-183.75	6.00	5.98	-1.56
4,150.00	22.18	271.12	4,131.47	95.32	163.76	-166.11	6.00	5.99	-1.15
4,200.00	25.18	270.68	4,177.26	95.64	143.69	-146.04	6.00	5.99	-0.89
4,250.00	28.17	270.32	4,221.93	95.83	121.24	-123.61	6.00	5.99	-0.71
4,300.00	31.17	270.03	4,265.37	95.90	96.49	-98.87	6.00	5.99	-0.59



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well 90H
Company:	SPUR ENERGY PARTNERS, LLC	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Project:	EDDY COUNTY, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site:	WELCH C 28 STATE COM	North Reference:	Grid
Well:	90H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,350.00	34.17	269.78	4,307.45	95.85	69.50	-71.89	6.00	5.99	-0.49
4,400.00	37.17	269.57	4,348.07	95.68	40.35	-42.75	6.00	5.99	-0.42
4,450.00	40.16	269.39	4,387.11	95.40	9.12	-11.52	6.00	6.00	-0.37
4,500.00	43.16	269.22	4,424.45	94.99	-24.11	21.71	6.00	6.00	-0.32
4,550.00	46.16	269.08	4,460.01	94.47	-59.25	56.85	6.00	6.00	-0.29
4,600.00	49.16	268.95	4,493.69	93.84	-96.19	93.81	6.00	6.00	-0.26
4,650.00	52.16	268.83	4,525.38	93.09	-134.85	132.47	6.00	6.00	-0.24
4,700.00	55.16	268.72	4,555.01	92.22	-175.11	172.74	6.00	6.00	-0.22
4,750.00	58.15	268.62	4,582.49	91.25	-216.86	214.50	6.00	6.00	-0.21
4,780.77	60.00	268.56	4,598.30	90.60	-243.25	240.90	6.00	6.00	-0.19
4,800.00	60.00	268.56	4,607.92	90.18	-259.90	257.55	0.00	0.00	0.00
4,900.00	60.00	268.56	4,657.92	88.00	-346.48	344.15	0.00	0.00	0.00
4,980.77	60.00	268.56	4,698.30	86.23	-416.40	414.10	0.00	0.00	0.00
5,000.00	61.92	268.56	4,707.64	85.81	-433.21	430.92	10.00	10.00	0.00
5,050.00	66.92	268.56	4,729.21	84.67	-478.28	476.00	10.00	10.00	0.00
5,100.00	71.92	268.56	4,746.78	83.50	-525.06	522.80	10.00	10.00	0.00
5,150.00	76.92	268.56	4,760.20	82.28	-573.19	570.94	10.00	10.00	0.00
5,200.00	81.92	268.56	4,769.38	81.04	-622.31	620.08	10.00	10.00	0.00
5,250.00	86.92	268.56	4,774.24	79.79	-672.04	669.83	10.00	10.00	0.00
5,289.28	90.85	268.56	4,775.00	78.80	-711.30	709.10	10.00	10.00	0.00
WELCH C 28 STATE COM #90H FTP: 100' FEL									
5,300.00	90.85	268.56	4,774.84	78.53	-722.01	719.81	0.00	0.00	0.00
5,400.00	90.85	268.56	4,773.36	76.01	-821.97	819.80	0.00	0.00	0.00
5,500.00	90.85	268.56	4,771.87	73.49	-921.93	919.79	0.00	0.00	0.00
5,600.00	90.85	268.56	4,770.38	70.97	-1,021.88	1,019.78	0.00	0.00	0.00
5,700.00	90.85	268.56	4,768.90	68.45	-1,121.84	1,119.77	0.00	0.00	0.00
