

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

1a. Type of work: ☐ DRILL ☐ REENTER		5. Lease Serial No.
1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator		8. Lease Name and Well No.
3a. Address		9. API Well No. 30-015-58122
3b. Phone No. (include area code)		10. Field and Pool, or Exploratory
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish
		13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

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

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

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

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

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

(Continued on page 2)

*(Instructions on page 2)



Approval Date: 01/29/2026

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

WELL LOCATION INFORMATION

API Number 30-015-58122	Pool Code 96831	Pool Name CEDAR LAKE; GLORIETA-YESO	
Property Code 339124	Property Name GARRISON 17 FEDERAL COM		Well Number 90H
OGRID No. 328947	Operator Name SPUR ENERGY PARTNERS LLC.		Ground Level Elevation 3753'
Surface Owner: ☒ State ☐ Fee ☐ Tribal ☐ Federal		Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal	

Surface Location

UL L	Section 16	Township 17S	Range 31E	Lot	Ft. from N/S 1828 FSL	Ft. from E/W 760 FWL	Latitude 32.8323215°N	Longitude 103.8807922°W	County EDDY
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Bottom Hole Location

UL K	Section 17	Township 17S	Range 31E	Lot	Ft. from N/S 1745 FSL	Ft. from E/W 1370 FWL	Latitude 32.8320529°N	Longitude 103.8959914°W	County EDDY
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Dedicated Acres 120	Infill or Defining Well INFILL	Defining Well API NA	Overlapping Spacing Unit (Y/N) N	Consolidation Code F & C
Order Numbers. PENDING			Well setbacks are under Common Ownership: ☒ Yes ☐ No	

Kick Off Point (KOP)

UL L	Section 16	Township 17S	Range 31E	Lot	Ft. from N/S 1755 FSL	Ft. from E/W 849 FWL	Latitude 32.8321220°N	Longitude 103.8805032°W	County EDDY
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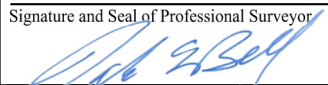
First Take Point (FTP)

UL I	Section 17	Township 17S	Range 31E	Lot	Ft. from N/S 1745 FSL	Ft. from E/W 100 FEL	Latitude 32.8320889°N	Longitude 103.8835904°W	County EDDY
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Last Take Point (LTP)

UL K	Section 17	Township 17S	Range 31E	Lot	Ft. from N/S 1745 FSL	Ft. from E/W 1420 FWL	Latitude 32.8320534°N	Longitude 103.8958286°W	County EDDY
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Unitized Area or Area of Uniform Interest Y	Spacing Unit Type ☒ Horizontal ☐ Vertical	Ground Floor Elevation: 3753' GL
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OPERATOR CERTIFICATIONS <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i> <i>If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.</i> Sarah Chapman 10/31/2025		SURVEYOR CERTIFICATIONS <i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me under my supervision, and that the same is true and correct to the best of my belief.</i> 	
Signature SARAH CHAPMAN		Signature and Seal of Professional Surveyor 	
Printed Name SCHAPMAN@SPURENERGY.COM		Certificate Number 14400	Date of Survey 09/09/2025
Email Address			

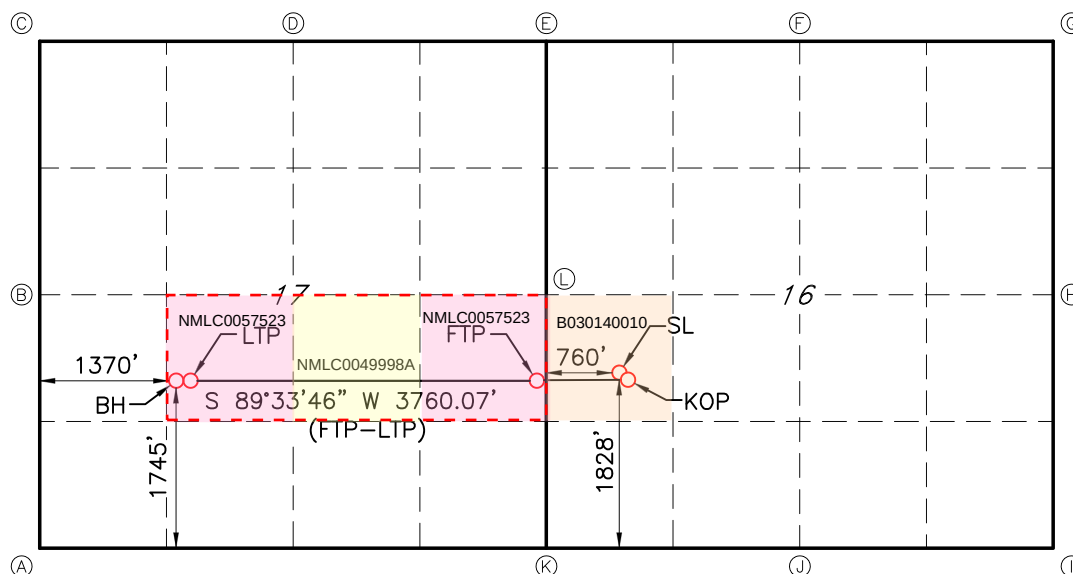
Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

ACREAGE DEDICATION PLATS

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

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

GARRISON 17 FEDERAL COM #90H



GEODETTIC DATA
NAD 83 GRID - NM EAST

SURFACE LOCATION (SL)
1828' FSL & 760' FWL SEC.16
N: 666829.1 - E: 680338.4

LAT: 32.8323215° N
LONG: 103.8807922° W

KICK OFF POINT (KOP)
1755' FSL & 849' FWL SEC.16
N: 666756.9 - E: 680427.5

LAT: 32.8321220° N
LONG: 103.8805032° W

FIRST TAKE POINT (FTP)
1745' FSL & 100' FSL SEC.17
N: 666740.8 - E: 679479.3

LAT: 32.8320889° N
LONG: 103.8835904° W

LAST TAKE POINT (LTP)
1745' FSL & 1420' FWL SEC.17
N: 666712.1 - E: 675720.3

LAT: 32.8320534° N
LONG: 103.8958286° W

BOTTOM HOLE (BH)
1745' FSL & 1370' FWL SEC.17
N: 666711.8 - E: 675670.3

LAT: 32.8320529° N
LONG: 103.8959914° W

CORNER DATA
NAD 83 GRID - NM EAST

A: FOUND BRASS CAP "1916"
N: 664956.8 - E: 674310.7

B: FOUND BRASS CAP "1916"
N: 667598.7 - E: 674295.4

C: FOUND 1/2" REBAR
N: 670239.2 - E: 674280.4

D: FOUND BRASS CAP "1916"
N: 670258.0 - E: 676920.1

E: FOUND BRASS CAP "1916"
N: 670276.7 - E: 679559.4

F: FOUND BRASS CAP "1916"
N: 670274.2 - E: 682217.6

G: FOUND BRASS CAP "1916"
N: 670310.3 - E: 684840.6

H: FOUND BRASS CAP "1916"
N: 667672.2 - E: 684855.9

I: FOUND 1/2" REBAR
N: 665033.2 - E: 684869.2

J: FOUND BRASS CAP "1916"
N: 665014.0 - E: 682228.9

K: FOUND BRASS CAP "1916"
N: 664997.0 - E: 679588.8

L: FOUND BRASS CAP "1916"
N: 667637.2 - E: 679574.4



JOB #: LS25090725D1

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

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

I. Operator: SPUR ENERGY PARTNERS LLC **OGRID:** 328947 **Date:** 11/04/2025

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
GARRISON 17 FEDERAL COM 20H	30-015-	L-16-17S-31E	1848' FSL 760' FWL	334 BBL/D	369 MCF/D	1338 BBL/D
GARRISON 17 FEDERAL COM 70H	30-015-	L-16-17S-31E	1868' FSL 760' FWL	310 BBL/D	220 MCF/D	1553 BBL/D
GARRISON 17 FEDERAL COM 90H	30-015-	L-16-17S-31E	1828' FSL 760' FWL	310 BBL/D	220 MCF/D	1553 BBL/D

IV. Central Delivery Point Name: GROVE 16 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
GARRISON 17 FEDERAL COM 20H	30-015	09/06/2026	09/16/2026	10/05/2026	10/11/2026	10/24/2026
GARRISON 17 FEDERAL COM 70H	30-015	09/16/2026	09/26/2026	10/05/2026	10/11/2026	10/24/2026
GARRISON 17 FEDERAL COM 90H	30-015	09/26/2026	10/04/2026	10/05/2026	10/11/2026	10/24/2026

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

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

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

Section 2 – Enhanced Plan**EFFECTIVE APRIL 1, 2022**

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature:	<i>Sarah Chapman</i>
Printed Name:	SARAH CHAPMAN
Title:	REGULATORY DIRECTOR
E-mail Address:	SCHAPMAN@SPUREENERGY.COM
Date:	NOVEMBER 4, 2025
Phone:	832-930-8613
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)	
Approved By:	
Title:	
Approval Date:	
Conditions of Approval:	

Spur Energy Partners LLC – Garrison 17 Federal Com 90H

1. Geologic Formations

TVD of Target	5,900'
MD at TD	10,294'

Formation	Depth	Lithology	Expected Fluids
Quaternary	0'	Dolomite, other: Caliche	Fresh Water
Rustler	335'	Dolomite, Shale, Anhydrite	Other: Brackish Water
Top Salt	555'	Anhydrite	Other: Salt
Tansill	1490'	Sandstone, Dolomite	None
Yates	1585'	Dolomite, Limestone, Shale, Siltstone	None
Seven Rivers	1910'	Dolomite, Limestone	Natural Gas, Oil
Queen	2515'	Anhydrite, Dolomite, Sandstone	Natural Gas, Oil
Grayburg	2905'	Anhydrite	Natural Gas, Oil
San Andres	3255'	Dolomite	Natural Gas, Oil
Glorieta	4755'	Dolomite, Siltstone	Natural Gas, Oil
Paddock	4840'	Dolomite, Limestone	Natural Gas, Oil
Upper Blinebry	5275'	Dolomite, Limestone	Natural Gas, Oil
Lower Blinebry	5740'	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
Rustler	17.5	0	450	13.375	54.5	J-55	BTC	1.125	1.2	1.4	1.4
Seven Rivers	12.25	0	2400	9.625	36	J-55	BTC	1.125	1.2	1.4	1.4
N/A	8.75	0	6250	7	32	L-80	GBCD	1.125	1.2	1.4	1.4
Yeso	8.75	6250	10294	5.5	20	L-80	GBCD	1.125	1.2	1.4	1.4
SF Values will meet or Exceed											

Spur Energy Partners LLC – Garrison 17 Federal 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 Tail	0	450	100%
Intermediate (Lead)	0	450	50%
Intermediate (Tail)	450	2400	100%
Production (Lead)	0	5250	0%
Production (Tail)	5250	10294	50%

Casing String	# Sks	Wt. (lb/gal)	Yld (ft3/sack)	H2O (gal/sk)	500# Comp. Strength (hours)	Slurry Description
Surface Tail	278	13.2	2.32	9.92	6:59	Clas C Premium Plus Cement
Intermediate (Lead)	89	12.2	1.84	13.48	8:12	Clas C Premium Plus Cement
Intermediate (Tail)	535	13.2	2.32	9.92	6:59	Clas C Premium Plus Cement
Production (Lead)	737	11.8	2.54	15.29	N/A	Clas C Premium Plus Cement
Production (Tail)	976	13.2	1.81	9.81	N/A	Clas C Premium Plus Cement

Spur Energy Partners LLC – Garrison 17 Federal 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	2766 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	128°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.
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Spur Energy Partners LLC – Garrison 17 Federal Com 90H

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

5. BOP Break Testing Request

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

BOP break test under the following conditions:

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

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

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

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

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

6. Mud Program

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

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From (ft)	To (ft)				
0	450	Water-Based Mud	8.6-8.9	32-36	N/C
450	2400	Brine	9.0-10.0	32-36	N/C
2400	10294	Brine	9.0-10.0	32-36	N/C

What will be used to monitor the loss or gain of fluid?	PVT/PASON/Visual Monitoring
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Spur Energy Partners LLC – Garrison 17 Federal 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	ICP - TD
No	PEX	

8. Drilling Conditions

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

Hydrogen Sulfide (H ₂ S) monitors will be installed prior to drilling out the surface shoe. If H ₂ S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H ₂ S is present
Y	H ₂ S Plan attached

Total estimated cuttings volume: 940.6 bbls.

Spur Energy Partners LLC – Garrison 17 Federal 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/intermediate casing, and cement for this well. If the timing between rigs is such that Spur Energy Partners LLC. would not be able to preset surface, the Primary Rig will MIRU and drill the well in its entirety per the APD. Please see the attached document for information on the spudder rig.	Yes

Attachments

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

10. Company Personnel

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



Project: EDDY COUNTY, NM (NAD 83 - NME)
Site: GARRISON 17 FEDERAL COM
Well: 90H
Wellbore: OH
Design: PERMIT

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

WELL DETAILS: 90H

Rig Name: AKITA 57 RKB = 20' @ 3773.00usft (AKITA 57)
Ground Elevation: 3753.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	666829.10	680338.40	32.83232	-103.88079

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	371.13	1.42	129.02	371.12	-0.56	0.69	2.00	-0.68	
4	4954.47	1.42	129.02	4953.05	-72.19	89.10	0.00	-88.54	
5	5972.85	60.00	269.56	5798.35	-84.71	-388.15	6.00	388.79	
6	6172.85	60.00	269.56	5898.35	-86.03	-561.35	0.00	561.99	
7	6484.13	91.13	269.56	5975.00	-88.30	-859.10	10.00	859.75	4. GARRISON 90H FTP: 1745' FSL, 100' FEL
8	10243.96	91.13	269.56	5900.98	-116.92	-4618.10	0.00	4618.86	5. GARRISON 90H LTP: 1745' FSL, 1420' FWL
9	10293.97	91.13	269.56	5900.00	-117.30	-4668.10	0.00	4668.86	6. GARRISON 90H BHL: 1745' FSL, 1370' FWL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
1. GARRISON 90H SHL: 1828' FSL, 760' FWL	0.00	0.00	0.00	666829.10	680338.40	32.83232	-103.88079
2. GARRISON 90H KOP @ 4954.47' MD	4953.05	-72.19	89.10	666756.91	680427.50	32.83212	-103.88050
3. GARRISON 90H SEC 16/17 XING: 6383.77' MD	5968.20	-87.54	-759.11	666741.56	679579.29	32.83209	-103.88326
4. GARRISON 90H FTP: 1745' FSL, 100' FEL	5975.00	-88.30	-859.10	666740.80	679479.30	32.83209	-103.88359
5. GARRISON 90H LTP: 1745' FSL, 1420' FWL	5900.98	-117.00	-4618.10	666712.10	675720.30	32.83205	-103.89583
6. GARRISON 90H BHL: 1745' FSL, 1370' FWL	5900.00	-117.30	-4668.10	666711.80	675670.30	32.83205	-103.89599