5,800.00	90.85	268.56	4,767.41	65.93	-1,221.80	1,219.76	0.00	0.00	0.00
5,900.00	90.85	268.56	4,765.93	63.41	-1,321.76	1,319.74	0.00	0.00	0.00
6,000.00	90.85	268.56	4,764.44	60.89	-1,421.71	1,419.73	0.00	0.00	0.00
6,100.00	90.85	268.56	4,762.95	58.37	-1,521.67	1,519.72	0.00	0.00	0.00
6,200.00	90.85	268.56	4,761.47	55.85	-1,621.63	1,619.71	0.00	0.00	0.00
6,300.00	90.85	268.56	4,759.98	53.33	-1,721.58	1,719.70	0.00	0.00	0.00
6,400.00	90.85	268.56	4,758.50	50.81	-1,821.54	1,819.69	0.00	0.00	0.00
6,500.00	90.85	268.56	4,757.01	48.29	-1,921.50	1,919.68	0.00	0.00	0.00
6,600.00	90.85	268.56	4,755.53	45.77	-2,021.46	2,019.67	0.00	0.00	0.00
6,700.00	90.85	268.56	4,754.04	43.25	-2,121.41	2,119.66	0.00	0.00	0.00
6,800.00	90.85	268.56	4,752.55	40.73	-2,221.37	2,219.65	0.00	0.00	0.00
6,900.00	90.85	268.56	4,751.07	38.21	-2,321.33	2,319.63	0.00	0.00	0.00
7,000.00	90.85	268.56	4,749.58	35.69	-2,421.28	2,419.62	0.00	0.00	0.00
7,100.00	90.85	268.56	4,748.10	33.17	-2,521.24	2,519.61	0.00	0.00	0.00
7,200.00	90.85	268.56	4,746.61	30.65	-2,621.20	2,619.60	0.00	0.00	0.00
7,300.00	90.85	268.56	4,745.13	28.13	-2,721.16	2,719.59	0.00	0.00	0.00
7,400.00	90.85	268.56	4,743.64	25.61	-2,821.11	2,819.58	0.00	0.00	0.00
7,500.00	90.85	268.56	4,742.15	23.09	-2,921.07	2,919.57	0.00	0.00	0.00
7,600.00	90.85	268.56	4,740.67	20.57	-3,021.03	3,019.56	0.00	0.00	0.00
7,700.00	90.85	268.56	4,739.18	18.05	-3,120.99	3,119.55	0.00	0.00	0.00
7,800.00	90.85	268.56	4,737.70	15.53	-3,220.94	3,219.53	0.00	0.00	0.00
7,900.00	90.85	268.56	4,736.21	13.01	-3,320.90	3,319.52	0.00	0.00	0.00
8,000.00	90.85	268.56	4,734.72	10.49	-3,420.86	3,419.51	0.00	0.00	0.00
8,100.00	90.85	268.56	4,733.24	7.97	-3,520.81	3,519.50	0.00	0.00	0.00
8,200.00	90.85	268.56	4,731.75	5.45	-3,620.77	3,619.49	0.00	0.00	0.00
8,300.00	90.85	268.56	4,730.27	2.93	-3,720.73	3,719.48	0.00	0.00	0.00
8,400.00	90.85	268.56	4,728.78	0.41	-3,820.69	3,819.47	0.00	0.00	0.00
8,500.00	90.85	268.56	4,727.30	-2.11	-3,920.64	3,919.46	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well 90H
Company:	SPUR ENERGY PARTNERS, LLC	TVD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Project:	EDDY COUNTY, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3701.00usft (AKITA 57)
Site:	WELCH C 28 STATE COM	North Reference:	Grid
Well:	90H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,600.00	90.85	268.56	4,725.81	-4.63	-4,020.60	4,019.45	0.00	0.00	0.00