2. GARRISON 90H KOP @ 4954.47' MD

Start DLS 6.00 TFO 141.06

Start 200.00 hold at 5972.85 MD

Start Build 10.00

4. GARRISON 90H FTP: 1745' FSL, 100' FEL

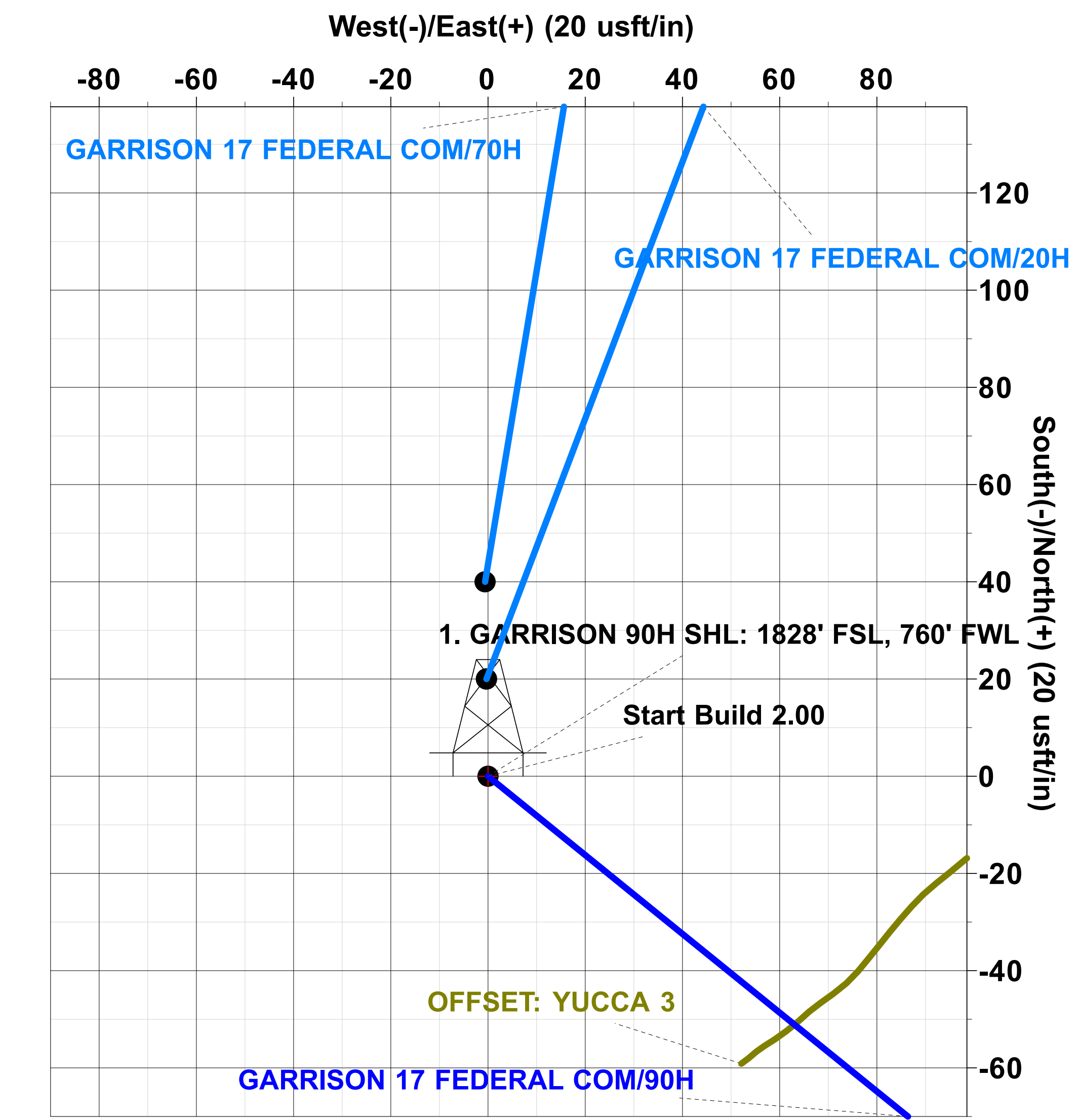
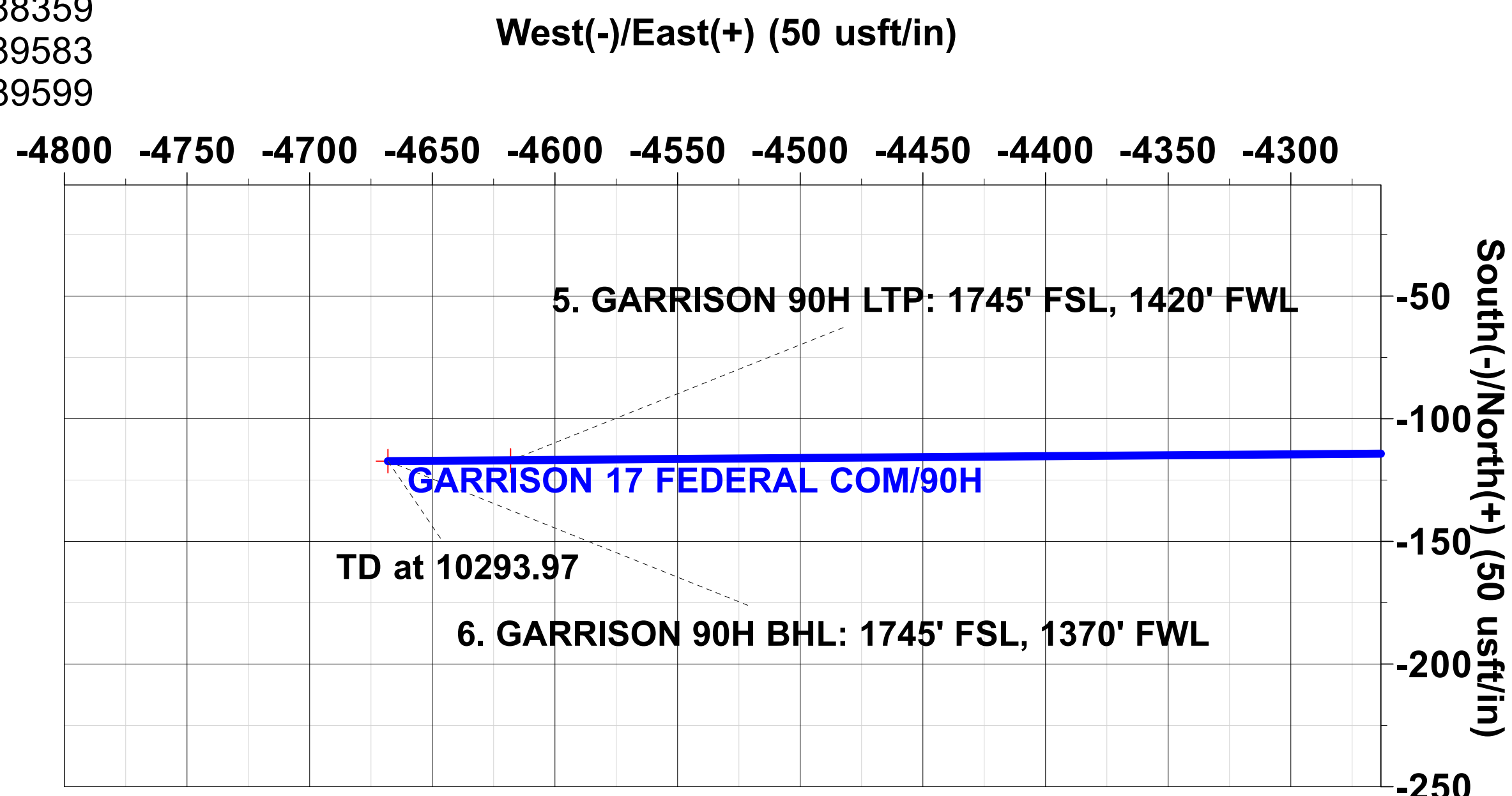
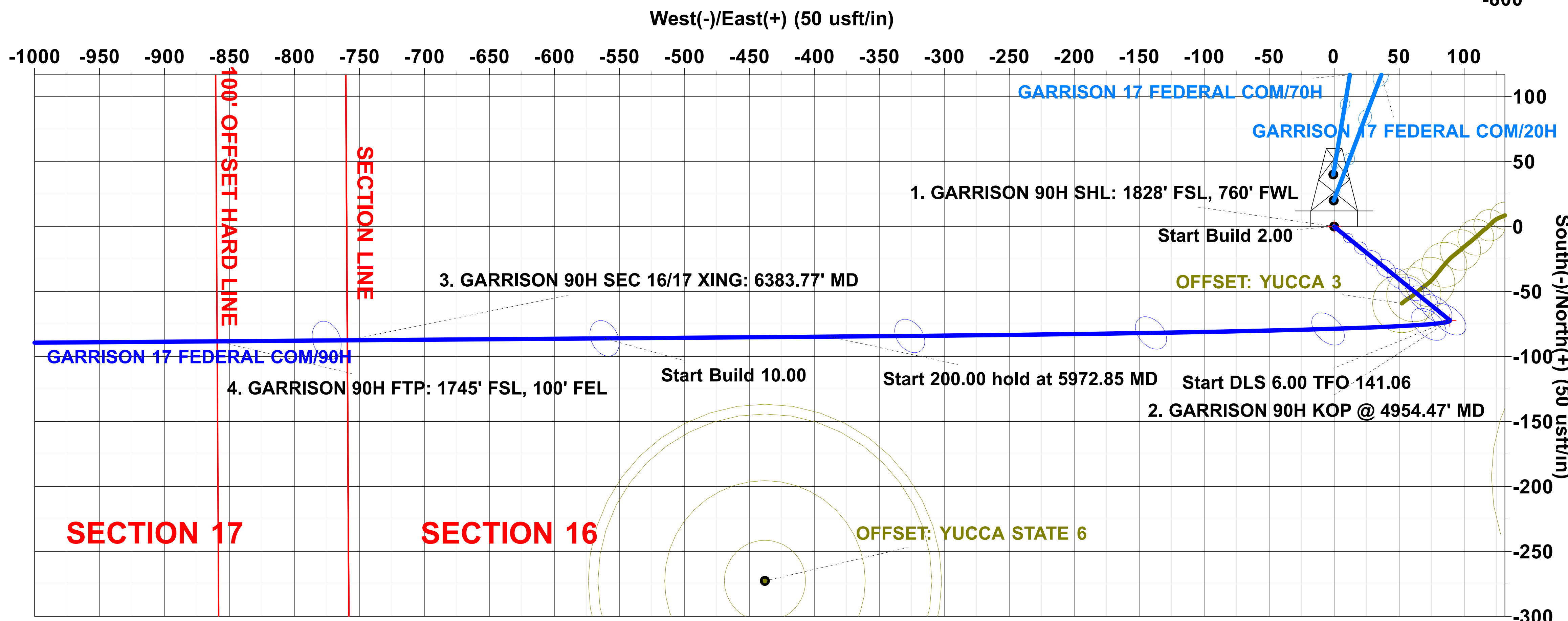
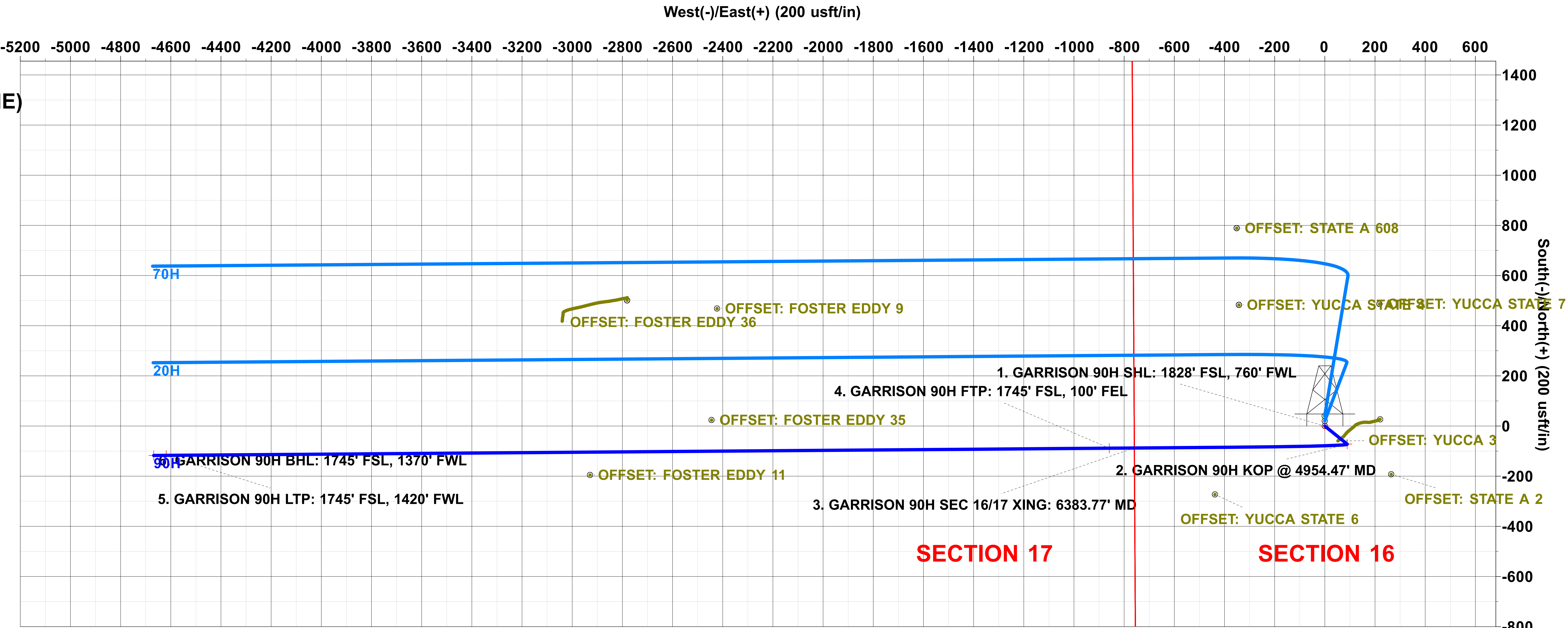
3. GARRISON 90H SEC 16/17 XING: 6383.77' MD

5. GARRISON 90H LTP: 1745' FSL, 1420' FWL

6. GARRISON 90H BHL: 1745' FSL, 1370' FWL

TD at 10293.97

Vertical Section at 269.56° (200 usft/in)



Plan: PERMIT (90H/OH)

Created By: PROTOTYPE WELL PLANNING Date: 4:46, October 09 202

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SPUR ENERGY PARTNERS, LLC

EDDY COUNTY, NM (NAD 83 - NME)

GARRISON 17 FEDERAL COM

90H

OH

Plan: PERMIT

Standard Planning Report

09 October, 2025



**PROTOTYPE
WELL PLANNING**
WELL PLANNED. WELL EXECUTED.



PROTOTYPE

Planning Report



Database:	EDM 5000.17 Single User Db	Local Co-ordinate Reference:	Well 90H
Company:	SPUR ENERGY PARTNERS, LLC	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Project:	EDDY COUNTY, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Site:	GARRISON 17 FEDERAL COM	North Reference:	Grid
Well:	90H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

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

Well	90H			
Well Position	+N/-S	0.00 usft	Northing:	666,829.10 usft
	+E/-W	0.00 usft	Easting:	680,338.40 usft
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft
Grid Convergence:		0.25 °	Ground Level:	3,753.00 usft

Design	PERMIT			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	269.56

Plan Survey Tool Program	Date	10/8/2025		
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks
(usft)	(usft)			
1	0.00	10,293.98 PERMIT (OH)	MWD+IFR1+MS	
			OWSG MWD + IFR1 + Mult	

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
371.13	1.42	129.02	371.12	-0.56	0.69	2.00	2.00	0.00	129.02	
4,954.47	1.42	129.02	4,953.05	-72.19	89.10	0.00	0.00	0.00	0.00	
5,972.85	60.00	269.56	5,798.35	-84.71	-388.15	6.00	5.75	13.80	141.06	
6,172.85	60.00	269.56	5,898.35	-86.03	-561.35	0.00	0.00	0.00	0.00	
6,484.13	91.13	269.56	5,975.00	-88.30	-859.10	10.00	10.00	0.00	0.00	4. GARRISON 90H
10,243.96	91.13	269.56	5,900.98	-116.92	-4,618.10	0.00	0.00	0.00	0.00	5. GARRISON 90H
10,293.98	91.13	269.56	5,900.00	-117.30	-4,668.10	0.00	0.00	0.00	0.00	6. GARRISON 90H



PROTOTYPE Planning Report



Database:	EDM 5000.17 Single User Db	Local Co-ordinate Reference:	Well 90H
Company:	SPUR ENERGY PARTNERS, LLC	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Project:	EDDY COUNTY, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Site:	GARRISON 17 FEDERAL COM	North Reference:	Grid
Well:	90H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1. GARRISON 90H SHL: 1828' FSL, 760' 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
371.13	1.42	129.02	371.12	-0.56	0.69	-0.68	2.00	2.00	0.00
400.00	1.42	129.02	399.98	-1.01	1.24	-1.24	0.00	0.00	0.00
500.00	1.42	129.02	499.95	-2.57	3.17	-3.15	0.00	0.00	0.00
600.00	1.42	129.02	599.92	-4.13	5.10	-5.07	0.00	0.00	0.00
700.00	1.42	129.02	699.89	-5.70	7.03	-6.99	0.00	0.00	0.00
800.00	1.42	129.02	799.86	-7.26	8.96	-8.90	0.00	0.00	0.00
900.00	1.42	129.02	899.83	-8.82	10.89	-10.82	0.00	0.00	0.00
1,000.00	1.42	129.02	999.80	-10.38	12.82	-12.74	0.00	0.00	0.00
1,100.00	1.42	129.02	1,099.77	-11.95	14.75	-14.65	0.00	0.00	0.00
1,200.00	1.42	129.02	1,199.74	-13.51	16.67	-16.57	0.00	0.00	0.00
1,300.00	1.42	129.02	1,299.71	-15.07	18.60	-18.49	0.00	0.00	0.00
1,400.00	1.42	129.02	1,399.68	-16.64	20.53	-20.40	0.00	0.00	0.00
1,500.00	1.42	129.02	1,499.64	-18.20	22.46	-22.32	0.00	0.00	0.00
1,600.00	1.42	129.02	1,599.61	-19.76	24.39	-24.24	0.00	0.00	0.00
1,700.00	1.42	129.02	1,699.58	-21.32	26.32	-26.15	0.00	0.00	0.00
1,800.00	1.42	129.02	1,799.55	-22.89	28.25	-28.07	0.00	0.00	0.00
1,900.00	1.42	129.02	1,899.52	-24.45	30.18	-29.99	0.00	0.00	0.00
2,000.00	1.42	129.02	1,999.49	-26.01	32.11	-31.91	0.00	0.00	0.00
2,100.00	1.42	129.02	2,099.46	-27.58	34.03	-33.82	0.00	0.00	0.00
2,200.00	1.42	129.02	2,199.43	-29.14	35.96	-35.74	0.00	0.00	0.00
2,300.00	1.42	129.02	2,299.40	-30.70	37.89	-37.66	0.00	0.00	0.00
2,400.00	1.42	129.02	2,399.37	-32.27	39.82	-39.57	0.00	0.00	0.00
2,500.00	1.42	129.02	2,499.34	-33.83	41.75	-41.49	0.00	0.00	0.00
2,600.00	1.42	129.02	2,599.31	-35.39	43.68	-43.41	0.00	0.00	0.00
2,700.00	1.42	129.02	2,699.27	-36.95	45.61	-45.32	0.00	0.00	0.00
2,800.00	1.42	129.02	2,799.24	-38.52	47.54	-47.24	0.00	0.00	0.00
2,900.00	1.42	129.02	2,899.21	-40.08	49.47	-49.16	0.00	0.00	0.00
3,000.00	1.42	129.02	2,999.18	-41.64	51.40	-51.07	0.00	0.00	0.00
3,100.00	1.42	129.02	3,099.15	-43.21	53.32	-52.99	0.00	0.00	0.00
3,200.00	1.42	129.02	3,199.12	-44.77	55.25	-54.91	0.00	0.00	0.00
3,300.00	1.42	129.02	3,299.09	-46.33	57.18	-56.82	0.00	0.00	0.00
3,400.00	1.42	129.02	3,399.06	-47.89	59.11	-58.74	0.00	0.00	0.00
3,500.00	1.42	129.02	3,499.03	-49.46	61.04	-60.66	0.00	0.00	0.00
3,600.00	1.42	129.02	3,599.00	-51.02	62.97	-62.58	0.00	0.00	0.00
3,700.00	1.42	129.02	3,698.97	-52.58	64.90	-64.49	0.00	0.00	0.00
3,800.00	1.42	129.02	3,798.94	-54.15	66.83	-66.41	0.00	0.00	0.00
3,900.00	1.42	129.02	3,898.91	-55.71	68.76	-68.33	0.00	0.00	0.00
4,000.00	1.42	129.02	3,998.87	-57.27	70.68	-70.24	0.00	0.00	0.00
4,100.00	1.42	129.02	4,098.84	-58.83	72.61	-72.16	0.00	0.00	0.00
4,200.00	1.42	129.02	4,198.81	-60.40	74.54	-74.08	0.00	0.00	0.00
4,300.00	1.42	129.02	4,298.78	-61.96	76.47	-75.99	0.00	0.00	0.00
4,400.00	1.42	129.02	4,398.75	-63.52	78.40	-77.91	0.00	0.00	0.00
4,500.00	1.42	129.02	4,498.72	-65.09	80.33	-79.83	0.00	0.00	0.00
4,600.00	1.42	129.02	4,598.69	-66.65	82.26	-81.74	0.00	0.00	0.00
4,700.00	1.42	129.02	4,698.66	-68.21	84.19	-83.66	0.00	0.00	0.00
4,800.00	1.42	129.02	4,798.63	-69.77	86.12	-85.58	0.00	0.00	0.00
4,900.00	1.42	129.02	4,898.60	-71.34	88.05	-87.49	0.00	0.00	0.00
4,954.47	1.42	129.02	4,953.05	-72.19	89.10	-88.54	0.00	0.00	0.00
2. GARRISON 90H KOP @ 4954.47' MD									



PROTOTYPE Planning Report



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Well:	90H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,000.00	1.85	241.27	4,998.57	-72.90	88.89	-88.33	6.00	0.95	246.56
5,050.00	4.71	259.16	5,048.48	-73.67	86.16	-85.59	6.00	5.71	35.79
5,100.00	7.68	263.43	5,098.19	-74.44	80.83	-80.25	6.00	5.93	8.54
5,150.00	10.66	265.33	5,147.54	-75.20	72.90	-72.32	6.00	5.97	3.79
5,200.00	13.65	266.40	5,196.42	-75.95	62.39	-61.81	6.00	5.98	2.14
5,250.00	16.65	267.09	5,244.67	-76.68	49.35	-48.76	6.00	5.99	1.38
5,300.00	19.64	267.57	5,292.18	-77.40	33.79	-33.20	6.00	5.99	0.97
5,350.00	22.64	267.94	5,338.81	-78.11	15.78	-15.18	6.00	5.99	0.72
5,400.00	25.64	268.22	5,384.43	-78.79	-4.66	5.26	6.00	6.00	0.56
5,450.00	28.64	268.44	5,428.92	-79.45	-27.45	28.06	6.00	6.00	0.45
5,500.00	31.64	268.63	5,472.16	-80.09	-52.55	53.16	6.00	6.00	0.37
5,550.00	34.64	268.79	5,514.02	-80.71	-79.87	80.49	6.00	6.00	0.31
5,600.00	37.63	268.92	5,554.40	-81.30	-109.34	109.96	6.00	6.00	0.27
5,650.00	40.63	269.04	5,593.18	-81.86	-140.89	141.52	6.00	6.00	0.24
5,700.00	43.63	269.14	5,630.25	-82.39	-174.43	175.05	6.00	6.00	0.21
5,750.00	46.63	269.24	5,665.52	-82.89	-209.86	210.49	6.00	6.00	0.19
5,800.00	49.63	269.32	5,698.89	-83.36	-247.08	247.72	6.00	6.00	0.17
5,850.00	52.63	269.40	5,730.26	-83.79	-286.00	286.64	6.00	6.00	0.15
5,900.00	55.63	269.47	5,759.56	-84.20	-326.52	327.15	6.00	6.00	0.14
5,950.00	58.63	269.53	5,786.69	-84.56	-368.50	369.14	6.00	6.00	0.13
5,972.85	60.00	269.56	5,798.35	-84.71	-388.15	388.79	6.00	6.00	0.13
6,000.00	60.00	269.56	5,811.93	-84.89	-411.67	412.31	0.00	0.00	0.00
6,100.00	60.00	269.56	5,861.93	-85.55	-498.27	498.91	0.00	0.00	0.00
6,172.85	60.00	269.56	5,898.35	-86.03	-561.35	561.99	0.00	0.00	0.00
6,200.00	62.72	269.56	5,911.36	-86.21	-585.18	585.82	10.00	10.00	0.00
6,250.00	67.72	269.56	5,932.32	-86.56	-630.56	631.20	10.00	10.00	0.00
6,300.00	72.72	269.56	5,949.24	-86.92	-677.59	678.24	10.00	10.00	0.00
6,350.00	77.72	269.56	5,961.99	-87.29	-725.92	726.57	10.00	10.00	0.00
6,383.78	81.09	269.56	5,968.20	-87.54	-759.11	759.76	10.00	10.00	0.00
3. GARRISON 90H SEC 16/17 XING: 6383.77' MD									
6,400.00	82.72	269.56	5,970.49	-87.66	-775.17	775.82	10.00	10.00	0.00
6,450.00	87.72	269.56	5,974.66	-88.04	-824.98	825.63	10.00	10.00	0.00
6,484.13	91.13	269.56	5,975.00	-88.30	-859.10	859.75	10.00	10.00	0.00
4. GARRISON 90H FTP: 1745' FSL, 100' FEL									
6,500.00	91.13	269.56	5,974.69	-88.42	-874.97	875.62	0.00	0.00	0.00
6,600.00	91.13	269.56	5,972.72	-89.18	-974.95	975.60	0.00	0.00	0.00
6,700.00	91.13	269.56	5,970.75	-89.94	-1,074.93	1,075.58	0.00	0.00	0.00
6,800.00	91.13	269.56	5,968.78	-90.70	-1,174.90	1,175.57	0.00	0.00	0.00
6,900.00	91.13	269.56	5,966.81	-91.47	-1,274.88	1,275.55	0.00	0.00	0.00
7,000.00	91.13	269.56	5,964.84	-92.23	-1,374.86	1,375.53	0.00	0.00	0.00
7,100.00	91.13	269.56	5,962.88	-92.99	-1,474.84	1,475.51	0.00	0.00	0.00
7,200.00	91.13	269.56	5,960.91	-93.75	-1,574.81	1,575.49	0.00	0.00	0.00
7,300.00	91.13	269.56	5,958.94	-94.51	-1,674.79	1,675.47	0.00	0.00	0.00
7,400.00	91.13	269.56	5,956.97	-95.27	-1,774.77	1,775.45	0.00	0.00	0.00
7,500.00	91.13	269.56	5,955.00	-96.03	-1,874.75	1,875.43	0.00	0.00	0.00
7,600.00	91.13	269.56	5,953.03	-96.79	-1,974.73	1,975.41	0.00	0.00	0.00
7,700.00	91.13	269.56	5,951.06	-97.56	-2,074.70	2,075.39	0.00	0.00	0.00
7,800.00	91.13	269.56	5,949.10	-98.32	-2,174.68	2,175.37	0.00	0.00	0.00
7,900.00	91.13	269.56	5,947.13	-99.08	-2,274.66	2,275.35	0.00	0.00	0.00
8,000.00	91.13	269.56	5,945.16	-99.84	-2,374.64	2,375.33	0.00	0.00	0.00
8,100.00	91.13	269.56	5,943.19	-100.60	-2,474.61	2,475.31	0.00	0.00	0.00
8,200.00	91.13	269.56	5,941.22	-101.36	-2,574.59	2,575.29	0.00	0.00	0.00
8,300.00	91.13	269.56	5,939.25	-102.12	-2,674.57	2,675.27	0.00	0.00	0.00
8,400.00	91.13	269.56	5,937.28	-102.88	-2,774.55	2,775.26	0.00	0.00	0.00



PROTOTYPE Planning Report



Database:	EDM 5000.17 Single User Db	Local Co-ordinate Reference:	Well 90H
Company:	SPUR ENERGY PARTNERS, LLC	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Project:	EDDY COUNTY, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Site:	GARRISON 17 FEDERAL COM	North Reference:	Grid
Well:	90H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,500.00	91.13	269.56	5,935.32	-103.64	-2,874.52	2,875.24	0.00	0.00	0.00
8,600.00	91.13	269.56	5,933.35	-104.41	-2,974.50	2,975.22	0.00	0.00	0.00
8,700.00	91.13	269.56	5,931.38	-105.17	-3,074.48	3,075.20	0.00	0.00	0.00
8,800.00	91.13	269.56	5,929.41	-105.93	-3,174.46	3,175.18	0.00	0.00	0.00
8,900.00	91.13	269.56	5,927.44	-106.69	-3,274.44	3,275.16	0.00	0.00	0.00
9,000.00	91.13	269.56	5,925.47	-107.45	-3,374.41	3,375.14	0.00	0.00	0.00
9,100.00	91.13	269.56	5,923.50	-108.21	-3,474.39	3,475.12	0.00	0.00	0.00
9,200.00	91.13	269.56	5,921.54	-108.97	-3,574.37	3,575.10	0.00	0.00	0.00
9,300.00	91.13	269.56	5,919.57	-109.73	-3,674.35	3,675.08	0.00	0.00	0.00
9,400.00	91.13	269.56	5,917.60	-110.50	-3,774.32	3,775.06	0.00	0.00	0.00
9,500.00	91.13	269.56	5,915.63	-111.26	-3,874.30	3,875.04	0.00	0.00	0.00
9,600.00	91.13	269.56	5,913.66	-112.02	-3,974.28	3,975.02	0.00	0.00	0.00
9,700.00	91.13	269.56	5,911.69	-112.78	-4,074.26	4,075.00	0.00	0.00	0.00
9,800.00	91.13	269.56	5,909.72	-113.54	-4,174.24	4,174.98	0.00	0.00	0.00
9,900.00	91.13	269.56	5,907.76	-114.30	-4,274.21	4,274.96	0.00	0.00	0.00
10,000.00	91.13	269.56	5,905.79	-115.06	-4,374.19	4,374.95	0.00	0.00	0.00
10,100.00	91.13	269.56	5,903.82	-115.82	-4,474.17	4,474.93	0.00	0.00	0.00
10,200.00	91.13	269.56	5,901.85	-116.58	-4,574.15	4,574.91	0.00	0.00	0.00
10,243.96	91.13	269.56	5,900.98	-116.92	-4,618.10	4,618.86	0.00	0.00	0.00
5. GARRISON 90H LTP: 1745' FSL, 1420' FWL									
10,293.98	91.13	269.56	5,900.00	-117.30	-4,668.10	4,668.86	0.00	0.00	0.00
6. GARRISON 90H BHL: 1745' FSL, 1370' FWL									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
1. GARRISON 90H SI - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	666,829.10	680,338.40	32.83232	-103.88079
2. GARRISON 90H KI - plan hits target center - Point	0.00	0.00	4,953.05	-72.19	89.10	666,756.92	680,427.49	32.83212	-103.88051
6. GARRISON 90H BI - plan hits target center - Point	0.00	0.00	5,900.00	-117.30	-4,668.10	666,711.80	675,670.30	32.83205	-103.89599
5. GARRISON 90H LI - plan misses target center by 0.08usft at 10243.96usft MD (5900.98 TVD, -116.92 N, -4618.10 E) - Point	0.00	0.00	5,900.98	-117.00	-4,618.10	666,712.10	675,720.30	32.83205	-103.89583
3. GARRISON 90H SI - plan hits target center - Point	0.00	0.00	5,968.20	-87.54	-759.11	666,741.57	679,579.29	32.83209	-103.88327
4. GARRISON 90H FI - plan hits target center - Point	0.00	0.00	5,975.00	-88.30	-859.10	666,740.80	679,479.30	32.83209	-103.88359



SPUR ENERGY PARTNERS, LLC

**EDDY COUNTY, NM (NAD 83 - NME)
GARRISON 17 FEDERAL COM
90H**

**OH
PERMIT**

Anticollision Report

09 October, 2025



**PROTOTYPE
WELL PLANNING**
WELL PLANNED. WELL EXECUTED.



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

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

Survey Tool Program		Date	10/8/2025		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	10,293.98	PERMIT (OH)	MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction	

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						
GARRISON 17 FEDERAL COM						
20H - OH - PERMIT	300.00	300.00	20.00	16.09	5.118	CC, ES
20H - OH - PERMIT	350.00	349.67	20.69	16.38	4.804	SF
70H - OH - PERMIT	300.00	300.00	40.00	36.10	10.236	CC, ES
70H - OH - PERMIT	10,293.98	10,032.74	821.78	713.45	7.586	SF
OFFSET: FOSTER EDDY 11 - OH - OH	8,560.40	5,600.00	281.95	213.08	4.094	CC
OFFSET: FOSTER EDDY 11 - OH - OH	8,600.00	5,600.00	284.72	211.85	3.907	ES
OFFSET: FOSTER EDDY 11 - OH - OH	8,750.00	5,600.00	339.78	238.54	3.356	SF
OFFSET: FOSTER EDDY 35 - OH - OH	8,069.20	5,881.42	124.63	-18.83	0.869	Level 1, CC, ES, SF
OFFSET: FOSTER EDDY 36 - OH - OH	8,659.60	5,909.34	535.62	479.02	9.464	CC, ES
OFFSET: FOSTER EDDY 36 - OH - OH	8,700.00	5,908.68	537.14	480.33	9.455	SF
OFFSET: FOSTER EDDY 9 - OH - OH	8,050.00	5,560.00	657.26	523.89	4.928	CC
OFFSET: FOSTER EDDY 9 - OH - OH	8,052.25	5,560.00	657.27	523.87	4.927	ES
OFFSET: FOSTER EDDY 9 - OH - OH	8,100.00	5,560.00	659.14	525.13	4.919	SF
OFFSET: STATE A 2 - OH - OH	3,605.10	3,585.00	246.07	90.90	1.586	CC, ES, SF
OFFSET: STATE A 608 - OH - OH	300.00	294.01	863.74	855.63	106.509	CC
OFFSET: STATE A 608 - OH - OH	3,950.00	3,954.19	944.61	845.31	9.513	ES
OFFSET: STATE A 608 - OH - OH	4,250.00	4,222.00	951.60	846.39	9.044	SF
OFFSET: YUCCA 3 - OH - OH	5,050.00	5,049.02	43.05	12.85	1.426	Level 3, SF
OFFSET: YUCCA 3 - OH - OH	5,100.00	5,098.82	42.50	12.74	1.428	Level 3, ES
OFFSET: YUCCA 3 - OH - OH	5,114.20	5,112.93	42.46	12.90	1.436	Level 3, CC
OFFSET: YUCCA STATE 4 - OH - OH	5,913.85	5,776.11	567.50	435.93	4.313	CC, ES
OFFSET: YUCCA STATE 4 - OH - OH	5,950.00	5,795.62	568.30	436.52	4.312	SF
OFFSET: YUCCA STATE 6 - OH - OH	6,032.03	5,823.72	187.58	54.05	1.405	Level 3, CC, ES
OFFSET: YUCCA STATE 6 - OH - OH	6,050.00	5,832.70	188.23	54.17	1.404	Level 3, SF
OFFSET: YUCCA STATE 7 - OH - OH	300.00	309.00	533.27	526.13	74.594	CC
OFFSET: YUCCA STATE 7 - OH - OH	5,000.00	5,007.90	574.34	469.95	5.502	ES
OFFSET: YUCCA STATE 7 - OH - OH	5,200.00	5,206.06	583.86	476.13	5.420	SF

Offset Design:	GARRISON 17 FEDERAL COM - 20H - OH - PERMIT										Offset Site Error:	0.00 usft
Survey Program:	0-MWD+IFR1+MS	Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:		Offset Well Error:	0.00 usft	
Reference		Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Offset	Offset	Distance	Distance	Minimum Separation	Separation Factor	Warning
Measured Depth (usft)		Depth (usft)	Depth (usft)	(usft)	(usft)	from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	(usft)	
0.00	0.00	0.00	0.00	0.00	0.00	-0.86	20.00	-0.30	20.00			

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - 20H - OH - PERMIT

Survey Program: 0-MWD+IFR1+MS													Offset Site Error: 0.00 usft				
Reference				Offset		Semi Major Axis				Offset Wellbore Centre				Rule Assigned: Distance		Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning				
50.00	50.00	50.00	50.00	0.92	0.46	-0.86	20.00	-0.30	20.00	18.62	1.39	14.429					
100.00	100.00	100.00	100.00	0.92	0.92	-0.86	20.00	-0.30	20.00	18.15	1.85	10.821					
150.00	150.00	150.00	150.00	1.23	1.23	-0.86	20.00	-0.30	20.00	17.55	2.45	8.163					
200.00	200.00	200.00	200.00	1.53	1.53	-0.86	20.00	-0.30	20.00	16.95	3.05	6.553					
250.00	250.00	250.00	250.00	1.74	1.74	-0.86	20.00	-0.30	20.00	16.52	3.48	5.747					
283.33	283.33	283.33	283.33	1.88	1.88	-0.86	20.00	-0.30	20.00	16.24	3.77	5.312					
300.00	300.00	300.00	300.00	1.95	1.95	-0.86	20.00	-0.30	20.00	16.09	3.91	5.118 CC, ES					
350.00	350.00	349.67	349.67	2.10	2.23	-1.35	20.40	-0.15	20.69	16.38	4.31	4.804 SF					
400.00	399.98	399.28	399.26	2.20	2.51	-2.36	21.61	0.31	22.65	18.00	4.65	4.871					
450.00	449.97	448.82	448.75	2.38	2.74	-2.57	23.61	1.07	25.46	20.43	5.03	5.064					
500.00	499.95	498.29	498.13	2.55	2.95	-2.06	26.41	2.13	29.06	23.67	5.39	5.388					
550.00	549.94	548.13	547.86	2.71	3.26	-1.40	29.58	3.33	33.01	27.16	5.85	5.638					
600.00	599.92	597.97	597.58	2.88	3.58	-0.88	32.76	4.53	36.97	30.64	6.32	5.846					
650.00	649.91	647.81	647.31	3.04	3.74	-0.46	35.93	5.73	40.92	34.31	6.62	6.183					
700.00	699.89	697.66	697.04	3.20	3.89	-0.12	39.10	6.94	44.88	37.98	6.91	6.498					
750.00	749.88	747.50	746.76	3.36	4.04	0.17	42.27	8.14	48.85	41.65	7.19	6.790					
800.00	799.86	797.34	796.49	3.52	4.20	0.41	45.44	9.34	52.81	45.33	7.48	7.061					
850.00	849.85	847.18	846.22	3.67	4.35	0.63	48.61	10.54	56.77	49.01	7.76	7.314					
900.00	899.83	897.03	895.94	3.83	4.51	0.81	51.78	11.74	60.74	52.69	8.05	7.549					
950.00	949.81	946.87	945.67	3.98	4.68	0.97	54.95	12.94	64.70	56.37	8.33	7.770					
1,000.00	999.80	996.71	995.40	4.14	4.84	1.11	58.13	14.15	68.66	60.06	8.61	7.976					
1,050.00	1,049.78	1,046.55	1,045.12	4.29	5.00	1.24	61.30	15.35	72.63	63.74	8.89	8.170					
1,100.00	1,099.77	1,096.40	1,094.85	4.44	5.17	1.35	64.47	16.55	76.60	67.43	9.17	8.353					
1,150.00	1,149.75	1,146.24	1,144.58	4.59	5.34	1.45	67.64	17.75	80.56	71.11	9.45	8.526					
1,200.00	1,199.74	1,196.08	1,194.30	4.75	5.50	1.55	70.81	18.95	84.53	74.80	9.73	8.688					
1,250.00	1,249.72	1,245.92	1,244.03	4.90	5.67	1.63	73.98	20.15	88.49	78.49	10.01	8.843					
1,300.00	1,299.71	1,295.76	1,293.76	5.05	5.84	1.71	77.15	21.36	92.46	82.17	10.29	8.989					
1,350.00	1,349.69	1,345.61	1,343.48	5.20	6.01	1.78	80.33	22.56	96.43	85.86	10.56	9.128					
1,400.00	1,399.68	1,395.45	1,393.21	5.35	6.18	1.85	83.50	23.76	100.39	89.55	10.84	9.261					
1,450.00	1,449.66	1,445.29	1,442.94	5.50	6.35	1.91	86.67	24.96	104.36	93.24	11.12	9.387					
1,500.00	1,499.64	1,495.13	1,492.67	5.65	6.53	1.96	89.84	26.16	108.33	96.93	11.39	9.507					
1,550.00	1,549.63	1,544.98	1,542.39	5.80	6.70	2.01	93.01	27.36	112.29	100.62	11.67	9.622					
1,600.00	1,599.61	1,594.82	1,592.12	5.95	6.87	2.06	96.18	28.57	116.26	104.31	11.95	9.731					
1,650.00	1,649.60	1,644.66	1,641.85	6.09	7.05	2.11	99.35	29.77	120.23	108.01	12.22	9.837					
1,700.00	1,699.58	1,694.50	1,691.57	6.24	7.22	2.15	102.52	30.97	124.20	111.70	12.50	9.937					
1,750.00	1,749.57	1,744.34	1,741.30	6.39	7.39	2.19	105.70	32.17	128.16	115.39	12.77	10.034					
1,800.00	1,799.55	1,794.19	1,791.03	6.54	7.57	2.23	108.87	33.37	132.13	119.08	13.05	10.126					
1,850.00	1,849.54	1,844.03	1,840.75	6.69	7.74	2.26	112.04	34.57	136.10	122.77	13.32	10.215					
1,900.00	1,899.52	1,893.87	1,890.48	6.84	7.92	2.30	115.21	35.78	140.06	126.47	13.60	10.301					
1,950.00	1,949.51	1,943.71	1,940.21	6.98	8.10	2.33	118.38	36.98	144.03	130.16	13.87	10.383					
2,000.00	1,999.49	1,993.56	1,989.93	7.13	8.27	2.36	121.55	38.18	148.00	133.85	14.15	10.463					
2,050.00	2,049.48	2,043.40	2,039.66	7.28	8.45	2.38	124.72	39.38	151.97	137.55	14.42	10.539					
2,100.00	2,099.46	2,093.24	2,089.39	7.43	8.62	2.41	127.90	40.58	155.93	141.24	14.69	10.613					
2,150.00	2,149.44	2,143.08	2,139.11	7.57	8.80	2.44	131.07	41.78	159.90	144.94	14.97	10.684					
2,200.00	2,199.43	2,192.93	2,188.84	7.72	8.98	2.46	134.24	42.99	163.87	148.63	15.24	10.753					
2,250.00	2,249.41	2,242.77	2,238.57	7.87	9.16	2.48	137.41	44.19	167.84	152.33	15.51	10.820					
2,300.00	2,299.40	2,292.61	2,288.29	8.01	9.33	2.51	140.58	45.39	171.81	156.02	15.79	10.884					
2,350.00	2,349.38	2,342.45	2,338.02	8.16	9.51	2.53	143.75	46.59	175.77	159.72	16.06	10.946					
2,400.00	2,399.37	2,392.29	2,387.75	8.31	9.69	2.55	146.92	47.79	179.74	163.41	16.33	11.006					
2,450.00	2,449.35	2,442.14	2,437.47	8.45	9.87	2.57	150.09	48.99	183.71	167.11	16.60	11.065					
2,500.00	2,499.34	2,491.98	2,487.20	8.60	10.04	2.58	153.27	50.20	187.68	170.80	16.88	11.121					
2,550.00	2,549.32	2,541.82	2,536.93	8.75	10.22	2.60	156.44	51.40	191.64	174.50	17.15	11.176					

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
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Reference Well:	90H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - 20H - OH - PERMIT

Survey Program: 0-MWD+IFR1+MS													Offset Site Error: 0.00 usft	
Reference Offset				Semi Major Axis		Offset Wellbore Centre			Rule Assigned: Distance				Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
2,600.00	2,599.31	2,591.66	2,586.65	8.89	10.40	2.62	159.61	52.60	195.61	178.19	17.42	11.230		
2,650.00	2,649.29	2,641.51	2,636.38	9.04	10.58	2.63	162.78	53.80	199.58	181.89	17.69	11.282		
2,700.00	2,699.27	2,691.35	2,686.11	9.19	10.76	2.65	165.95	55.00	203.55	185.59	17.96	11.332		
2,750.00	2,749.26	2,741.19	2,735.83	9.33	10.94	2.67	169.12	56.20	207.52	189.28	18.23	11.381		
2,800.00	2,799.24	2,791.03	2,785.56	9.48	11.12	2.68	172.29	57.41	211.48	192.98	18.51	11.428		
2,850.00	2,849.23	2,840.88	2,835.29	9.63	11.30	2.69	175.46	58.61	215.45	196.68	18.78	11.475		
2,900.00	2,899.21	2,890.72	2,885.01	9.77	11.47	2.71	178.64	59.81	219.42	200.37	19.05	11.519		
2,950.00	2,949.20	2,940.56	2,934.74	9.92	11.65	2.72	181.81	61.01	223.39	204.07	19.32	11.563		
3,000.00	2,999.18	2,990.40	2,984.47	10.06	11.83	2.73	184.98	62.21	227.36	207.77	19.59	11.606		
3,050.00	3,049.17	3,040.24	3,034.20	10.21	12.01	2.74	188.15	63.41	231.32	211.46	19.86	11.647		
3,100.00	3,099.15	3,090.09	3,083.92	10.36	12.19	2.76	191.32	64.61	235.29	215.16	20.13	11.688		
3,150.00	3,149.14	3,139.93	3,133.65	10.50	12.37	2.77	194.49	65.82	239.26	218.86	20.40	11.727		
3,200.00	3,199.12	3,189.77	3,183.38	10.65	12.55	2.78	197.66	67.02	243.23	222.56	20.67	11.766		
3,250.00	3,249.11	3,239.61	3,233.10	10.79	12.73	2.79	200.84	68.22	247.20	226.25	20.94	11.803		
3,300.00	3,299.09	3,289.46	3,282.83	10.94	12.91	2.80	204.01	69.42	251.16	229.95	21.21	11.840		
3,350.00	3,349.07	3,339.30	3,332.56	11.09	13.09	2.81	207.18	70.62	255.13	233.65	21.48	11.876		
3,400.00	3,399.06	3,389.14	3,382.28	11.23	13.27	2.82	210.35	71.82	259.10	237.35	21.75	11.911		
3,450.00	3,449.04	3,438.98	3,432.01	11.38	13.45	2.83	213.52	73.03	263.07	241.04	22.02	11.945		
3,500.00	3,499.03	3,488.82	3,481.74	11.52	13.63	2.84	216.69	74.23	267.04	244.74	22.29	11.978		
3,550.00	3,549.01	3,538.67	3,531.46	11.67	13.81	2.85	219.86	75.43	271.00	248.44	22.56	12.011		
3,600.00	3,599.00	3,588.51	3,581.19	11.81	13.99	2.85	223.03	76.63	274.97	252.14	22.83	12.043		
3,650.00	3,648.98	3,638.35	3,630.92	11.96	14.17	2.86	226.21	77.83	278.94	255.84	23.10	12.074		
3,700.00	3,698.97	3,688.19	3,680.64	12.11	14.35	2.87	229.38	79.03	282.91	259.54	23.37	12.104		
3,750.00	3,748.95	3,738.04	3,730.37	12.25	14.53	2.88	232.55	80.24	286.88	263.23	23.64	12.134		
3,800.00	3,798.94	3,787.88	3,780.10	12.40	14.71	2.89	235.72	81.44	290.84	266.93	23.91	12.163		
3,850.00	3,848.92	3,837.72	3,829.82	12.54	14.89	2.89	238.89	82.64	294.81	270.63	24.18	12.192		
3,900.00	3,898.91	3,887.56	3,879.55	12.69	15.07	2.90	242.06	83.84	298.78	274.33	24.45	12.220		
3,950.00	3,948.89	3,937.41	3,929.28	12.83	15.26	2.91	245.23	85.04	302.75	278.03	24.72	12.247		
4,000.00	3,998.87	3,987.25	3,979.00	12.98	15.44	2.91	248.41	86.24	306.72	281.73	24.99	12.274		
4,050.00	4,048.86	4,037.09	4,028.73	13.12	15.61	2.92	251.58	87.45	310.68	285.44	25.25	12.305		
4,100.00	4,098.84	4,087.91	4,079.44	13.27	15.77	2.84	254.79	88.15	314.61	289.09	25.51	12.332		
4,150.00	4,148.83	4,139.19	4,130.59	13.41	15.90	2.30	257.91	86.31	318.31	292.53	25.78	12.347		
4,200.00	4,198.81	4,190.05	4,181.15	13.56	15.97	1.29	260.89	81.78	321.85	295.82	26.03	12.366		
4,250.00	4,248.80	4,240.19	4,230.71	13.71	16.00	-0.14	263.68	74.69	325.37	299.11	26.26	12.392		
4,300.00	4,298.78	4,289.38	4,278.89	13.85	16.01	-1.97	266.29	65.21	329.05	302.57	26.48	12.426		
4,350.00	4,348.77	4,337.38	4,325.39	14.00	16.01	-4.12	268.70	53.57	333.12	306.42	26.70	12.475		
4,400.00	4,398.75	4,384.00	4,369.95	14.14	16.00	-6.54	270.90	40.05	337.84	310.92	26.92	12.550		
4,450.00	4,448.74	4,429.09	4,412.37	14.29	15.99	-9.17	272.90	24.92	343.50	316.37	27.13	12.663		
4,500.00	4,498.72	4,472.53	4,452.53	14.43	15.98	-11.94	274.69	8.46	350.36	323.05	27.31	12.830		
4,550.00	4,548.70	4,514.24	4,490.36	14.58	15.97	-14.79	276.30	-9.05	358.67	331.22	27.45	13.065		
4,600.00	4,598.69	4,554.18	4,525.83	14.72	15.96	-17.65	277.72	-27.34	368.66	341.11	27.55	13.380		
4,650.00	4,648.67	4,592.32	4,558.96	14.87	15.96	-20.48	278.97	-46.18	380.51	352.91	27.60	13.787		
4,700.00	4,698.66	4,628.67	4,589.82	15.01	15.96	-23.24	280.07	-65.35	394.34	366.76	27.59	14.294		
4,750.00	4,748.64	4,663.25	4,618.49	15.16	15.96	-25.88	281.02	-84.67	410.23	382.71	27.52	14.907		
4,800.00	4,798.63	4,700.00	4,648.17	15.30	15.97	-28.68	281.93	-106.32	428.21	400.76	27.45	15.599		
4,850.00	4,848.61	4,727.29	4,669.66	15.45	15.98	-30.77	282.54	-123.13	448.21	420.97	27.23	16.458		
4,900.00	4,898.60	4,756.87	4,692.40	15.59	15.99	-32.98	283.14	-142.03	470.22	443.19	27.03	17.396		
4,950.00	4,948.58	4,784.91	4,713.41	15.73	16.01	-35.05	283.65	-160.58	494.14	467.35	26.79	18.445		
5,000.00	4,998.57	4,812.03	4,733.21	15.80	16.03	-36.90	284.08	-179.11	519.30	492.79	26.51	19.590		
5,050.00	5,048.48	4,839.05	4,752.41	15.75	16.05	-38.44	284.45	-198.12	544.73	518.60	26.13	20.846		
5,100.00	5,098.19	4,865.98	4,771.00	15.66	16.07	-39.72	284.76	-217.60	570.21	544.47	25.74	22.156		
5,150.00	5,147.54	4,900.00	4,793.69	15.55	16.11	-41.24	285.07	-242.94	595.62	570.17	25.45	23.406		