8,700.00	90.85	268.56	4,724.32	-7.15	-4,120.56	4,119.44	0.00	0.00	0.00
8,800.00	90.85	268.56	4,722.84	-9.67	-4,220.51	4,219.42	0.00	0.00	0.00
8,900.00	90.85	268.56	4,721.35	-12.19	-4,320.47	4,319.41	0.00	0.00	0.00
9,000.00	90.85	268.56	4,719.87	-14.71	-4,420.43	4,419.40	0.00	0.00	0.00
9,100.00	90.85	268.56	4,718.38	-17.23	-4,520.39	4,519.39	0.00	0.00	0.00
9,200.00	90.85	268.56	4,716.90	-19.75	-4,620.34	4,619.38	0.00	0.00	0.00
9,300.00	90.85	268.56	4,715.41	-22.27	-4,720.30	4,719.37	0.00	0.00	0.00
9,400.00	90.85	268.56	4,713.92	-24.79	-4,820.26	4,819.36	0.00	0.00	0.00
9,500.00	90.85	268.56	4,712.44	-27.30	-4,920.21	4,919.35	0.00	0.00	0.00
9,600.00	90.85	268.56	4,710.95	-29.82	-5,020.17	5,019.34	0.00	0.00	0.00
9,700.00	90.85	268.56	4,709.47	-32.34	-5,120.13	5,119.33	0.00	0.00	0.00
9,800.00	90.85	268.56	4,707.98	-34.86	-5,220.09	5,219.31	0.00	0.00	0.00
9,900.00	90.85	268.56	4,706.50	-37.38	-5,320.04	5,319.30	0.00	0.00	0.00
10,000.00	90.85	268.56	4,705.01	-39.90	-5,420.00	5,419.29	0.00	0.00	0.00
10,100.00	90.85	268.56	4,703.52	-42.42	-5,519.96	5,519.28	0.00	0.00	0.00
10,200.00	90.85	268.56	4,702.04	-44.94	-5,619.92	5,619.27	0.00	0.00	0.00
10,287.12	90.85	268.56	4,700.74	-47.14	-5,707.00	5,706.38	0.00	0.00	0.00
WELCH C 28 STATE COM #90H LTP: 100' FWL									
10,300.00	90.85	268.56	4,700.55	-47.46	-5,719.87	5,719.26	0.00	0.00	0.00
10,337.14	90.85	268.56	4,700.00	-48.40	-5,757.00	5,756.40	0.00	0.00	0.00
WELCH C 28 STATE COM #90H BHL: 2250' FSL, 50' FWL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
WELCH C 28 STATE	0.00	0.00	0.00	0.00	0.00	656,403.00	591,376.60	32.8043760	-104.1704729
- plan hits target center									
- Point									
WELCH C 28 STATE	0.00	0.00	3,703.64	87.77	232.12	656,490.78	591,608.73	32.8046162	-104.1697170
- plan hits target center									
- Point									
WELCH C 28 STATE	0.00	0.00	4,700.00	-48.40	-5,757.00	656,354.60	585,619.60	32.8042659	-104.1892102
- plan hits target center									
- Point									
WELCH C 28 STATE	0.00	0.00	4,700.74	-47.10	-5,707.00	656,355.90	585,669.60	32.8042693	-104.1890474
- plan misses target center by 0.04usft at 10287.12usft MD (4700.74 TVD, -47.14 N, -5707.00 E)									
- Point									
WELCH C 28 STATE	0.00	0.00	4,775.00	78.80	-711.30	656,481.80	590,665.30	32.8045955	-104.1727876
- plan hits target center									
- Point									