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - 20H - OH - PERMIT

Survey Program: 0-MWD+IFR1+MS													Offset Site Error:	0.00 usft			
Reference Offset				Semi Major Axis					Offset Wellbore Centre				Rule Assigned: Distance			Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning				
5,200.00	5,196.42	4,919.61	4,806.36	15.43	16.14	-41.57	285.21	-257.91	620.63	595.66	24.97	24.858					
5,250.00	5,244.67	4,950.00	4,825.37	15.31	16.18	-42.43	285.37	-281.62	645.31	620.66	24.65	26.176					
5,300.00	5,292.18	4,972.97	4,839.24	15.18	16.22	-42.61	285.43	-299.93	669.46	645.20	24.26	27.597					
5,350.00	5,338.81	5,000.00	4,854.99	15.06	16.26	-42.88	285.46	-321.89	693.02	669.08	23.94	28.950					
5,400.00	5,384.43	5,026.11	4,869.62	14.93	16.31	-42.93	285.43	-343.52	715.90	692.27	23.63	30.293					
5,450.00	5,428.92	5,050.00	4,882.48	14.81	16.36	-42.66	285.35	-363.65	738.05	714.73	23.32	31.646					
5,500.00	5,472.16	5,080.89	4,898.35	14.69	16.43	-42.75	285.19	-390.15	759.38	736.27	23.11	32.856					
5,550.00	5,514.02	5,122.43	4,919.12	14.58	16.54	-43.44	284.91	-426.13	779.41	756.35	23.06	33.803					
5,600.00	5,554.40	5,168.15	4,941.98	14.48	16.67	-44.24	284.61	-465.72	797.46	774.39	23.08	34.558					
5,650.00	5,593.18	5,214.87	4,965.34	14.39	16.81	-44.93	284.30	-506.17	813.44	790.31	23.13	35.174					
5,700.00	5,630.25	5,262.45	4,989.13	14.31	16.96	-45.51	283.99	-547.38	827.26	804.06	23.20	35.652					
5,750.00	5,665.52	5,293.80	5,004.68	14.24	17.07	-44.85	283.78	-574.60	839.17	816.01	23.16	36.236					
5,800.00	5,698.89	5,314.64	5,014.35	14.19	17.14	-43.31	283.64	-593.06	850.28	827.22	23.06	36.872					
5,850.00	5,730.26	5,335.37	5,023.31	14.16	17.22	-41.57	283.50	-611.76	860.70	837.70	23.00	37.420					
5,900.00	5,759.56	5,350.00	5,029.22	14.15	17.27	-39.09	283.40	-625.14	870.46	847.53	22.93	37.967					
5,950.00	5,786.69	5,376.58	5,039.07	14.16	17.38	-37.41	283.21	-649.82	879.39	856.38	23.01	38.216					
6,000.00	5,811.93	5,400.00	5,046.79	14.19	17.48	-35.27	283.04	-671.93	888.00	864.93	23.07	38.489					
6,050.00	5,836.93	5,417.20	5,051.89	14.25	17.56	-32.37	282.92	-688.36	897.93	874.80	23.14	38.812					
6,100.00	5,861.93	5,450.00	5,060.23	14.32	17.70	-31.06	282.67	-720.07	909.68	886.33	23.35	38.964					
6,150.00	5,886.93	5,450.00	5,060.23	14.41	17.70	-25.84	282.67	-720.07	922.57	899.24	23.33	39.550					
6,200.00	5,911.36	5,475.63	5,065.47	14.51	17.83	-23.46	282.48	-745.16	936.52	912.98	23.54	39.783					
6,250.00	5,932.32	5,500.00	5,069.41	14.66	17.94	-20.60	282.30	-769.20	948.62	924.76	23.87	39.748					
6,300.00	5,949.24	5,500.00	5,069.41	14.83	17.94	-13.94	282.30	-769.20	958.55	934.49	24.05	39.852					
6,350.00	5,961.99	5,533.47	5,073.15	15.05	18.12	-11.71	282.05	-802.46	965.56	941.04	24.52	39.377					
6,400.00	5,970.49	5,550.00	5,074.28	15.29	18.20	-6.75	281.92	-818.95	970.41	945.51	24.90	38.976					
6,450.00	5,974.66	5,572.32	5,075.05	15.55	18.32	-2.52	281.75	-841.25	972.78	947.45	25.33	38.403					
6,500.00	5,974.69	5,592.17	5,075.00	15.84	18.42	2.15	281.60	-861.10	972.91	947.20	25.70	37.854					
6,517.03	5,974.35	5,608.17	5,074.69	15.95	18.51	2.31	281.48	-877.10	972.91	947.02	25.88	37.588					
6,550.00	5,973.70	5,641.14	5,074.04	16.16	18.71	2.31	281.23	-910.06	972.91	946.65	26.25	37.063					
6,600.00	5,972.72	5,691.14	5,073.05	16.48	19.00	2.31	280.85	-960.05	972.91	946.10	26.81	36.293					
6,650.00	5,971.73	5,741.14	5,072.07	16.83	19.31	2.31	280.47	-1,010.04	972.91	945.51	27.39	35.517					
6,700.00	5,970.75	5,791.14	5,071.08	17.17	19.62	2.31	280.09	-1,060.03	972.91	944.92	27.98	34.771					
6,750.00	5,969.77	5,841.14	5,070.10	17.54	19.95	2.31	279.70	-1,110.02	972.91	944.31	28.59	34.026					
6,800.00	5,968.78	5,891.14	5,069.11	17.92	20.29	2.31	279.32	-1,160.01	972.91	943.70	29.21	33.310					
6,850.00	5,967.80	5,941.14	5,068.13	18.31	20.64	2.31	278.94	-1,210.00	972.90	943.06	29.84	32.599					
6,900.00	5,966.81	5,991.14	5,067.15	18.70	21.00	2.31	278.56	-1,259.98	972.90	942.42	30.48	31.917					
6,950.00	5,965.83	6,041.14	5,066.16	19.11	21.37	2.31	278.18	-1,309.97	972.90	941.76	31.14	31.243					
7,000.00	5,964.84	6,091.14	5,065.18	19.52	21.74	2.31	277.80	-1,359.96	972.90	941.11	31.80	30.596					
7,050.00	5,963.86	6,141.14	5,064.19	19.95	22.13	2.31	277.42	-1,409.95	972.90	940.43	32.47	29.959					
7,100.00	5,962.88	6,191.14	5,063.21	20.37	22.52	2.31	277.04	-1,459.94	972.90	939.75	33.15	29.347					
7,150.00	5,961.89	6,241.14	5,062.22	20.81	22.92	2.31	276.66	-1,509.93	972.90	939.06	33.84	28.747					
7,200.00	5,960.91	6,291.14	5,061.24	21.26	23.33	2.31	276.28	-1,559.92	972.90	938.37	34.54	28.170					
7,250.00	5,959.92	6,341.14	5,060.26	21.71	23.74	2.31	275.90	-1,609.91	972.90	937.66	35.24	27.605					
7,300.00	5,958.94	6,391.14	5,059.27	22.16	24.16	2.31	275.52	-1,659.89	972.90	936.95	35.95	27.062					
7,350.00	5,957.95	6,441.14	5,058.29	22.62	24.58	2.31	275.14	-1,709.88	972.90	936.24	36.67	26.532					
7,400.00	5,956.97	6,491.14	5,057.30	23.08	25.01	2.31	274.76	-1,759.87	972.90	935.52	37.39	26.021					
7,450.00	5,955.99	6,541.14	5,056.32	23.56	25.45	2.31	274.38	-1,809.86	972.90	934.79	38.12	25.523					
7,500.00	5,955.00	6,591.14	5,055.34	24.03	25.89	2.31	274.00	-1,859.85	972.90	934.06	38.85	25.043					
7,550.00	5,954.02	6,641.14	5,054.35	24.51	26.33	2.31	273.62	-1,909.84	972.90	933.32	39.59	24.575					
7,600.00	5,953.03	6,691.14	5,053.37	24.99	26.78	2.31	273.24	-1,959.83	972.90	932.58	40.33	24.124					
7,650.00	5,952.05	6,741.14	5,052.38	25.47	27.24	2.31	272.85	-2,009.82	972.90	931.83	41.08	23.685					
7,700.00	5,951.06	6,791.14	5,051.40	25.96	27.69	2.31	272.47	-2,059.81	972.90	931.08	41.83	23.261					

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - 20H - OH - PERMIT

Survey Program: 0-MWD+IFR1+MS													Offset Site Error:	0.00 usft	
Reference Offset				Semi Major Axis			Offset Wellbore Centre			Rule Assigned: Distance				Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
7,750.00	5,950.08	6,841.14	5,050.41	26.45	28.15	2.31	272.09	-2,109.79	972.90	930.32	42.58	22.848			
7,800.00	5,949.10	6,891.14	5,049.43	26.95	28.62	2.31	271.71	-2,159.78	972.90	929.57	43.34	22.449			
7,850.00	5,948.11	6,941.14	5,048.45	27.45	29.09	2.31	271.33	-2,209.77	972.90	928.80	44.10	22.060			
7,900.00	5,947.13	6,991.14	5,047.46	27.95	29.56	2.31	270.95	-2,259.76	972.90	928.04	44.87	21.685			
7,950.00	5,946.14	7,041.14	5,046.48	28.45	30.03	2.31	270.57	-2,309.75	972.90	927.27	45.63	21.320			
8,000.00	5,945.16	7,091.14	5,045.49	28.95	30.51	2.31	270.19	-2,359.74	972.90	926.50	46.40	20.966			
8,050.00	5,944.17	7,141.14	5,044.51	29.46	30.99	2.31	269.81	-2,409.73	972.90	925.73	47.18	20.622			
8,100.00	5,943.19	7,191.14	5,043.52	29.97	31.48	2.31	269.43	-2,459.72	972.90	924.95	47.95	20.288			
8,150.00	5,942.21	7,241.14	5,042.54	30.48	31.96	2.31	269.05	-2,509.71	972.90	924.17	48.73	19.964			
8,200.00	5,941.22	7,291.14	5,041.56	30.99	32.45	2.31	268.67	-2,559.69	972.90	923.39	49.51	19.649			
8,250.00	5,940.24	7,341.14	5,040.57	31.51	32.94	2.31	268.29	-2,609.68	972.90	922.61	50.30	19.343			
8,300.00	5,939.25	7,391.14	5,039.59	32.03	33.44	2.31	267.91	-2,659.67	972.90	921.82	51.08	19.046			
8,350.00	5,938.27	7,441.14	5,038.60	32.54	33.93	2.31	267.53	-2,709.66	972.90	921.03	51.87	18.756			
8,400.00	5,937.28	7,491.14	5,037.62	33.06	34.43	2.31	267.15	-2,759.65	972.90	920.25	52.66	18.476			
8,450.00	5,936.30	7,541.14	5,036.63	33.59	34.93	2.31	266.77	-2,809.64	972.90	919.45	53.45	18.202			
8,500.00	5,935.32	7,591.14	5,035.65	34.11	35.43	2.31	266.38	-2,859.63	972.90	918.66	54.24	17.936			
8,550.00	5,934.33	7,641.14	5,034.67	34.63	35.93	2.31	266.00	-2,909.62	972.90	917.87	55.04	17.677			
8,600.00	5,933.35	7,691.14	5,033.68	35.16	36.44	2.31	265.62	-2,959.61	972.90	917.07	55.83	17.425			
8,650.00	5,932.36	7,741.14	5,032.70	35.68	36.95	2.31	265.24	-3,009.59	972.90	916.27	56.63	17.179			
8,700.00	5,931.38	7,791.14	5,031.71	36.21	37.45	2.31	264.86	-3,059.58	972.90	915.47	57.43	16.940			
8,750.00	5,930.39	7,841.14	5,030.73	36.74	37.97	2.31	264.48	-3,109.57	972.90	914.67	58.23	16.707			
8,800.00	5,929.41	7,891.14	5,029.74	37.27	38.48	2.31	264.10	-3,159.56	972.90	913.87	59.04	16.480			
8,850.00	5,928.43	7,941.14	5,028.76	37.80	38.99	2.31	263.72	-3,209.55	972.90	913.06	59.84	16.259			
8,900.00	5,927.44	7,991.14	5,027.78	38.33	39.50	2.31	263.34	-3,259.54	972.90	912.26	60.64	16.043			
8,950.00	5,926.46	8,041.14	5,026.79	38.86	40.02	2.31	262.96	-3,309.53	972.90	911.45	61.45	15.832			
9,000.00	5,925.47	8,091.14	5,025.81	39.40	40.54	2.31	262.58	-3,359.52	972.90	910.65	62.26	15.627			
9,050.00	5,924.49	8,141.14	5,024.82	39.93	41.06	2.31	262.20	-3,409.51	972.90	909.84	63.07	15.427			
9,100.00	5,923.50	8,191.14	5,023.84	40.47	41.57	2.31	261.82	-3,459.49	972.90	909.03	63.87	15.232			
9,150.00	5,922.52	8,241.14	5,022.85	41.00	42.10	2.31	261.44	-3,509.48	972.90	908.22	64.68	15.041			
9,200.00	5,921.54	8,291.14	5,021.87	41.54	42.62	2.31	261.06	-3,559.47	972.90	907.41	65.50	14.855			
9,250.00	5,920.55	8,341.14	5,020.89	42.08	43.14	2.31	260.68	-3,609.46	972.90	906.60	66.31	14.672			
9,300.00	5,919.57	8,391.14	5,019.90	42.61	43.66	2.31	260.30	-3,659.45	972.90	905.78	67.12	14.495			
9,350.00	5,918.58	8,441.14	5,018.92	43.15	44.19	2.31	259.91	-3,709.44	972.90	904.97	67.94	14.321			
9,400.00	5,917.60	8,491.14	5,017.93	43.69	44.71	2.31	259.53	-3,759.43	972.90	904.15	68.75	14.151			
9,450.00	5,916.61	8,541.14	5,016.95	44.23	45.24	2.31	259.15	-3,809.42	972.90	903.34	69.57	13.985			
9,500.00	5,915.63	8,591.14	5,015.96	44.77	45.77	2.31	258.77	-3,859.40	972.90	902.52	70.38	13.823			
9,550.00	5,914.65	8,641.14	5,014.98	45.32	46.30	2.31	258.39	-3,909.39	972.90	901.70	71.20	13.665			
9,600.00	5,913.66	8,691.14	5,014.00	45.86	46.83	2.31	258.01	-3,959.38	972.90	900.89	72.02	13.509			
9,650.00	5,912.68	8,741.14	5,013.01	46.40	47.36	2.31	257.63	-4,009.37	972.90	900.07	72.84	13.358			
9,700.00	5,911.69	8,791.14	5,012.03	46.94	47.89	2.31	257.25	-4,059.36	972.90	899.25	73.65	13.209			
9,750.00	5,910.71	8,841.14	5,011.04	47.49	48.42	2.31	256.87	-4,109.35	972.90	898.43	74.47	13.064			
9,800.00	5,909.72	8,891.14	5,010.06	48.03	48.95	2.31	256.49	-4,159.34	972.90	897.61	75.29	12.921			
9,850.00	5,908.74	8,941.14	5,009.07	48.57	49.48	2.31	256.11	-4,209.33	972.90	896.79	76.12	12.782			
9,900.00	5,907.76	8,991.14	5,008.09	49.12	50.02	2.31	255.73	-4,259.32	972.90	895.97	76.94	12.645			
9,950.00	5,906.77	9,041.14	5,007.11	49.66	50.55	2.31	255.35	-4,309.30	972.90	895.14	77.76	12.512			
10,000.00	5,905.79	9,091.14	5,006.12	50.21	51.09	2.31	254.97	-4,359.29	972.90	894.32	78.58	12.381			
10,050.00	5,904.80	9,141.14	5,005.14	50.76	51.62	2.31	254.59	-4,409.28	972.90	893.50	79.41	12.252			
10,100.00	5,903.82	9,191.14	5,004.15	51.30	52.16	2.31	254.21	-4,459.27	972.90	892.67	80.23	12.126			
10,150.00	5,902.83	9,241.14	5,003.17	51.85	52.69	2.31	253.83	-4,509.26	972.90	891.85	81.05	12.003			
10,200.00	5,901.85	9,291.14	5,002.18	52.40	53.23	2.31	253.44	-4,559.25	972.90	891.02	81.88	11.882			
10,250.00	5,900.87	9,341.14	5,001.20	52.94	53.77	2.31	253.06	-4,609.24	972.90	890.20	82.70	11.764			
10,293.98	5,900.00	9,385.12	5,000.33	53.42	54.24	2.31	252.73	-4,653.20	972.90	889.48	83.42	11.662			

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

PROTOTYPE
Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - 70H - OH - PERMIT

Survey Program:		0-MWD+IFR1+MS Reference Offset				Rule Assigned:				Offset Site Error:		0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-0.86	40.00	-0.60	40.00				
50.00	50.00	50.00	50.00	0.92	0.46	-0.86	40.00	-0.60	40.00	38.62	1.39	28.857	
100.00	100.00	100.00	100.00	0.92	0.92	-0.86	40.00	-0.60	40.00	38.16	1.85	21.643	
150.00	150.00	150.00	150.00	1.23	1.23	-0.86	40.00	-0.60	40.00	37.55	2.45	16.325	
200.00	200.00	200.00	200.00	1.53	1.53	-0.86	40.00	-0.60	40.00	36.95	3.05	13.105	
250.00	250.00	250.00	250.00	1.74	1.74	-0.86	40.00	-0.60	40.00	36.52	3.48	11.495	
300.00	300.00	300.00	300.00	1.95	1.95	-0.86	40.00	-0.60	40.00	36.10	3.91	10.236	CC, ES
350.00	350.00	349.31	349.31	2.10	2.23	-1.22	40.42	-0.53	40.71	36.39	4.31	9.436	
400.00	399.98	398.56	398.54	2.20	2.51	-2.10	41.67	-0.32	42.73	38.06	4.67	9.154	
450.00	449.97	447.73	447.67	2.38	2.75	-2.75	43.76	0.02	45.66	40.58	5.07	9.001	
500.00	499.95	496.80	496.64	2.55	3.00	-3.10	46.67	0.51	49.42	43.95	5.47	9.029	
550.00	549.94	545.72	545.42	2.71	3.22	-3.21	50.39	1.12	54.01	48.17	5.85	9.237	
600.00	599.92	594.49	593.97	2.88	3.45	-3.13	54.92	1.88	59.44	53.22	6.22	9.558	
650.00	649.91	643.06	642.24	3.04	3.64	-2.90	60.24	2.76	65.69	59.14	6.54	10.038	
700.00	699.89	691.51	690.29	3.20	3.82	-2.59	66.35	3.77	72.75	65.90	6.86	10.612	
750.00	749.88	740.95	739.28	3.36	4.01	-2.26	72.93	4.87	80.17	72.99	7.18	11.166	
800.00	799.86	790.40	788.27	3.52	4.22	-1.98	79.51	5.96	87.59	80.06	7.53	11.636	
850.00	849.85	839.84	837.27	3.67	4.40	-1.75	86.09	7.05	95.01	87.17	7.84	12.120	
900.00	899.83	889.29	886.26	3.83	4.58	-1.55	92.67	8.14	102.43	94.28	8.14	12.577	
950.00	949.81	938.73	935.25	3.98	4.76	-1.38	99.25	9.23	109.85	101.40	8.45	13.002	
1,000.00	999.80	988.18	984.25	4.14	4.94	-1.23	105.83	10.33	117.27	108.52	8.76	13.395	
1,050.00	1,049.78	1,037.62	1,033.24	4.29	5.12	-1.10	112.41	11.42	124.70	115.64	9.06	13.761	
1,100.00	1,099.77	1,087.07	1,082.23	4.44	5.31	-0.98	118.99	12.51	132.12	122.75	9.37	14.101	
1,150.00	1,149.75	1,136.51	1,131.23	4.59	5.49	-0.87	125.57	13.60	139.55	129.87	9.68	14.421	
1,200.00	1,199.74	1,185.96	1,180.22	4.75	5.68	-0.78	132.15	14.69	146.97	136.99	9.99	14.719	
1,250.00	1,249.72	1,235.40	1,229.21	4.90	5.87	-0.69	138.73	15.79	154.40	144.10	10.29	14.999	
1,300.00	1,299.71	1,284.85	1,278.21	5.05	6.07	-0.62	145.31	16.88	161.82	151.22	10.60	15.262	
1,350.00	1,349.69	1,334.29	1,327.20	5.20	6.26	-0.55	151.89	17.97	169.25	158.34	10.91	15.510	
1,400.00	1,399.68	1,383.74	1,376.19	5.35	6.45	-0.48	158.47	19.06	176.68	165.46	11.22	15.744	
1,450.00	1,449.66	1,433.18	1,425.18	5.50	6.65	-0.42	165.05	20.15	184.10	172.57	11.53	15.966	
1,500.00	1,499.64	1,482.63	1,474.18	5.65	6.85	-0.37	171.63	21.25	191.53	179.69	11.84	16.175	
1,550.00	1,549.63	1,532.07	1,523.17	5.80	7.05	-0.32	178.21	22.34	198.96	186.81	12.15	16.374	
1,600.00	1,599.61	1,581.52	1,572.16	5.95	7.24	-0.27	184.79	23.43	206.39	193.92	12.46	16.562	
1,650.00	1,649.60	1,630.96	1,621.16	6.09	7.44	-0.22	191.37	24.52	213.81	201.04	12.77	16.742	
1,700.00	1,699.58	1,680.41	1,670.15	6.24	7.64	-0.18	197.95	25.62	221.24	208.16	13.08	16.912	
1,750.00	1,749.57	1,729.85	1,719.14	6.39	7.84	-0.15	204.53	26.71	228.67	215.28	13.39	17.075	
1,800.00	1,799.55	1,779.30	1,768.14	6.54	8.05	-0.11	211.11	27.80	236.09	222.39	13.70	17.231	
1,850.00	1,849.54	1,828.74	1,817.13	6.69	8.25	-0.08	217.69	28.89	243.52	229.51	14.01	17.379	
1,900.00	1,899.52	1,878.19	1,866.12	6.84	8.45	-0.04	224.27	29.98	250.95	236.63	14.32	17.521	
1,950.00	1,949.51	1,927.63	1,915.11	6.98	8.65	-0.01	230.85	31.08	258.38	243.75	14.63	17.657	
2,000.00	1,999.49	1,977.08	1,964.11	7.13	8.86	0.01	237.43	32.17	265.81	250.86	14.94	17.788	
2,050.00	2,049.48	2,026.52	2,013.10	7.28	9.06	0.04	244.01	33.26	273.23	257.98	15.25	17.913	
2,100.00	2,099.46	2,075.97	2,062.09	7.43	9.27	0.07	250.59	34.35	280.66	265.10	15.56	18.033	
2,150.00	2,149.44	2,125.41	2,111.09	7.57	9.47	0.09	257.17	35.44	288.09	272.22	15.87	18.148	
2,200.00	2,199.43	2,174.86	2,160.08	7.72	9.68	0.11	263.75	36.54	295.52	279.33	16.18	18.259	
2,250.00	2,249.41	2,224.30	2,209.07	7.87	9.88	0.13	270.33	37.63	302.95	286.45	16.49	18.366	
2,300.00	2,299.40	2,273.75	2,258.07	8.01	10.09	0.15	276.91	38.72	310.37	293.57	16.81	18.469	
2,350.00	2,349.38	2,323.19	2,307.06	8.16	10.29	0.17	283.49	39.81	317.80	300.69	17.12	18.569	
2,400.00	2,399.37	2,372.64	2,356.05	8.31	10.50	0.19	290.07	40.90	325.23	307.81	17.43	18.664	
2,450.00	2,449.35	2,422.08	2,405.05	8.45	10.71	0.21	296.65	42.00	332.66	314.92	17.74	18.757	
2,500.00	2,499.34	2,471.53	2,454.04	8.60	10.91	0.23	303.23	43.09	340.09	322.04	18.05	18.846	
2,550.00	2,549.32	2,520.97	2,503.03	8.75	11.12	0.24	309.81	44.18	347.52	329.16	18.36	18.932	

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - 70H - OH - PERMIT

Survey Program: 0-MWD+IFR1+MS													Offset Site Error: 0.00 usft			
Reference				Offset		Semi Major Axis			Offset Wellbore Centre			Rule Assigned: Distance			Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
2,600.00	2,599.31	2,570.42	2,552.02	8.89	11.33	0.26	316.39	45.27	354.94	336.28	18.67	19.016				
2,650.00	2,649.29	2,619.86	2,601.02	9.04	11.53	0.27	322.97	46.37	362.37	343.40	18.98	19.097				
2,700.00	2,699.27	2,669.31	2,650.01	9.19	11.74	0.29	329.55	47.46	369.80	350.52	19.29	19.175				
2,750.00	2,749.26	2,718.75	2,699.00	9.33	11.95	0.30	336.13	48.55	377.23	357.63	19.60	19.251				
2,800.00	2,799.24	2,768.20	2,748.00	9.48	12.16	0.32	342.71	49.64	384.66	364.75	19.91	19.324				
2,850.00	2,849.23	2,817.64	2,796.99	9.63	12.36	0.33	349.29	50.73	392.09	371.87	20.22	19.396				
2,900.00	2,899.21	2,867.09	2,845.98	9.77	12.57	0.34	355.87	51.83	399.52	378.99	20.53	19.465				
2,950.00	2,949.20	2,916.53	2,894.98	9.92	12.78	0.35	362.45	52.92	406.94	386.11	20.83	19.532				
3,000.00	2,999.18	2,965.98	2,943.97	10.06	12.99	0.36	369.03	54.01	414.37	393.23	21.14	19.597				
3,050.00	3,049.17	3,015.42	2,992.96	10.21	13.20	0.38	375.61	55.10	421.80	400.35	21.45	19.661				
3,100.00	3,099.15	3,064.87	3,041.96	10.36	13.41	0.39	382.19	56.19	429.23	407.47	21.76	19.722				
3,150.00	3,149.14	3,114.31	3,090.95	10.50	13.62	0.40	388.77	57.29	436.66	414.59	22.07	19.782				
3,200.00	3,199.12	3,163.76	3,139.94	10.65	13.83	0.41	395.35	58.38	444.09	421.70	22.38	19.840				
3,250.00	3,249.11	3,213.20	3,188.93	10.79	14.03	0.42	401.93	59.47	451.52	428.82	22.69	19.897				
3,300.00	3,299.09	3,262.65	3,237.93	10.94	14.24	0.43	408.51	60.56	458.94	435.94	23.00	19.952				
3,350.00	3,349.07	3,312.09	3,286.92	11.09	14.45	0.43	415.09	61.65	466.37	443.06	23.31	20.006				
3,400.00	3,399.06	3,361.54	3,335.91	11.23	14.66	0.44	421.67	62.75	473.80	450.18	23.62	20.059				
3,450.00	3,449.04	3,410.98	3,384.91	11.38	14.87	0.45	428.25	63.84	481.23	457.30	23.93	20.110				
3,500.00	3,499.03	3,460.43	3,433.90	11.52	15.08	0.46	434.83	64.93	488.66	464.42	24.24	20.159				
3,550.00	3,549.01	3,509.87	3,482.89	11.67	15.29	0.47	441.41	66.02	496.09	471.54	24.55	20.208				
3,600.00	3,599.00	3,559.32	3,531.89	11.81	15.50	0.48	447.99	67.12	503.52	478.66	24.86	20.255				
3,650.00	3,648.98	3,608.76	3,580.88	11.96	15.71	0.48	454.57	68.21	510.95	485.78	25.17	20.302				
3,700.00	3,698.97	3,658.21	3,629.87	12.11	15.92	0.49	461.15	69.30	518.37	492.90	25.48	20.347				
3,750.00	3,748.95	3,707.65	3,678.87	12.25	16.13	0.50	467.73	70.39	525.80	500.02	25.79	20.391				
3,800.00	3,798.94	3,757.10	3,727.86	12.40	16.34	0.50	474.31	71.48	533.23	507.14	26.10	20.434				
3,850.00	3,848.92	3,806.54	3,776.85	12.54	16.55	0.51	480.89	72.58	540.66	514.26	26.40	20.476				
3,900.00	3,898.91	3,855.99	3,825.84	12.69	16.76	0.52	487.47	73.67	548.09	521.38	26.71	20.517				
3,950.00	3,948.89	3,905.43	3,874.84	12.83	16.97	0.52	494.05	74.76	555.52	528.50	27.02	20.558				
4,000.00	3,998.87	3,954.88	3,923.83	12.98	17.18	0.53	500.63	75.85	562.95	535.62	27.33	20.597				
4,050.00	4,048.86	4,004.32	3,972.82	13.12	17.39	0.54	507.21	76.94	570.38	542.74	27.64	20.636				
4,100.00	4,098.84	4,053.77	4,021.82	13.27	17.60	0.54	513.79	78.04	577.80	549.86	27.95	20.673				
4,150.00	4,148.83	4,103.21	4,070.81	13.41	17.81	0.55	520.37	79.13	585.23	556.98	28.26	20.710				
4,200.00	4,198.81	4,152.66	4,119.80	13.56	18.02	0.55	526.95	80.22	592.66	564.09	28.57	20.746				
4,250.00	4,248.80	4,202.10	4,168.80	13.71	18.24	0.56	533.53	81.31	600.09	571.21	28.88	20.781				
4,300.00	4,298.78	4,251.55	4,217.79	13.85	18.45	0.56	540.11	82.41	607.52	578.33	29.19	20.816				
4,350.00	4,348.77	4,300.99	4,266.78	14.00	18.66	0.57	546.69	83.50	614.95	585.45	29.49	20.850				
4,400.00	4,398.75	4,350.44	4,315.78	14.14	18.87	0.57	553.27	84.59	622.38	592.57	29.80	20.883				
4,450.00	4,448.74	4,399.88	4,364.77	14.29	19.08	0.58	559.85	85.68	629.81	599.69	30.11	20.916				
4,500.00	4,498.72	4,449.33	4,413.76	14.43	19.29	0.58	566.43	86.77	637.24	606.81	30.42	20.948				
4,550.00	4,548.70	4,498.77	4,462.75	14.58	19.50	0.59	573.01	87.87	644.66	613.93	30.73	20.979				
4,600.00	4,598.69	4,548.22	4,511.75	14.72	19.71	0.59	579.59	88.96	652.09	621.05	31.04	21.009				
4,650.00	4,648.67	4,597.66	4,560.74	14.87	19.92	0.60	586.17	90.05	659.52	628.18	31.35	21.040				
4,700.00	4,698.66	4,647.11	4,609.73	15.01	20.13	0.60	592.75	91.14	666.95	635.30	31.65	21.071				
4,750.00	4,748.64	4,697.21	4,659.38	15.16	20.34	0.60	599.41	92.20	674.38	642.41	31.96	21.101				
4,800.00	4,798.63	4,750.11	4,711.82	15.30	20.55	0.44	606.29	91.36	681.63	649.34	32.29	21.109				
4,850.00	4,848.61	4,802.72	4,763.88	15.45	20.73	0.05	612.87	87.63	688.65	656.04	32.62	21.112				
4,900.00	4,898.60	4,854.72	4,815.08	15.59	20.88	-0.57	619.10	81.12	695.50	662.57	32.93	21.118				
4,950.00	4,948.58	4,905.82	4,865.02	15.73	20.99	-1.40	624.95	72.01	702.26	669.04	33.22	21.141				
5,000.00	4,998.57	4,956.06	4,913.59	15.80	21.07	-2.32	630.41	60.45	708.99	675.49	33.50	21.164				
5,050.00	5,048.48	5,005.74	4,961.01	15.75	21.14	-3.20	635.51	46.52	715.66	681.96	33.71	21.233				
5,100.00	5,098.19	5,054.91	5,007.18	15.66	21.20	-4.04	640.27	30.31	722.25	688.38	33.87	21.327				
5,150.00	5,147.54	5,103.58	5,052.02	15.55	21.25	-4.84	644.66	11.95	728.73	694.73	34.00	21.432				

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - 70H - OH - PERMIT

Survey Program: 0-MWD+IFR1+MS													Offset Site Error: 0.00 usft	
Reference Offset				Semi Major Axis		Offset Wellbore Centre			Rule Assigned: Distance				Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,200.00	5,196.42	5,151.76	5,095.48	15.43	21.30	-5.58	648.70	-8.45	735.07	700.95	34.12	21.545		
5,250.00	5,244.67	5,200.00	5,137.93	15.31	21.34	-6.29	652.42	-31.05	741.25	707.03	34.22	21.661		
5,300.00	5,292.18	5,246.76	5,177.97	15.18	21.38	-6.90	655.71	-54.98	747.25	712.95	34.31	21.782		
5,350.00	5,338.81	5,293.61	5,216.89	15.06	21.42	-7.47	658.69	-80.89	753.05	718.66	34.38	21.902		
5,400.00	5,384.43	5,340.06	5,254.19	14.93	21.46	-7.98	661.32	-108.42	758.61	724.15	34.45	22.019		
5,450.00	5,428.92	5,386.11	5,289.85	14.81	21.50	-8.42	663.60	-137.47	763.91	729.40	34.52	22.132		
5,500.00	5,472.16	5,431.80	5,323.82	14.69	21.55	-8.80	665.53	-167.95	768.95	734.37	34.58	22.238		
5,550.00	5,514.02	5,477.12	5,356.07	14.58	21.60	-9.11	667.13	-199.75	773.68	739.05	34.63	22.339		
5,600.00	5,554.40	5,522.10	5,386.57	14.48	21.65	-9.35	668.39	-232.78	778.10	743.40	34.70	22.424		
5,650.00	5,593.18	5,566.75	5,415.30	14.39	21.71	-9.53	669.32	-266.94	782.18	747.41	34.77	22.496		
5,700.00	5,630.25	5,611.10	5,442.24	14.31	21.78	-9.64	669.93	-302.15	785.91	751.06	34.85	22.552		
5,750.00	5,665.52	5,655.14	5,467.38	14.24	21.85	-9.68	670.22	-338.31	789.26	754.33	34.94	22.591		
5,800.00	5,698.89	5,700.00	5,491.26	14.19	21.93	-9.73	670.19	-376.28	792.24	757.19	35.05	22.603		
5,850.00	5,730.26	5,746.29	5,514.50	14.16	22.03	-9.81	669.90	-416.32	794.73	759.53	35.20	22.580		
5,900.00	5,759.56	5,796.03	5,539.37	14.15	22.14	-10.00	669.57	-459.38	796.43	761.04	35.40	22.500		
5,950.00	5,786.69	5,845.96	5,564.33	14.16	22.27	-10.09	669.25	-502.63	797.28	761.64	35.64	22.373		
6,000.00	5,811.93	5,895.95	5,589.33	14.19	22.40	-10.10	668.92	-545.92	797.37	761.47	35.90	22.212		
6,002.25	5,813.05	5,898.20	5,590.46	14.19	22.41	-10.10	668.90	-547.87	797.37	761.46	35.91	22.203		
6,050.00	5,836.93	5,936.10	5,609.04	14.25	22.51	-9.48	668.65	-580.89	797.57	761.43	36.13	22.072		
6,100.00	5,861.93	5,970.44	5,624.14	14.32	22.61	-8.56	668.41	-611.73	798.68	762.35	36.33	21.986		
6,150.00	5,886.93	6,000.00	5,635.64	14.41	22.70	-7.36	668.21	-638.96	800.80	764.31	36.49	21.943		
6,200.00	5,911.36	6,037.79	5,648.27	14.51	22.83	-6.76	667.94	-674.57	803.71	766.98	36.73	21.881		
6,250.00	5,932.32	6,070.98	5,657.40	14.66	22.94	-5.75	667.69	-706.47	806.38	769.40	36.97	21.809		
6,300.00	5,949.24	6,100.00	5,663.86	14.83	23.05	-4.33	667.48	-734.76	808.59	771.38	37.22	21.727		
6,350.00	5,961.99	6,136.99	5,670.01	15.05	23.19	-3.44	667.20	-771.23	810.28	772.72	37.57	21.570		
6,400.00	5,970.49	6,169.88	5,673.49	15.29	23.32	-2.18	666.95	-803.92	811.46	773.55	37.91	21.403		
6,450.00	5,974.66	6,200.00	5,675.02	15.55	23.44	-0.68	666.72	-834.00	812.11	773.85	38.27	21.223		
6,500.00	5,974.69	6,238.85	5,674.75	15.84	23.60	0.16	666.43	-872.84	812.26	773.54	38.71	20.981		
6,550.00	5,973.70	6,288.85	5,673.43	16.16	23.82	0.16	666.05	-922.82	812.38	773.07	39.31	20.667		
6,600.00	5,972.72	6,338.85	5,672.12	16.48	24.05	0.16	665.67	-972.80	812.50	772.59	39.91	20.356		
6,650.00	5,971.73	6,388.85	5,670.81	16.83	24.30	0.16	665.29	-1,022.78	812.62	772.07	40.55	20.039		
6,700.00	5,970.75	6,438.84	5,669.50	17.17	24.55	0.16	664.90	-1,072.76	812.74	771.54	41.20	19.726		
6,750.00	5,969.77	6,488.84	5,668.19	17.54	24.82	0.16	664.52	-1,122.74	812.87	770.99	41.88	19.410		
6,800.00	5,968.78	6,538.84	5,666.87	17.92	25.10	0.17	664.14	-1,172.72	812.99	770.42	42.57	19.099		
6,850.00	5,967.80	6,588.84	5,665.56	18.31	25.38	0.17	663.76	-1,222.70	813.11	769.83	43.28	18.788		
6,900.00	5,966.81	6,638.84	5,664.25	18.70	25.68	0.17	663.38	-1,272.68	813.23	769.23	44.00	18.482		
6,950.00	5,965.83	6,688.84	5,662.94	19.11	25.98	0.17	663.00	-1,322.67	813.35	768.61	44.75	18.177		
7,000.00	5,964.84	6,738.84	5,661.63	19.52	26.29	0.17	662.62	-1,372.65	813.48	767.98	45.50	17.879		
7,050.00	5,963.86	6,788.84	5,660.31	19.95	26.61	0.17	662.24	-1,422.63	813.60	767.33	46.27	17.584		
7,100.00	5,962.88	6,838.84	5,659.00	20.37	26.95	0.17	661.86	-1,472.61	813.72	766.67	47.05	17.295		
7,150.00	5,961.89	6,888.84	5,657.69	20.81	27.28	0.17	661.48	-1,522.59	813.84	766.00	47.85	17.009		
7,200.00	5,960.91	6,938.83	5,656.38	21.26	27.63	0.17	661.10	-1,572.57	813.97	765.31	48.65	16.730		
7,250.00	5,959.92	6,988.83	5,655.07	21.71	27.98	0.17	660.72	-1,622.55	814.09	764.62	49.47	16.456		
7,300.00	5,958.94	7,038.83	5,653.75	22.16	28.34	0.17	660.34	-1,672.53	814.21	763.91	50.30	16.188		
7,350.00	5,957.95	7,088.83	5,652.44	22.62	28.70	0.17	659.96	-1,722.51	814.33	763.20	51.14	15.925		
7,400.00	5,956.97	7,138.83	5,651.13	23.08	29.08	0.17	659.58	-1,772.49	814.46	762.48	51.98	15.668		
7,450.00	5,955.99	7,188.83	5,649.82	23.56	29.46	0.17	659.20	-1,822.47	814.58	761.74	52.84	15.416		
7,500.00	5,955.00	7,238.83	5,648.51	24.03	29.84	0.17	658.82	-1,872.45	814.70	761.00	53.70	15.171		
7,550.00	5,954.02	7,288.83	5,647.19	24.51	30.23	0.18	658.44	-1,922.43	814.83	760.25	54.58	14.930		
7,600.00	5,953.03	7,338.83	5,645.88	24.99	30.63	0.18	658.06	-1,972.41	814.95	759.50	55.46	14.696		
7,650.00	5,952.05	7,388.82	5,644.57	25.47	31.03	0.18	657.67	-2,022.39	815.07	758.73	56.34	14.466		
7,700.00	5,951.06	7,438.82	5,643.26	25.96	31.43	0.18	657.29	-2,072.37	815.20	757.96	57.24	14.243		