Project: EDDY COUNTY, NM (NAD 83 - NME)
Site: WELCH C 28 STATE COM
Well: 90H
Wellbore: Wellbore #1
Design: PERMIT

WELL DETAILS: 90H

Rig Name:		AKITA 57 RKB = 20' @ 3701.00usft (AKITA 57)			
		Ground Level:		3681.00	
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	656403.00	591376.60	32.8043759	-104.1704729

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

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect	Target
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	515.30	4.31	69.29	515.09	2.86	7.56	2.00	-7.63	
4	3712.87	4.31	69.29	3703.64	87.77	232.12	0.00	-234.26	
5	4780.77	60.00	268.56	4598.30	90.60	-243.25	6.00	240.90	
6	4980.77	60.00	268.56	4698.30	86.23	-416.40	0.00	414.10	
7	5289.28	90.85	268.56	4775.00	78.80	-711.30	10.00	709.10	
8	10287.12	90.85	268.56	4700.74	-47.14	-5707.00	0.00	5706.38	
9	10337.14	90.85	268.56	4700.00	-48.40	-5757.00	0.00	5756.40	

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
WELCH C 28 STATE COM #90H SHL: 2161' FSL, 612' FWL	0.00	0.00	0.00	656403.00	591376.60	32.8043759	-104.1704729
WELCH C 28 STATE COM #90H KOP: 3712.87' MD	3703.64	87.77	232.12	656490.77	591608.72	32.8046162	-104.1697170
WELCH C 28 STATE COM #90H BHL: 2250' FSL, 50' FWL	4700.00	-48.40	-5757.00	656354.60	585619.60	32.8042659	-104.1892102
WELCH C 28 STATE COM #90H LTP: 100' FWL	4700.74	-47.10	-5707.00	656355.90	585669.60	32.8042693	-104.1890474
WELCH C 28 STATE COM #90H FTP: 100' FEL	4775.00	78.80	-711.30	656481.80	590665.30	32.8045955	-104.1727876