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - 70H - OH - PERMIT

Survey Program: 0-MWD+IFR1+MS													Offset Site Error:	0.00 usft
Reference Offset				Semi Major Axis			Offset Wellbore Centre			Rule Assigned: Distance			Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
7,750.00	5,950.08	7,488.82	5,641.94	26.45	31.84	0.18	656.91	-2,122.35	815.32	757.19	58.14	14.024		
7,800.00	5,949.10	7,538.82	5,640.63	26.95	32.26	0.18	656.53	-2,172.33	815.45	756.40	59.04	13.811		
7,850.00	5,948.11	7,588.82	5,639.32	27.45	32.68	0.18	656.15	-2,222.31	815.57	755.61	59.96	13.603		
7,900.00	5,947.13	7,638.82	5,638.01	27.95	33.10	0.18	655.77	-2,272.29	815.70	754.82	60.87	13.400		
7,950.00	5,946.14	7,688.82	5,636.70	28.45	33.53	0.18	655.39	-2,322.27	815.82	754.02	61.80	13.202		
8,000.00	5,945.16	7,738.82	5,635.38	28.95	33.97	0.18	655.01	-2,372.25	815.94	753.22	62.72	13.008		
8,050.00	5,944.17	7,788.82	5,634.07	29.46	34.40	0.18	654.63	-2,422.23	816.07	752.41	63.66	12.819		
8,100.00	5,943.19	7,838.81	5,632.76	29.97	34.84	0.18	654.25	-2,472.21	816.19	751.60	64.60	12.635		
8,150.00	5,942.21	7,888.81	5,631.45	30.48	35.28	0.18	653.87	-2,522.19	816.32	750.78	65.54	12.456		
8,200.00	5,941.22	7,938.81	5,630.14	30.99	35.73	0.18	653.49	-2,572.17	816.44	749.96	66.48	12.280		
8,250.00	5,940.24	7,988.81	5,628.82	31.51	36.18	0.18	653.11	-2,622.15	816.57	749.13	67.44	12.109		
8,300.00	5,939.25	8,038.81	5,627.51	32.03	36.64	0.18	652.73	-2,672.13	816.69	748.30	68.39	11.942		
8,350.00	5,938.27	8,088.81	5,626.20	32.54	37.09	0.19	652.35	-2,722.11	816.82	747.47	69.35	11.779		
8,400.00	5,937.28	8,138.81	5,624.89	33.06	37.55	0.19	651.97	-2,772.09	816.94	746.64	70.31	11.619		
8,450.00	5,936.30	8,188.81	5,623.58	33.59	38.01	0.19	651.59	-2,822.07	817.07	745.80	71.27	11.464		
8,500.00	5,935.32	8,238.81	5,622.26	34.11	38.48	0.19	651.21	-2,872.05	817.20	744.95	72.24	11.312		
8,550.00	5,934.33	8,288.81	5,620.95	34.63	38.94	0.19	650.83	-2,922.03	817.32	744.11	73.21	11.164		
8,600.00	5,933.35	8,338.80	5,619.64	35.16	39.41	0.19	650.45	-2,972.01	817.45	743.26	74.19	11.019		
8,650.00	5,932.36	8,388.80	5,618.33	35.68	39.89	0.19	650.06	-3,021.99	817.57	742.41	75.16	10.877		
8,700.00	5,931.38	8,438.80	5,617.01	36.21	40.36	0.19	649.68	-3,071.97	817.70	741.56	76.14	10.739		
8,750.00	5,930.39	8,488.80	5,615.70	36.74	40.84	0.19	649.30	-3,121.95	817.82	740.70	77.13	10.604		
8,800.00	5,929.41	8,538.80	5,614.39	37.27	41.32	0.19	648.92	-3,171.93	817.95	739.84	78.11	10.472		
8,850.00	5,928.43	8,588.80	5,613.08	37.80	41.80	0.19	648.54	-3,221.91	818.08	738.98	79.10	10.343		
8,900.00	5,927.44	8,638.80	5,611.77	38.33	42.28	0.19	648.16	-3,271.90	818.20	738.12	80.09	10.216		
8,950.00	5,926.46	8,688.80	5,610.45	38.86	42.77	0.19	647.78	-3,321.88	818.33	737.25	81.08	10.093		
9,000.00	5,925.47	8,738.80	5,609.14	39.40	43.25	0.19	647.40	-3,371.86	818.46	736.38	82.07	9.972		
9,050.00	5,924.49	8,788.79	5,607.83	39.93	43.74	0.19	647.02	-3,421.84	818.58	735.52	83.07	9.854		
9,100.00	5,923.50	8,838.79	5,606.52	40.47	44.23	0.20	646.64	-3,471.82	818.71	734.64	84.07	9.739		
9,150.00	5,922.52	8,888.79	5,605.21	41.00	44.73	0.20	646.26	-3,521.80	818.84	733.77	85.07	9.626		
9,200.00	5,921.54	8,938.79	5,603.89	41.54	45.22	0.20	645.88	-3,571.78	818.97	732.90	86.07	9.515		
9,250.00	5,920.55	8,988.79	5,602.58	42.08	45.71	0.20	645.50	-3,621.76	819.09	732.02	87.07	9.407		
9,300.00	5,919.57	9,038.79	5,601.27	42.61	46.21	0.20	645.12	-3,671.74	819.22	731.14	88.08	9.301		
9,350.00	5,918.58	9,088.79	5,599.96	43.15	46.71	0.20	644.74	-3,721.72	819.35	730.26	89.08	9.197		
9,400.00	5,917.60	9,138.79	5,598.65	43.69	47.21	0.20	644.36	-3,771.70	819.48	729.38	90.09	9.096		
9,450.00	5,916.61	9,188.79	5,597.33	44.23	47.71	0.20	643.98	-3,821.68	819.60	728.50	91.10	8.996		
9,500.00	5,915.63	9,238.78	5,596.02	44.77	48.22	0.20	643.60	-3,871.66	819.73	727.62	92.11	8.899		
9,550.00	5,914.65	9,288.78	5,594.71	45.32	48.72	0.20	643.22	-3,921.64	819.86	726.73	93.13	8.804		
9,600.00	5,913.66	9,338.78	5,593.40	45.86	49.23	0.20	642.84	-3,971.62	819.99	725.85	94.14	8.710		
9,650.00	5,912.68	9,388.78	5,592.09	46.40	49.73	0.20	642.45	-4,021.60	820.12	724.96	95.16	8.619		
9,700.00	5,911.69	9,438.78	5,590.77	46.94	50.24	0.20	642.07	-4,071.58	820.24	724.07	96.17	8.529		
9,750.00	5,910.71	9,488.78	5,589.46	47.49	50.75	0.20	641.69	-4,121.56	820.37	723.18	97.19	8.441		
9,800.00	5,909.72	9,538.78	5,588.15	48.03	51.26	0.20	641.31	-4,171.54	820.50	722.29	98.21	8.354		
9,850.00	5,908.74	9,588.78	5,586.84	48.57	51.77	0.21	640.93	-4,221.52	820.63	721.40	99.23	8.270		
9,900.00	5,907.76	9,638.78	5,585.52	49.12	52.28	0.21	640.55	-4,271.50	820.76	720.50	100.25	8.187		
9,950.00	5,906.77	9,688.78	5,584.21	49.66	52.80	0.21	640.17	-4,321.48	820.89	719.61	101.28	8.105		
10,000.00	5,905.79	9,738.77	5,582.90	50.21	53.31	0.21	639.79	-4,371.46	821.02	718.72	102.30	8.026		
10,050.00	5,904.80	9,788.77	5,581.59	50.76	53.83	0.21	639.41	-4,421.44	821.14	717.82	103.32	7.947		
10,100.00	5,903.82	9,838.77	5,580.28	51.30	54.34	0.21	639.03	-4,471.42	821.27	716.92	104.35	7.870		
10,150.00	5,902.83	9,888.77	5,578.96	51.85	54.86	0.21	638.65	-4,521.40	821.40	716.03	105.38	7.795		
10,200.00	5,901.85	9,938.77	5,577.65	52.40	55.38	0.21	638.27	-4,571.38	821.53	715.13	106.40	7.721		
10,250.00	5,900.87	9,988.77	5,576.34	52.94	55.90	0.21	637.89	-4,621.36	821.66	714.23	107.43	7.648		
10,293.98	5,900.00	10,032.74	5,575.19	53.42	56.35	0.21	637.55	-4,665.32	821.78	713.45	108.33	7.586 SF		

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

PROTOTYPE
Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: FOSTER EDDY 11 - OH - OH

Survey Program: 517-INC-ONLY													Offset Site Error: 0.00 usft		
Reference				Offset		Semi Major Axis			Offset Wellbore Centre		Rule Assigned: Distance			Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
6,700.00	5,970.75	5,600.00	5,667.33	17.17	114.17	-93.25	-195.11	-2,928.96	1,881.64	1,758.31	123.33	15.257			
6,750.00	5,969.77	5,600.00	5,667.33	17.54	114.17	-93.32	-195.11	-2,928.96	1,832.22	1,708.98	123.24	14.867			
6,800.00	5,968.78	5,600.00	5,667.33	17.92	114.17	-93.41	-195.11	-2,928.96	1,782.83	1,659.68	123.15	14.477			
6,850.00	5,967.80	5,600.00	5,667.33	18.31	114.17	-93.49	-195.11	-2,928.96	1,733.48	1,610.42	123.06	14.087			
6,900.00	5,966.81	5,600.00	5,667.33	18.70	114.17	-93.59	-195.11	-2,928.96	1,684.16	1,561.21	122.95	13.698			
6,950.00	5,965.83	5,600.00	5,667.33	19.11	114.17	-93.68	-195.11	-2,928.96	1,634.89	1,512.05	122.84	13.309			
7,000.00	5,964.84	5,600.00	5,667.33	19.52	114.17	-93.79	-195.11	-2,928.96	1,585.66	1,462.94	122.72	12.921			
7,050.00	5,963.86	5,600.00	5,667.33	19.95	114.17	-93.90	-195.11	-2,928.96	1,536.49	1,413.89	122.60	12.533			
7,100.00	5,962.88	5,600.00	5,667.33	20.37	114.17	-94.02	-195.11	-2,928.96	1,487.36	1,364.91	122.46	12.146			
7,150.00	5,961.89	5,600.00	5,667.33	20.81	114.17	-94.14	-195.11	-2,928.96	1,438.30	1,315.99	122.31	11.760			
7,200.00	5,960.91	5,600.00	5,667.33	21.26	114.17	-94.28	-195.11	-2,928.96	1,389.31	1,267.16	122.15	11.374			
7,250.00	5,959.92	5,600.00	5,667.33	21.71	114.17	-94.43	-195.11	-2,928.96	1,340.39	1,218.41	121.97	10.989			
7,300.00	5,958.94	5,600.00	5,667.33	22.16	114.17	-94.59	-195.11	-2,928.96	1,291.55	1,169.77	121.78	10.606			
7,350.00	5,957.95	5,600.00	5,667.33	22.62	114.17	-94.76	-195.11	-2,928.96	1,242.80	1,121.23	121.57	10.223			
7,400.00	5,956.97	5,600.00	5,667.33	23.08	114.17	-94.94	-195.11	-2,928.96	1,194.16	1,072.82	121.34	9.841			
7,450.00	5,955.99	5,600.00	5,667.33	23.56	114.17	-95.15	-195.11	-2,928.96	1,145.63	1,024.54	121.09	9.461			
7,500.00	5,955.00	5,600.00	5,667.33	24.03	114.17	-95.37	-195.11	-2,928.96	1,097.24	976.43	120.81	9.082			
7,550.00	5,954.02	5,600.00	5,667.33	24.51	114.17	-95.61	-195.11	-2,928.96	1,049.00	928.49	120.50	8.705			
7,600.00	5,953.03	5,600.00	5,667.33	24.99	114.17	-95.88	-195.11	-2,928.96	1,000.93	880.77	120.16	8.330			
7,650.00	5,952.05	5,600.00	5,667.33	25.47	114.17	-96.18	-195.11	-2,928.96	953.06	833.29	119.77	7.957			
7,700.00	5,951.06	5,600.00	5,667.33	25.96	114.17	-96.51	-195.11	-2,928.96	905.42	786.08	119.33	7.587			
7,750.00	5,950.08	5,600.00	5,667.33	26.45	114.17	-96.89	-195.11	-2,928.96	858.04	739.20	118.84	7.220			
7,800.00	5,949.10	5,600.00	5,667.33	26.95	114.17	-97.31	-195.11	-2,928.96	810.99	692.71	118.27	6.857			
7,850.00	5,948.11	5,600.00	5,667.33	27.45	114.17	-97.80	-195.11	-2,928.96	764.30	646.68	117.62	6.498			
7,900.00	5,947.13	5,600.00	5,667.33	27.95	114.17	-98.35	-195.11	-2,928.96	718.07	601.21	116.86	6.145			
7,950.00	5,946.14	5,600.00	5,667.33	28.45	114.17	-98.99	-195.11	-2,928.96	672.37	556.41	115.96	5.798			
8,000.00	5,945.16	5,600.00	5,667.33	28.95	114.17	-99.75	-195.11	-2,928.96	627.33	512.44	114.89	5.460			
8,050.00	5,944.17	5,600.00	5,667.33	29.46	114.17	-100.66	-195.11	-2,928.96	583.10	469.50	113.59	5.133			
8,100.00	5,943.19	5,600.00	5,667.33	29.97	114.17	-101.75	-195.11	-2,928.96	539.87	427.88	111.99	4.821			
8,150.00	5,942.21	5,600.00	5,667.33	30.48	114.17	-103.10	-195.11	-2,928.96	497.92	387.93	109.99	4.527			
8,200.00	5,941.22	5,600.00	5,667.33	30.99	114.17	-104.82	-195.11	-2,928.96	457.58	350.15	107.44	4.259			
8,250.00	5,940.24	5,600.00	5,667.33	31.51	114.17	-107.05	-195.11	-2,928.96	419.34	315.20	104.13	4.027			
8,300.00	5,939.25	5,600.00	5,667.33	32.03	114.17	-110.08	-195.11	-2,928.96	383.80	283.97	99.84	3.844			
8,350.00	5,938.27	5,600.00	5,667.33	32.54	114.17	-114.37	-195.11	-2,928.96	351.80	257.53	94.27	3.732			
8,400.00	5,937.28	5,600.00	5,667.33	33.06	114.17	-120.85	-195.11	-2,928.96	324.38	237.10	87.29	3.716			
8,450.00	5,936.30	5,600.00	5,667.33	33.59	114.17	-131.33	-195.11	-2,928.96	302.79	223.57	79.23	3.822			
8,500.00	5,935.32	5,600.00	5,667.33	34.11	114.17	-149.24	-195.11	-2,928.96	288.35	216.59	71.75	4.019			
8,550.00	5,934.33	5,600.00	5,667.33	34.63	114.17	-177.21	-195.11	-2,928.96	282.14	213.54	68.60	4.113			
8,560.40	5,934.13	5,600.00	5,667.33	34.74	114.17	176.26	-195.11	-2,928.96	281.95	213.08	68.87	4.094 CC			
8,600.00	5,933.35	5,600.00	5,667.33	35.16	114.17	153.34	-195.11	-2,928.96	284.72	211.85	72.87	3.907 ES			
8,650.00	5,932.36	5,600.00	5,667.33	35.68	114.17	133.40	-195.11	-2,928.96	295.85	213.63	82.22	3.598			
8,700.00	5,931.38	5,600.00	5,667.33	36.21	114.17	121.72	-195.11	-2,928.96	314.62	222.22	92.40	3.405			
8,750.00	5,930.39	5,600.00	5,667.33	36.74	114.17	114.61	-195.11	-2,928.96	339.78	238.54	101.23	3.356 SF			
8,800.00	5,929.41	5,600.00	5,667.33	37.27	114.17	109.96	-195.11	-2,928.96	370.01	261.82	108.19	3.420			
8,850.00	5,928.43	5,600.00	5,667.33	37.80	114.17	106.73	-195.11	-2,928.96	404.19	290.76	113.43	3.563			
8,900.00	5,927.44	5,600.00	5,667.33	38.33	114.17	104.36	-195.11	-2,928.96	441.39	324.08	117.31	3.763			
8,950.00	5,926.46	5,600.00	5,667.33	38.86	114.17	102.55	-195.11	-2,928.96	480.93	360.75	120.18	4.002			
9,000.00	5,925.47	5,600.00	5,667.33	39.40	114.17	101.13	-195.11	-2,928.96	522.25	399.96	122.30	4.270			
9,050.00	5,924.49	5,600.00	5,667.33	39.93	114.17	99.99	-195.11	-2,928.96	564.99	441.11	123.88	4.561			
9,100.00	5,923.50	5,600.00	5,667.33	40.47	114.17	99.05	-195.11	-2,928.96	608.83	483.76	125.07	4.868			
9,150.00	5,922.52	5,600.00	5,667.33	41.00	114.17	98.27	-195.11	-2,928.96	653.55	527.58	125.98	5.188			
9,200.00	5,921.54	5,600.00	5,667.33	41.54	114.17	97.60	-195.11	-2,928.96	698.99	572.32	126.67	5.518			

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: FOSTER EDDY 11 - OH - OH

Survey Program: 517-INC-ONLY		Offset Site Error: 0.00 usft	
Reference		Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)
Reference		Offset	
Semi Major Axis		Azimuth	
Reference		from North (°)	
Offset		Offset Wellbore Centre	
Distance		Rule Assigned:	
Between Centres (usft)		Between Ellipses (usft)	
Minimum Separation (usft)		Separation Factor	
Warning			
9,250.00	5,920.55	5,600.00	5,667.33
9,300.00	5,919.57	5,600.00	5,667.33
9,350.00	5,918.58	5,600.00	5,667.33
9,400.00	5,917.60	5,600.00	5,667.33
9,450.00	5,916.61	5,600.00	5,667.33
9,500.00	5,915.63	5,600.00	5,667.33
9,550.00	5,914.65	5,600.00	5,667.33
9,600.00	5,913.66	5,600.00	5,667.33
9,650.00	5,912.68	5,600.00	5,667.33
9,700.00	5,911.69	5,600.00	5,667.33
9,750.00	5,910.71	5,600.00	5,667.33
9,800.00	5,909.72	5,600.00	5,667.33
9,850.00	5,908.74	5,600.00	5,667.33
9,900.00	5,907.76	5,600.00	5,667.33
9,950.00	5,906.77	5,600.00	5,667.33
10,000.00	5,905.79	5,600.00	5,667.33
10,050.00	5,904.80	5,600.00	5,667.33
10,100.00	5,903.82	5,600.00	5,667.33
10,150.00	5,902.83	5,600.00	5,667.33
10,200.00	5,901.85	5,600.00	5,667.33
10,250.00	5,900.87	5,600.00	5,667.33
10,293.98	5,900.00	5,600.00	5,667.33

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



PROTOTYPE Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: FOSTER EDDY 35 - OH - OH