WELCH C 28 STATE COM #90H KOP: 3712.87' MD

Start DLS 6.00 TFO -161.472

Start 200.00 hold at 4780.77 MD

Start Build 10.00

LP at 5289.28 MD

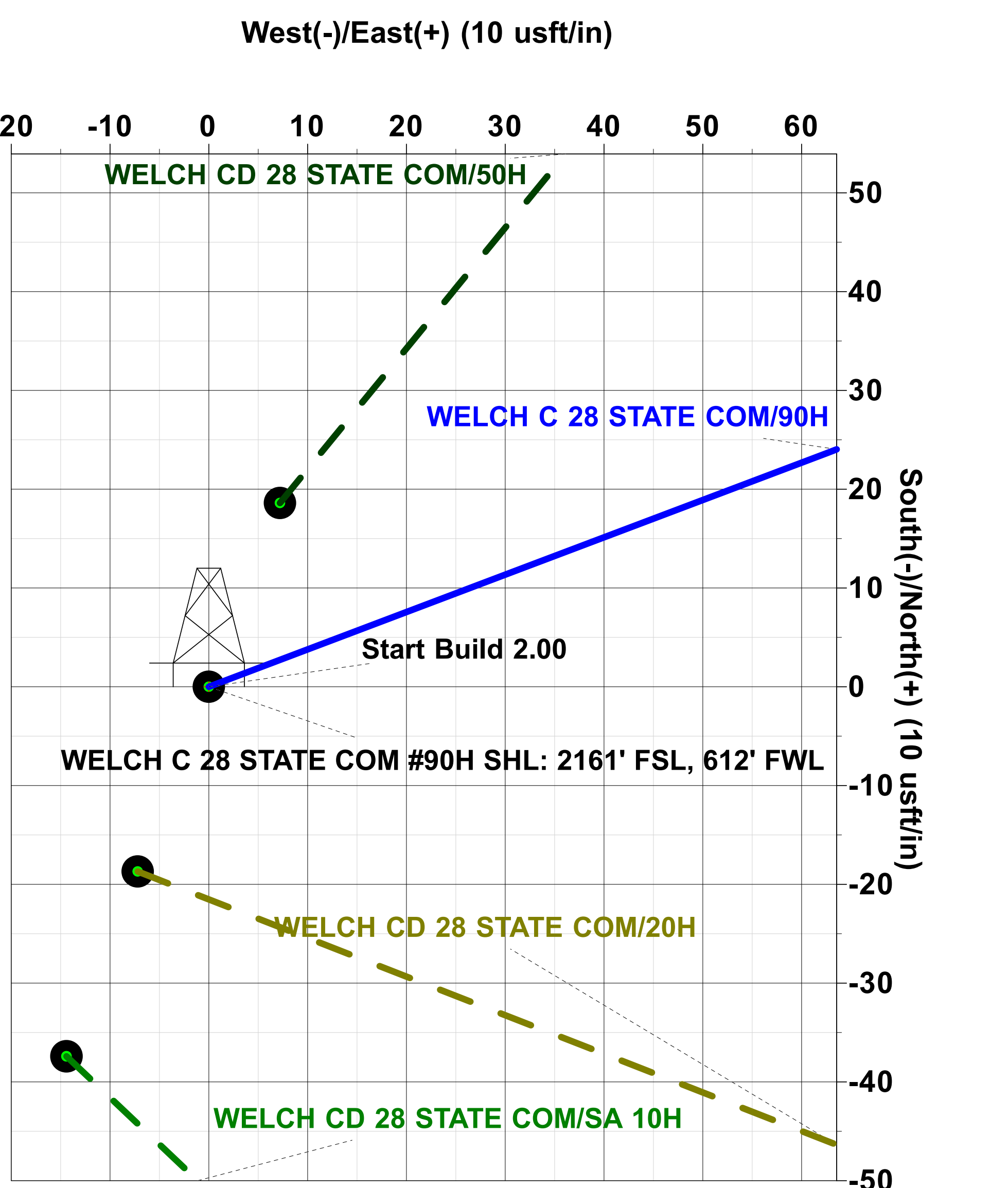
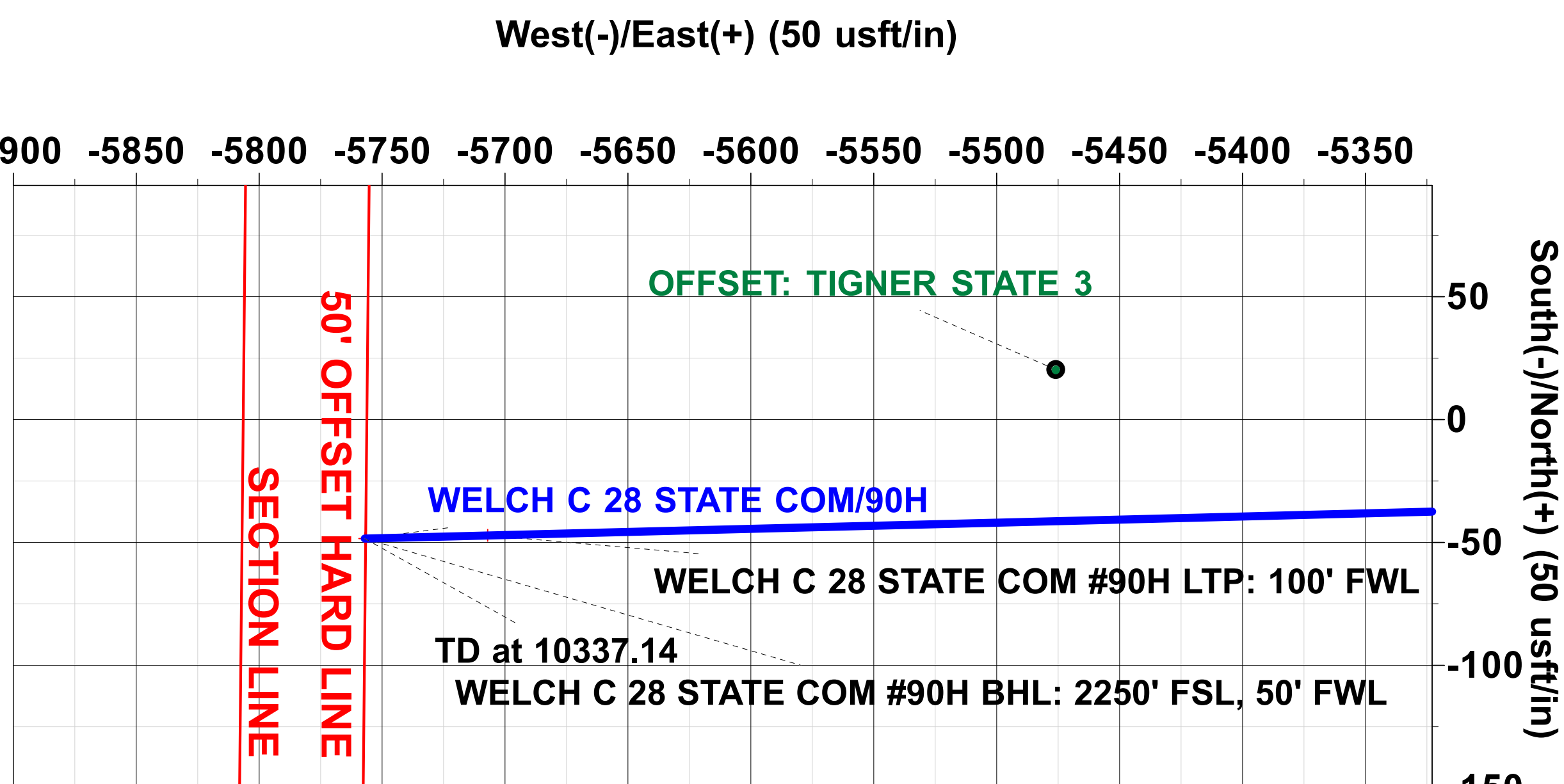
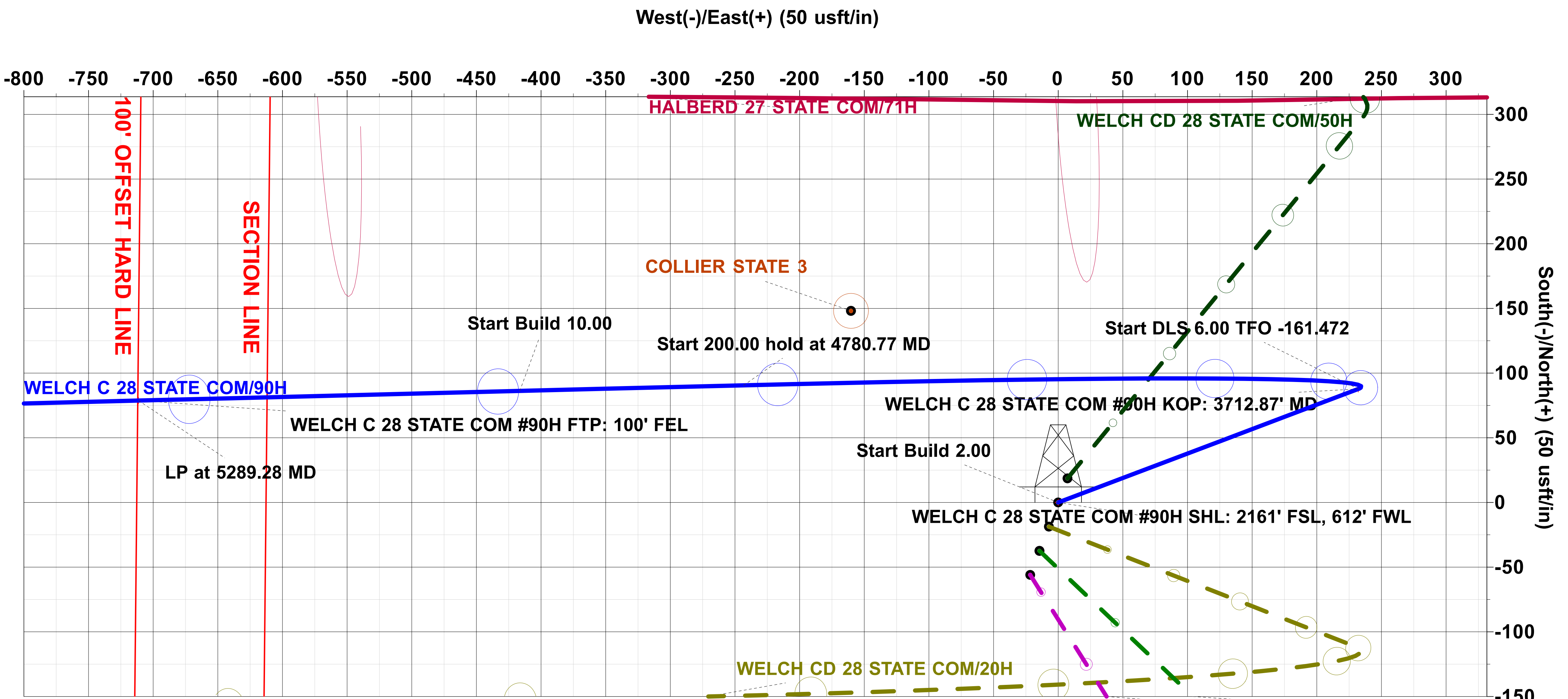
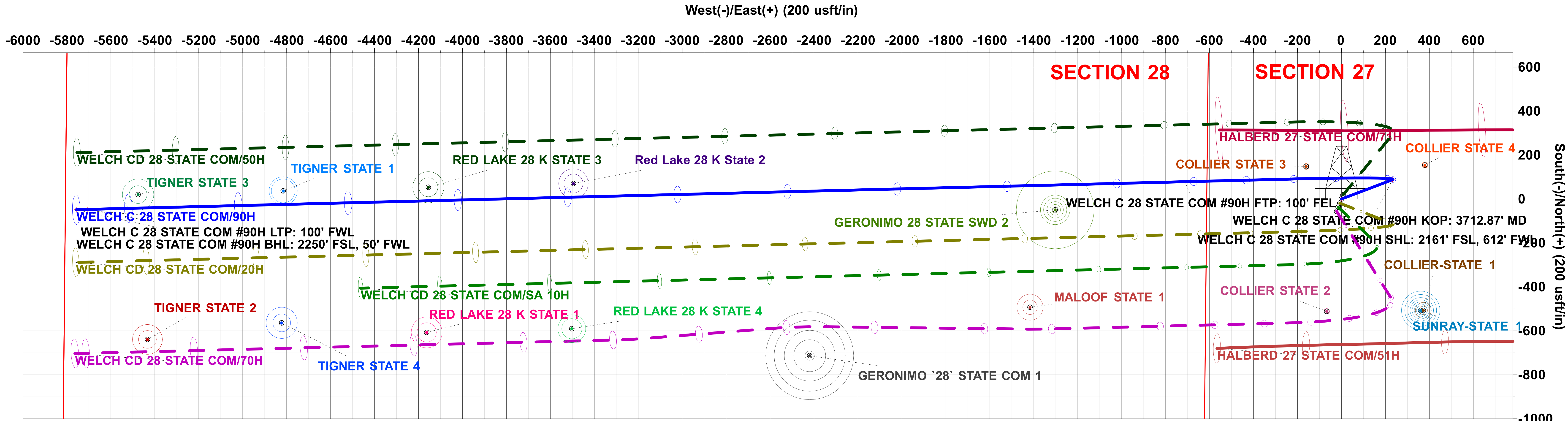
WELCH C 28 STATE COM #90H FTP: 100' FEL

WELCH C 28 STATE COM #90H BHL: 2250' FSL, 50' FWL

TD at 10337.14

WELCH C 28 STATE COM #90H LTP: 100' FWL

Vertical Section at 268.56° (200 usft/in)



Plan: PERMIT (90H/Wellbore #1)

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