Survey Program: 165-INC-ONLY										Offset Site Error: 0.00 usft	
Rule Assigned:										Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Minimum Separation (usft)	Warning
6,200.00	5,911.36	5,848.97	5,911.39	14.51	113.32	-86.60	24.27	-2,444.77	1,862.87	124.75	14.933
6,250.00	5,932.32	5,869.93	5,932.35	14.66	113.66	-86.50	24.27	-2,444.77	1,817.59	125.08	14.532
6,300.00	5,949.24	5,886.86	5,949.28	14.83	113.94	-86.40	24.26	-2,444.77	1,770.67	125.35	14.126
6,350.00	5,961.99	5,899.62	5,962.04	15.05	114.15	-86.29	24.26	-2,444.77	1,722.47	125.56	13.718
6,400.00	5,970.49	5,908.11	5,970.53	15.29	114.29	-86.17	24.25	-2,444.77	1,673.34	125.71	13.311
6,450.00	5,974.66	5,912.29	5,974.71	15.55	114.36	-86.03	24.25	-2,444.77	1,623.68	125.80	12.907
6,500.00	5,974.69	5,912.32	5,974.74	15.84	114.36	-85.89	24.25	-2,444.77	1,573.84	125.82	12.509
6,550.00	5,973.70	5,911.33	5,973.75	16.16	114.34	-85.75	24.25	-2,444.77	1,524.01	125.83	12.111
6,600.00	5,972.72	5,910.35	5,972.77	16.48	114.33	-85.59	24.25	-2,444.77	1,474.19	125.85	11.714
6,650.00	5,971.73	5,909.36	5,971.78	16.83	114.31	-85.42	24.25	-2,444.77	1,424.39	125.86	11.317
6,700.00	5,970.75	5,908.38	5,970.80	17.17	114.30	-85.23	24.25	-2,444.77	1,374.60	125.88	10.920
6,750.00	5,969.77	5,907.40	5,969.81	17.54	114.28	-85.04	24.25	-2,444.77	1,324.82	125.90	10.523
6,800.00	5,968.78	5,906.41	5,968.83	17.92	114.26	-84.83	24.25	-2,444.77	1,275.06	125.92	10.126
6,850.00	5,967.80	5,905.43	5,967.85	18.31	114.25	-84.60	24.25	-2,444.77	1,225.32	125.95	9.729
6,900.00	5,966.81	5,904.44	5,966.86	18.70	114.23	-84.35	24.25	-2,444.77	1,175.60	125.98	9.332
6,950.00	5,965.83	5,903.46	5,965.88	19.11	114.21	-84.08	24.26	-2,444.77	1,125.90	126.01	8.935
7,000.00	5,964.84	5,902.47	5,964.89	19.52	114.20	-83.79	24.26	-2,444.77	1,076.23	126.05	8.538
7,050.00	5,963.86	5,901.49	5,963.91	19.95	114.18	-83.46	24.26	-2,444.77	1,026.60	126.10	8.141
7,100.00	5,962.88	5,900.50	5,962.92	20.37	114.17	-83.11	24.26	-2,444.77	976.99	126.15	7.745
7,150.00	5,961.89	5,899.52	5,961.94	20.81	114.15	-82.71	24.26	-2,444.77	927.43	126.21	7.348
7,200.00	5,960.91	5,898.53	5,960.95	21.26	114.13	-82.28	24.26	-2,444.77	877.92	126.28	6.952
7,250.00	5,959.92	5,897.55	5,959.97	21.71	114.12	-81.78	24.26	-2,444.77	828.47	126.36	6.556
7,300.00	5,958.94	5,896.57	5,958.98	22.16	114.10	-81.23	24.26	-2,444.77	779.08	126.46	6.161
7,350.00	5,957.95	5,895.58	5,958.00	22.62	114.09	-80.60	24.26	-2,444.77	729.78	126.58	5.766
7,400.00	5,956.97	5,894.60	5,957.02	23.08	114.07	-79.88	24.26	-2,444.77	680.58	126.71	5.371
7,450.00	5,955.99	5,893.61	5,956.03	23.56	114.05	-79.05	24.26	-2,444.77	631.50	126.88	4.977
7,500.00	5,955.00	5,892.63	5,955.05	24.03	114.04	-78.08	24.26	-2,444.77	582.58	127.09	4.584
7,550.00	5,954.02	5,891.64	5,954.06	24.51	114.02	-76.94	24.26	-2,444.77	533.85	127.35	4.192
7,600.00	5,953.03	5,890.66	5,953.08	24.99	114.00	-75.56	24.26	-2,444.77	485.38	127.68	3.802
7,650.00	5,952.05	5,889.67	5,952.09	25.47	113.99	-73.88	24.26	-2,444.77	437.26	128.11	3.413
7,700.00	5,951.06	5,888.69	5,951.11	25.96	113.97	-71.78	24.26	-2,444.77	389.60	128.67	3.028
7,750.00	5,950.08	5,887.70	5,950.12	26.45	113.96	-69.10	24.26	-2,444.77	342.61	129.42	2.647
7,800.00	5,949.10	5,886.72	5,949.14	26.95	113.94	-65.59	24.26	-2,444.77	296.60	130.47	2.273
7,850.00	5,948.11	5,885.74	5,948.15	27.45	113.92	-60.81	24.26	-2,444.77	252.12	130.17	1.911
7,900.00	5,947.13	5,884.75	5,947.17	27.95	113.91	-54.06	24.26	-2,444.77	210.12	134.05	1.568
7,950.00	5,946.14	5,883.77	5,946.19	28.45	113.89	-44.15	24.26	-2,444.77	172.44	136.97	1.259 Level 3
8,000.00	5,945.16	5,882.78	5,945.20	28.95	113.87	-29.47	24.26	-2,444.77	142.55	140.52	1.014 Level 2
8,050.00	5,944.17	5,881.80	5,944.22	29.46	113.86	-9.19	24.26	-2,444.77	126.10	143.22	0.880 Level 1
8,069.20	5,943.80	5,881.42	5,943.84	29.66	113.85	-0.44	24.26	-2,444.77	124.63	143.46	0.869 Level 1, CC, ES, SF
8,100.00	5,943.19	5,880.81	5,943.23	29.97	113.84	13.44	24.26	-2,444.77	128.38	142.65	0.900 Level 1
8,150.00	5,942.21	5,879.83	5,942.25	30.48	113.83	32.51	24.26	-2,444.77	148.52	139.33	1.066 Level 2
8,200.00	5,941.22	5,878.84	5,941.26	30.99	113.81	45.94	24.26	-2,444.77	180.65	135.76	1.331 Level 3
8,250.00	5,940.24	5,877.86	5,940.28	31.51	113.79	54.98	24.26	-2,444.77	219.57	133.02	1.651
8,300.00	5,939.25	5,876.87	5,939.29	32.03	113.78	61.19	24.26	-2,444.77	262.26	131.16	2.000
8,350.00	5,938.27	5,875.89	5,938.31	32.54	113.76	65.63	24.26	-2,444.77	307.17	129.77	2.367
8,400.00	5,937.28	5,874.90	5,937.32	33.06	113.74	68.92	24.27	-2,444.77	353.44	128.85	2.743
8,450.00	5,936.30	5,873.92	5,936.34	33.59	113.73	71.44	24.27	-2,444.77	400.61	128.19	3.125
8,500.00	5,935.32	5,872.94	5,935.35	34.11	113.71	73.43	24.27	-2,444.77	448.39	127.71	3.511
8,550.00	5,934.33	5,871.95	5,934.37	34.63	113.70	75.03	24.27	-2,444.77	496.60	127.36	3.899
8,600.00	5,933.35	5,870.97	5,933.39	35.16	113.68	76.35	24.27	-2,444.77	545.14	127.09	4.289
8,650.00	5,932.36	5,869.98	5,932.40	35.68	113.66	77.45	24.27	-2,444.77	593.91	126.88	4.681
8,700.00	5,931.38	5,869.00	5,931.42	36.21	113.65	78.38	24.27	-2,444.77	642.87	126.72	5.073

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: FOSTER EDDY 35 - OH - OH

Survey Program: Reference		165-INC-ONLY						Rule Assigned:					Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
8,750.00	5,930.39	5,868.01	5,930.43	36.74	113.63	79.19	24.27	-2,444.77	691.98	565.39	126.60	5.466		
8,800.00	5,929.41	5,867.03	5,929.45	37.27	113.61	79.88	24.27	-2,444.77	741.21	614.71	126.50	5.859		
8,850.00	5,928.43	5,866.04	5,928.46	37.80	113.60	80.49	24.27	-2,444.77	790.54	664.11	126.42	6.253		
8,900.00	5,927.44	5,865.06	5,927.48	38.33	113.58	81.03	24.27	-2,444.77	839.94	713.58	126.36	6.647		
8,950.00	5,926.46	5,864.07	5,926.49	38.86	113.57	81.51	24.27	-2,444.77	889.41	763.09	126.31	7.041		
9,000.00	5,925.47	5,863.09	5,925.51	39.40	113.55	81.94	24.27	-2,444.77	938.93	812.66	126.27	7.436		
9,050.00	5,924.49	5,862.10	5,924.52	39.93	113.53	82.32	24.27	-2,444.77	988.50	862.26	126.24	7.830		
9,100.00	5,923.50	5,861.12	5,923.54	40.47	113.52	82.67	24.27	-2,444.77	1,038.11	911.89	126.22	8.225		
9,150.00	5,922.52	5,860.14	5,922.55	41.00	113.50	82.98	24.27	-2,444.77	1,087.75	961.55	126.20	8.619		
9,200.00	5,921.54	5,859.15	5,921.57	41.54	113.49	83.27	24.27	-2,444.77	1,137.43	1,011.24	126.19	9.014		
9,250.00	5,920.55	5,858.17	5,920.59	42.08	113.47	83.54	24.27	-2,444.77	1,187.13	1,060.95	126.18	9.408		
9,300.00	5,919.57	5,857.18	5,919.60	42.61	113.45	83.78	24.27	-2,444.77	1,236.86	1,110.68	126.17	9.803		
9,350.00	5,918.58	5,856.20	5,918.62	43.15	113.44	84.00	24.27	-2,444.77	1,286.60	1,160.43	126.17	10.197		
9,400.00	5,917.60	5,855.21	5,917.63	43.69	113.42	84.21	24.27	-2,444.77	1,336.37	1,210.20	126.17	10.592		
9,450.00	5,916.61	5,854.23	5,916.65	44.23	113.40	84.40	24.27	-2,444.77	1,386.15	1,259.97	126.17	10.986		
9,500.00	5,915.63	5,853.24	5,915.66	44.77	113.39	84.58	24.27	-2,444.77	1,435.94	1,309.77	126.18	11.380		
9,550.00	5,914.65	5,852.26	5,914.68	45.32	113.37	84.75	24.27	-2,444.77	1,485.75	1,359.57	126.18	11.775		
9,600.00	5,913.66	5,851.27	5,913.69	45.86	113.36	84.91	24.27	-2,444.77	1,535.57	1,409.38	126.19	12.169		
9,650.00	5,912.68	5,850.29	5,912.71	46.40	113.34	85.05	24.27	-2,444.77	1,585.40	1,459.20	126.20	12.563		
9,700.00	5,911.69	5,849.30	5,911.72	46.94	113.32	85.19	24.27	-2,444.77	1,635.24	1,509.03	126.21	12.956		
9,750.00	5,910.71	5,848.32	5,910.74	47.49	113.31	85.32	24.27	-2,444.77	1,685.09	1,558.87	126.22	13.350		
9,800.00	5,909.72	5,847.33	5,909.75	48.03	113.29	85.44	24.27	-2,444.77	1,734.95	1,608.71	126.23	13.744		
9,850.00	5,908.74	5,846.35	5,908.77	48.57	113.27	85.56	24.27	-2,444.77	1,784.81	1,658.56	126.25	14.137		
9,900.00	5,907.76	5,845.37	5,907.78	49.12	113.26	85.67	24.27	-2,444.77	1,834.68	1,708.42	126.26	14.531		
9,950.00	5,906.77	5,844.38	5,906.80	49.66	113.24	85.77	24.27	-2,444.77	1,884.56	1,758.28	126.28	14.924		

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



PROTOTYPE Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: FOSTER EDDY 36 - OH - OH

Survey Program: 166-GYRO-NS		Rule Assigned:										Offset Site Error:	0.00 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		Offset Well Error:		0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,850.00	5,967.80	5,938.75	5,975.97	18.31	20.84	-73.98	429.75	-3,038.54	1,886.97	1,853.56	33.41	56.481	
6,900.00	5,966.81	5,937.94	5,975.16	18.70	20.83	-73.54	429.78	-3,038.53	1,839.08	1,805.55	33.53	54.849	
6,950.00	5,965.83	5,937.13	5,974.35	19.11	20.83	-73.07	429.80	-3,038.53	1,791.32	1,757.65	33.66	53.213	
7,000.00	5,964.84	5,936.32	5,973.54	19.52	20.83	-72.58	429.82	-3,038.53	1,743.68	1,709.87	33.81	51.578	
7,050.00	5,963.86	5,935.51	5,972.73	19.95	20.82	-72.06	429.84	-3,038.53	1,696.17	1,662.20	33.96	49.940	
7,100.00	5,962.88	5,934.69	5,971.91	20.37	20.82	-71.51	429.86	-3,038.52	1,648.81	1,614.67	34.13	48.304	
7,150.00	5,961.89	5,933.88	5,971.10	20.81	20.82	-70.93	429.89	-3,038.52	1,601.61	1,567.29	34.32	46.666	
7,200.00	5,960.91	5,933.07	5,970.29	21.26	20.82	-70.31	429.91	-3,038.52	1,554.58	1,520.06	34.52	45.031	
7,250.00	5,959.92	5,932.26	5,969.48	21.71	20.81	-69.66	429.93	-3,038.51	1,507.75	1,473.01	34.74	43.396	
7,300.00	5,958.94	5,931.45	5,968.67	22.16	20.81	-68.96	429.95	-3,038.51	1,461.13	1,426.14	34.98	41.765	
7,350.00	5,957.95	5,930.63	5,967.86	22.62	20.81	-68.22	429.97	-3,038.51	1,414.73	1,379.48	35.25	40.135	
7,400.00	5,956.97	5,929.82	5,967.04	23.08	20.81	-67.43	430.00	-3,038.51	1,368.59	1,333.05	35.54	38.512	
7,450.00	5,955.99	5,929.01	5,966.23	23.56	20.80	-66.58	430.02	-3,038.50	1,322.73	1,286.88	35.85	36.893	
7,500.00	5,955.00	5,928.20	5,965.42	24.03	20.80	-65.67	430.04	-3,038.50	1,277.18	1,240.98	36.20	35.282	
7,550.00	5,954.02	5,927.39	5,964.61	24.51	20.80	-64.70	430.06	-3,038.50	1,231.97	1,195.39	36.58	33.680	
7,600.00	5,953.03	5,926.57	5,963.80	24.99	20.79	-63.65	430.08	-3,038.50	1,187.15	1,150.15	36.99	32.090	
7,650.00	5,952.05	5,925.76	5,962.98	25.47	20.79	-62.52	430.11	-3,038.49	1,142.76	1,105.30	37.45	30.513	
7,700.00	5,951.06	5,924.95	5,962.17	25.96	20.79	-61.30	430.13	-3,038.49	1,098.84	1,060.89	37.95	28.953	
7,750.00	5,950.08	5,924.14	5,961.36	26.45	20.79	-59.98	430.15	-3,038.49	1,055.47	1,016.97	38.50	27.412	
7,800.00	5,949.10	5,923.32	5,960.55	26.95	20.78	-58.54	430.17	-3,038.49	1,012.71	973.61	39.11	25.895	
7,850.00	5,948.11	5,922.51	5,959.74	27.45	20.78	-56.98	430.19	-3,038.48	970.64	930.87	39.77	24.405	
7,900.00	5,947.13	5,921.70	5,958.92	27.95	20.78	-55.28	430.22	-3,038.48	929.36	888.86	40.50	22.947	
7,950.00	5,946.14	5,920.88	5,958.11	28.45	20.77	-53.42	430.24	-3,038.48	888.97	847.68	41.30	21.526	
8,000.00	5,945.16	5,920.07	5,957.30	28.95	20.77	-51.39	430.26	-3,038.47	849.61	807.44	42.17	20.148	
8,050.00	5,944.17	5,919.26	5,956.48	29.46	20.77	-49.17	430.28	-3,038.47	811.41	768.30	43.12	18.819	
8,100.00	5,943.19	5,918.45	5,955.67	29.97	20.77	-46.72	430.30	-3,038.47	774.56	730.42	44.14	17.546	
8,150.00	5,942.21	5,917.63	5,954.86	30.48	20.76	-44.04	430.33	-3,038.47	739.26	694.00	45.25	16.336	
8,200.00	5,941.22	5,916.82	5,954.05	30.99	20.76	-41.10	430.35	-3,038.46	705.73	659.29	46.44	15.198	
8,250.00	5,940.24	5,916.01	5,953.23	31.51	20.76	-37.88	430.37	-3,038.46	674.25	626.56	47.69	14.139	
8,300.00	5,939.25	5,915.19	5,952.42	32.03	20.76	-34.35	430.39	-3,038.46	645.10	596.11	48.99	13.168	
8,350.00	5,938.27	5,914.38	5,951.61	32.54	20.75	-30.50	430.41	-3,038.46	618.63	568.31	50.32	12.293	
8,400.00	5,937.28	5,913.57	5,950.79	33.06	20.75	-26.33	430.43	-3,038.45	595.20	543.54	51.65	11.524	
8,450.00	5,936.30	5,912.75	5,949.98	33.59	20.75	-21.84	430.46	-3,038.45	575.16	522.23	52.93	10.866	
8,500.00	5,935.32	5,911.94	5,949.17	34.11	20.74	-17.06	430.48	-3,038.45	558.88	504.77	54.11	10.329	
8,550.00	5,934.33	5,911.12	5,948.35	34.63	20.74	-12.03	430.50	-3,038.45	546.71	491.58	55.13	9.916	
8,600.00	5,933.35	5,910.31	5,947.54	35.16	20.74	-6.82	430.52	-3,038.44	538.92	482.97	55.95	9.632	
8,650.00	5,932.36	5,909.50	5,946.73	35.68	20.74	-1.49	430.54	-3,038.44	535.70	479.19	56.52	9.478	
8,659.60	5,932.17	5,909.34	5,946.57	35.78	20.74	-0.47	430.55	-3,038.44	535.62	479.02	56.60	9.464 CC, ES	
8,700.00	5,931.38	5,908.68	5,945.91	36.21	20.73	3.85	430.57	-3,038.44	537.14	480.33	56.81	9.455 SF	
8,750.00	5,930.39	5,907.87	5,945.10	36.74	20.73	9.12	430.59	-3,038.43	543.19	486.37	56.82	9.560	
8,800.00	5,929.41	5,907.05	5,944.28	37.27	20.73	14.23	430.61	-3,038.43	553.71	497.14	56.57	9.788	
8,850.00	5,928.43	5,906.24	5,943.47	37.80	20.72	19.11	430.63	-3,038.43	568.45	512.35	56.10	10.133	
8,900.00	5,927.44	5,905.43	5,942.66	38.33	20.72	23.71	430.65	-3,038.43	587.09	531.64	55.45	10.589	
8,950.00	5,926.46	5,904.61	5,941.84	38.86	20.72	28.01	430.68	-3,038.42	609.26	554.60	54.66	11.146	
9,000.00	5,925.47	5,903.80	5,941.03	39.40	20.72	31.98	430.70	-3,038.42	634.61	580.82	53.79	11.797	
9,050.00	5,924.49	5,902.98	5,940.21	39.93	20.71	35.63	430.72	-3,038.42	662.77	609.89	52.88	12.534	
9,100.00	5,923.50	5,902.17	5,939.40	40.47	20.71	38.97	430.74	-3,038.42	693.40	641.44	51.95	13.347	
9,150.00	5,922.52	5,901.35	5,938.59	41.00	20.71	42.02	430.76	-3,038.41	726.17	675.14	51.03	14.229	
9,200.00	5,921.54	5,900.54	5,937.77	41.54	20.71	44.80	430.78	-3,038.41	760.82	710.68	50.14	15.173	
9,250.00	5,920.55	5,899.72	5,936.96	42.08	20.70	47.33	430.81	-3,038.41	797.11	747.82	49.29	16.172	
9,300.00	5,919.57	5,898.91	5,936.14	42.61	20.70	49.63	430.83	-3,038.41	834.81	786.33	48.48	17.219	
9,350.00	5,918.58	5,898.09	5,935.33	43.15	20.70	51.74	430.85	-3,038.40	873.74	826.02	47.72	18.309	

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: FOSTER EDDY 36 - OH - OH

Survey Program: 166-GYRO-NS													Offset Site Error:	0.00 usft	
Reference				Offset		Semi Major Axis			Offset Wellbore Centre			Rule Assigned:		Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
9,400.00	5,917.60	5,897.28	5,934.51	43.69	20.69	53.66	430.87	-3,038.40	913.76	866.75	47.01	19.438			
9,450.00	5,916.61	5,896.46	5,933.70	44.23	20.69	55.42	430.89	-3,038.40	954.71	908.36	46.34	20.600			
9,500.00	5,915.63	5,895.65	5,932.88	44.77	20.69	57.03	430.92	-3,038.40	996.49	950.76	45.73	21.792			
9,550.00	5,914.65	5,894.83	5,932.07	45.32	20.69	58.51	430.94	-3,038.39	1,038.99	993.84	45.15	23.010			
9,600.00	5,913.66	5,894.02	5,931.25	45.86	20.68	59.88	430.96	-3,038.39	1,082.14	1,037.52	44.62	24.251			
9,650.00	5,912.68	5,893.20	5,930.44	46.40	20.68	61.14	430.98	-3,038.39	1,125.85	1,081.72	44.13	25.512			
9,700.00	5,911.69	5,892.39	5,929.62	46.94	20.68	62.30	431.00	-3,038.38	1,170.07	1,126.39	43.67	26.791			
9,750.00	5,910.71	5,891.57	5,928.81	47.49	20.67	63.38	431.03	-3,038.38	1,214.73	1,171.48	43.25	28.085			
9,800.00	5,909.72	5,890.76	5,927.99	48.03	20.67	64.38	431.05	-3,038.38	1,259.79	1,216.93	42.86	29.393			
9,850.00	5,908.74	5,889.94	5,927.18	48.57	20.67	65.32	431.07	-3,038.38	1,305.22	1,262.72	42.50	30.713			
9,900.00	5,907.76	5,889.13	5,926.36	49.12	20.67	66.19	431.09	-3,038.37	1,350.96	1,308.80	42.16	32.042			
9,950.00	5,906.77	5,888.31	5,925.55	49.66	20.66	67.00	431.11	-3,038.37	1,397.00	1,355.15	41.85	33.381			
10,000.00	5,905.79	5,887.49	5,924.73	50.21	20.66	67.76	431.13	-3,038.37	1,443.30	1,401.74	41.56	34.727			
10,050.00	5,904.80	5,886.68	5,923.92	50.76	20.66	68.47	431.16	-3,038.37	1,489.84	1,448.54	41.29	36.080			
10,100.00	5,903.82	5,885.86	5,923.10	51.30	20.66	69.14	431.18	-3,038.36	1,536.59	1,495.55	41.04	37.438			
10,150.00	5,902.83	5,885.05	5,922.28	51.85	20.65	69.77	431.20	-3,038.36	1,583.55	1,542.73	40.81	38.801			
10,200.00	5,901.85	5,884.23	5,921.47	52.40	20.65	70.37	431.22	-3,038.36	1,630.68	1,590.08	40.60	40.168			
10,250.00	5,900.87	5,883.41	5,920.65	52.94	20.65	70.93	431.24	-3,038.36	1,677.98	1,637.59	40.40	41.539			
10,293.98	5,900.00	5,882.70	5,919.93	53.42	20.64	71.40	431.26	-3,038.35	1,719.71	1,679.48	40.23	42.747			

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: FOSTER EDDY 9 - OH - OH

Offset Site Error: 0.00 usft

Offset Well Error: 0.00 usft

Survey Program: 603-INC-ONLY		Offset		Semi Major Axis		Azimuth from North (°)	Offset Wellbore Centre		Rule Assigned: Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
6,300.00	5,949.24	5,560.00	5,614.87	14.83	124.44	-72.34	468.60	-2,422.78	1,861.74	1,727.46	134.29	13.864	
6,350.00	5,961.99	5,560.00	5,614.87	15.05	124.44	-71.86	468.60	-2,422.78	1,819.02	1,685.00	134.02	13.573	
6,400.00	5,970.49	5,560.00	5,614.87	15.29	124.44	-71.34	468.60	-2,422.78	1,774.96	1,641.16	133.80	13.265	
6,450.00	5,974.66	5,560.00	5,614.87	15.55	124.44	-70.79	468.60	-2,422.78	1,729.81	1,596.17	133.64	12.943	
6,500.00	5,974.69	5,560.00	5,614.87	15.84	124.44	-70.21	468.60	-2,422.78	1,683.88	1,550.33	133.55	12.609	
6,550.00	5,973.70	5,560.00	5,614.87	16.16	124.44	-69.59	468.60	-2,422.78	1,637.96	1,504.50	133.47	12.273	
6,600.00	5,972.72	5,560.00	5,614.87	16.48	124.44	-68.93	468.60	-2,422.78	1,592.29	1,458.92	133.38	11.938	
6,650.00	5,971.73	5,560.00	5,614.87	16.83	124.44	-68.23	468.60	-2,422.78	1,546.89	1,413.60	133.29	11.606	
6,700.00	5,970.75	5,560.00	5,614.87	17.17	124.44	-67.49	468.60	-2,422.78	1,501.78	1,368.58	133.20	11.275	
6,750.00	5,969.77	5,560.00	5,614.87	17.54	124.44	-66.70	468.60	-2,422.78	1,456.98	1,323.88	133.10	10.946	
6,800.00	5,968.78	5,560.00	5,614.87	17.92	124.44	-65.86	468.60	-2,422.78	1,412.54	1,279.53	133.01	10.620	
6,850.00	5,967.80	5,560.00	5,614.87	18.31	124.44	-64.96	468.60	-2,422.78	1,368.48	1,235.56	132.92	10.296	
6,900.00	5,966.81	5,560.00	5,614.87	18.70	124.44	-63.99	468.60	-2,422.78	1,324.84	1,192.02	132.82	9.975	
6,950.00	5,965.83	5,560.00	5,614.87	19.11	124.44	-62.96	468.60	-2,422.78	1,281.67	1,148.95	132.72	9.657	
7,000.00	5,964.84	5,560.00	5,614.87	19.52	124.44	-61.85	468.60	-2,422.78	1,239.01	1,106.38	132.62	9.342	
7,050.00	5,963.86	5,560.00	5,614.87	19.95	124.44	-60.65	468.60	-2,422.78	1,196.92	1,064.39	132.53	9.031	
7,100.00	5,962.88	5,560.00	5,614.87	20.37	124.44	-59.36	468.60	-2,422.78	1,155.46	1,023.03	132.43	8.725	
7,150.00	5,961.89	5,560.00	5,614.87	20.81	124.44	-57.96	468.60	-2,422.78	1,114.70	982.36	132.34	8.423	
7,200.00	5,960.91	5,560.00	5,614.87	21.26	124.44	-56.45	468.60	-2,422.78	1,074.72	942.48	132.24	8.127	
7,250.00	5,959.92	5,560.00	5,614.87	21.71	124.44	-54.81	468.60	-2,422.78	1,035.61	903.47	132.14	7.837	
7,300.00	5,958.94	5,560.00	5,614.87	22.16	124.44	-53.03	468.60	-2,422.78	997.48	865.43	132.05	7.554	
7,350.00	5,957.95	5,560.00	5,614.87	22.62	124.44	-51.09	468.60	-2,422.78	960.43	828.48	131.96	7.278	
7,400.00	5,956.97	5,560.00	5,614.87	23.08	124.44	-48.97	468.60	-2,422.78	924.61	792.74	131.86	7.012	
7,450.00	5,955.99	5,560.00	5,614.87	23.56	124.44	-46.66	468.60	-2,422.78	890.15	758.37	131.78	6.755	
7,500.00	5,955.00	5,560.00	5,614.87	24.03	124.44	-44.15	468.60	-2,422.78	857.23	725.53	131.70	6.509	
7,550.00	5,954.02	5,560.00	5,614.87	24.51	124.44	-41.40	468.60	-2,422.78	826.02	694.39	131.63	6.275	
7,600.00	5,953.03	5,560.00	5,614.87	24.99	124.44	-38.40	468.60	-2,422.78	796.73	665.15	131.57	6.055	
7,650.00	5,952.05	5,560.00	5,614.87	25.47	124.44	-35.13	468.60	-2,422.78	769.57	638.03	131.54	5.851	
7,700.00	5,951.06	5,560.00	5,614.87	25.96	124.44	-31.58	468.60	-2,422.78	744.79	613.26	131.53	5.662	
7,750.00	5,950.08	5,560.00	5,614.87	26.45	124.44	-27.75	468.60	-2,422.78	722.62	591.06	131.57	5.492	
7,800.00	5,949.10	5,560.00	5,614.87	26.95	124.44	-23.64	468.60	-2,422.78	703.31	571.66	131.65	5.342	
7,850.00	5,948.11	5,560.00	5,614.87	27.45	124.44	-19.25	468.60	-2,422.78	687.11	555.30	131.81	5.213	
7,900.00	5,947.13	5,560.00	5,614.87	27.95	124.44	-14.62	468.60	-2,422.78	674.23	542.18	132.05	5.106	
7,950.00	5,946.14	5,560.00	5,614.87	28.45	124.44	-9.80	468.60	-2,422.78	664.88	532.49	132.39	5.022	
8,000.00	5,945.16	5,560.00	5,614.87	28.95	124.44	-4.84	468.60	-2,422.78	659.19	526.36	132.83	4.963	
8,050.00	5,944.17	5,560.00	5,614.87	29.46	124.44	0.19	468.60	-2,422.78	657.26	523.89	133.37	4.928 CC	
8,052.25	5,944.13	5,560.00	5,614.87	29.48	124.44	0.41	468.60	-2,422.78	657.27	523.87	133.40	4.927 ES	
8,100.00	5,943.19	5,560.00	5,614.87	29.97	124.44	5.20	468.60	-2,422.78	659.14	525.13	134.01	4.919 SF	
8,150.00	5,942.21	5,560.00	5,614.87	30.48	124.44	10.14	468.60	-2,422.78	664.78	530.06	134.72	4.935	
8,200.00	5,941.22	5,560.00	5,614.87	30.99	124.44	14.91	468.60	-2,422.78	674.10	538.62	135.48	4.976	
8,250.00	5,940.24	5,560.00	5,614.87	31.51	124.44	19.48	468.60	-2,422.78	686.93	550.67	136.26	5.041	
8,300.00	5,939.25	5,560.00	5,614.87	32.03	124.44	23.81	468.60	-2,422.78	703.10	566.06	137.04	5.131	
8,350.00	5,938.27	5,560.00	5,614.87	32.54	124.44	27.85	468.60	-2,422.78	722.37	584.58	137.79	5.243	
8,400.00	5,937.28	5,560.00	5,614.87	33.06	124.44	31.61	468.60	-2,422.78	744.50	606.01	138.49	5.376	
8,450.00	5,936.30	5,560.00	5,614.87	33.59	124.44	35.09	468.60	-2,422.78	769.25	630.12	139.13	5.529	
8,500.00	5,935.32	5,560.00	5,614.87	34.11	124.44	38.29	468.60	-2,422.78	796.38	656.67	139.71	5.700	
8,550.00	5,934.33	5,560.00	5,614.87	34.63	124.44	41.22	468.60	-2,422.78	825.64	685.43	140.21	5.888	
8,600.00	5,933.35	5,560.00	5,614.87	35.16	124.44	43.92	468.60	-2,422.78	856.83	716.18	140.65	6.092	
8,650.00	5,932.36	5,560.00	5,614.87	35.68	124.44	46.38	468.60	-2,422.78	889.73	748.70	141.03	6.309	
8,700.00	5,931.38	5,560.00	5,614.87	36.21	124.44	48.64	468.60	-2,422.78	924.17	782.82	141.35	6.538	
8,750.00	5,930.39	5,560.00	5,614.87	36.74	124.44	50.71	468.60	-2,422.78	959.98	818.36	141.62	6.779	
8,800.00	5,929.41	5,560.00	5,614.87	37.27	124.44	52.61	468.60	-2,422.78	997.01	855.17	141.84	7.029	

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: FOSTER EDDY 9 - OH - OH

Survey Program: Reference	603-INC-ONLY							Rule Assigned:					Offset Well Error:	0.00 usft
	Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis		Azimuth from North (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
					Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
	8,850.00	5,928.43	5,560.00	5,614.87	37.80	124.44	54.35	468.60	-2,422.78	1,035.13	893.11	142.02	7.289	
	8,900.00	5,927.44	5,560.00	5,614.87	38.33	124.44	55.96	468.60	-2,422.78	1,074.23	932.06	142.17	7.556	
	8,950.00	5,926.46	5,560.00	5,614.87	38.86	124.44	57.44	468.60	-2,422.78	1,114.20	971.91	142.29	7.831	
	9,000.00	5,925.47	5,560.00	5,614.87	39.40	124.44	58.81	468.60	-2,422.78	1,154.95	1,012.57	142.38	8.112	
	9,050.00	5,924.49	5,560.00	5,614.87	39.93	124.44	60.08	468.60	-2,422.78	1,196.40	1,053.95	142.45	8.399	
	9,100.00	5,923.50	5,560.00	5,614.87	40.47	124.44	61.26	468.60	-2,422.78	1,238.49	1,095.98	142.51	8.691	
	9,150.00	5,922.52	5,560.00	5,614.87	41.00	124.44	62.35	468.60	-2,422.78	1,281.14	1,138.59	142.55	8.987	
	9,200.00	5,921.54	5,560.00	5,614.87	41.54	124.44	63.36	468.60	-2,422.78	1,324.31	1,181.73	142.58	9.288	
	9,250.00	5,920.55	5,560.00	5,614.87	42.08	124.44	64.31	468.60	-2,422.78	1,367.94	1,225.35	142.59	9.593	
	9,300.00	5,919.57	5,560.00	5,614.87	42.61	124.44	65.20	468.60	-2,422.78	1,411.99	1,269.39	142.60	9.902	
	9,350.00	5,918.58	5,560.00	5,614.87	43.15	124.44	66.03	468.60	-2,422.78	1,456.43	1,313.83	142.61	10.213	
	9,400.00	5,917.60	5,560.00	5,614.87	43.69	124.44	66.81	468.60	-2,422.78	1,501.22	1,358.62	142.60	10.527	
	9,450.00	5,916.61	5,560.00	5,614.87	44.23	124.44	67.54	468.60	-2,422.78	1,546.33	1,403.73	142.60	10.844	
	9,500.00	5,915.63	5,560.00	5,614.87	44.77	124.44	68.22	468.60	-2,422.78	1,591.73	1,449.14	142.59	11.163	
	9,550.00	5,914.65	5,560.00	5,614.87	45.32	124.44	68.87	468.60	-2,422.78	1,637.40	1,494.82	142.57	11.484	
	9,600.00	5,913.66	5,560.00	5,614.87	45.86	124.44	69.48	468.60	-2,422.78	1,683.31	1,540.75	142.56	11.808	
	9,650.00	5,912.68	5,560.00	5,614.87	46.40	124.44	70.06	468.60	-2,422.78	1,729.45	1,586.91	142.54	12.133	
	9,700.00	5,911.69	5,560.00	5,614.87	46.94	124.44	70.61	468.60	-2,422.78	1,775.80	1,633.28	142.53	12.459	
	9,750.00	5,910.71	5,560.00	5,614.87	47.49	124.44	71.12	468.60	-2,422.78	1,822.35	1,679.84	142.51	12.788	
	9,800.00	5,909.72	5,560.00	5,614.87	48.03	124.44	71.61	468.60	-2,422.78	1,869.07	1,726.58	142.49	13.117	

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



PROTOTYPE Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: STATE A 2 - OH - OH

Survey Program: 300-UNKNOWN										Rule Assigned:				Offset Site Error: 0.00 usft
Reference										Offset Well Error: 0.00 usft				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.00	13.00	0.00	0.00	126.04	-192.39	264.44	327.28					
50.00	50.00	37.00	50.00	0.92	1.48	126.04	-192.39	264.44	327.02	324.62	2.40	136.011		
100.00	100.00	87.00	100.00	0.92	3.48	126.04	-192.39	264.44	327.02	322.62	4.40	74.250		
150.00	150.00	137.00	150.00	1.23	5.48	126.04	-192.39	264.44	327.02	320.32	6.71	48.770		
200.00	200.00	187.00	200.00	1.53	7.48	126.04	-192.39	264.44	327.02	318.01	9.01	36.310		
250.00	250.00	237.00	250.00	1.74	9.48	126.04	-192.39	264.44	327.02	315.80	11.22	29.146		
300.00	300.00	287.00	300.00	1.95	11.48	126.04	-192.39	264.44	327.02	313.59	13.43	24.343		
350.00	350.00	337.00	350.00	2.10	13.48	126.03	-192.39	264.44	326.58	311.00	15.58	20.956		
400.00	399.98	386.98	399.98	2.20	15.48	126.02	-192.39	264.44	325.42	307.74	17.68	18.404		
450.00	449.97	436.97	449.97	2.38	17.48	126.01	-192.39	264.44	324.18	304.33	19.85	16.328		
500.00	499.95	486.95	499.95	2.55	19.48	126.00	-192.39	264.44	322.94	300.92	22.03	14.662		
550.00	549.94	536.94	549.94	2.71	21.48	125.99	-192.39	264.44	321.70	297.51	24.19	13.299		
600.00	599.92	586.92	599.92	2.88	23.48	125.98	-192.39	264.44	320.46	294.11	26.35	12.160		
650.00	649.91	636.91	649.91	3.04	25.48	125.96	-192.39	264.44	319.23	290.71	28.51	11.195		
700.00	699.89	686.89	699.89	3.20	27.48	125.95	-192.39	264.44	317.99	287.31	30.67	10.366		
750.00	749.88	736.88	749.88	3.36	29.48	125.94	-192.39	264.44	316.75	283.91	32.83	9.648		
800.00	799.86	786.86	799.86	3.52	31.47	125.93	-192.39	264.44	315.51	280.52	34.99	9.017		
850.00	849.85	836.85	849.85	3.67	33.47	125.92	-192.39	264.44	314.27	277.12	37.14	8.461		
900.00	899.83	886.83	899.83	3.83	35.47	125.90	-192.39	264.44	313.03	273.73	39.30	7.965		
950.00	949.81	936.81	949.81	3.98	37.47	125.89	-192.39	264.44	311.79	270.34	41.45	7.522		
1,000.00	999.80	986.80	999.80	4.14	39.47	125.88	-192.39	264.44	310.55	266.94	43.61	7.122		
1,050.00	1,049.78	1,036.78	1,049.78	4.29	41.47	125.87	-192.39	264.44	309.31	263.55	45.76	6.760		
1,100.00	1,099.77	1,086.77	1,099.77	4.44	43.47	125.85	-192.39	264.44	308.07	260.16	47.91	6.430		
1,150.00	1,149.75	1,136.75	1,149.75	4.59	45.47	125.84	-192.39	264.44	306.83	256.77	50.06	6.129		
1,200.00	1,199.74	1,186.74	1,199.74	4.75	47.47	125.83	-192.39	264.44	305.59	253.38	52.21	5.853		
1,250.00	1,249.72	1,236.72	1,249.72	4.90	49.47	125.82	-192.39	264.44	304.35	249.99	54.36	5.598		
1,300.00	1,299.71	1,286.71	1,299.71	5.05	51.47	125.80	-192.39	264.44	303.11	246.60	56.51	5.364		
1,350.00	1,349.69	1,336.69	1,349.69	5.20	53.47	125.79	-192.39	264.44	301.87	243.21	58.66	5.146		
1,400.00	1,399.68	1,386.68	1,399.68	5.35	55.47	125.78	-192.39	264.44	300.63	239.82	60.81	4.944		
1,450.00	1,449.66	1,436.66	1,449.66	5.50	57.47	125.76	-192.39	264.44	299.39	236.43	62.96	4.755		
1,500.00	1,499.64	1,486.64	1,499.64	5.65	59.47	125.75	-192.39	264.44	298.15	233.04	65.11	4.579		
1,550.00	1,549.63	1,536.63	1,549.63	5.80	61.47	125.73	-192.39	264.44	296.92	229.66	67.26	4.415		
1,600.00	1,599.61	1,586.61	1,599.61	5.95	63.46	125.72	-192.39	264.44	295.68	226.27	69.41	4.260		
1,650.00	1,649.60	1,636.60	1,649.60	6.09	65.46	125.71	-192.39	264.44	294.44	222.88	71.55	4.115		
1,700.00	1,699.58	1,686.58	1,699.58	6.24	67.46	125.69	-192.39	264.44	293.20	219.49	73.70	3.978		
1,750.00	1,749.57	1,736.57	1,749.57	6.39	69.46	125.68	-192.39	264.44	291.96	216.11	75.85	3.849		
1,800.00	1,799.55	1,786.55	1,799.55	6.54	71.46	125.66	-192.39	264.44	290.72	212.72	78.00	3.727		
1,850.00	1,849.54	1,836.54	1,849.54	6.69	73.46	125.65	-192.39	264.44	289.48	209.34	80.14	3.612		
1,900.00	1,899.52	1,886.52	1,899.52	6.84	75.46	125.64	-192.39	264.44	288.24	205.95	82.29	3.503		
1,950.00	1,949.51	1,936.51	1,949.51	6.98	77.46	125.62	-192.39	264.44	287.00	202.56	84.44	3.399		
2,000.00	1,999.49	1,986.49	1,999.49	7.13	79.46	125.61	-192.39	264.44	285.76	199.18	86.59	3.300		
2,050.00	2,049.48	2,036.48	2,049.48	7.28	81.46	125.59	-192.39	264.44	284.52	195.79	88.73	3.207		
2,100.00	2,099.46	2,086.46	2,099.46	7.43	83.46	125.58	-192.39	264.44	283.28	192.41	90.88	3.117		
2,150.00	2,149.44	2,136.44	2,149.44	7.57	85.46	125.56	-192.39	264.44	282.05	189.02	93.03	3.032		
2,200.00	2,199.43	2,186.43	2,199.43	7.72	87.46	125.55	-192.39	264.44	280.81	185.63	95.17	2.951		
2,250.00	2,249.41	2,236.41	2,249.41	7.87	89.46	125.53	-192.39	264.44	279.57	182.25	97.32	2.873		
2,300.00	2,299.40	2,286.40	2,299.40	8.01	91.46	125.52	-192.39	264.44	278.33	178.86	99.46	2.798		
2,350.00	2,349.38	2,336.38	2,349.38	8.16	93.46	125.50	-192.39	264.44	277.09	175.48	101.61	2.727		
2,400.00	2,399.37	2,386.37	2,399.37	8.31	95.45	125.48	-192.39	264.44	275.85	172.09	103.76	2.659		
2,450.00	2,449.35	2,436.35	2,449.35	8.45	97.45	125.47	-192.39	264.44	274.61	168.71	105.90	2.593		
2,500.00	2,499.34	2,486.34	2,499.34	8.60	99.45	125.45	-192.39	264.44	273.37	165.32	108.05	2.530		
2,550.00	2,549.32	2,536.32	2,549.32	8.75	101.45	125.44	-192.39	264.44	272.13	161.94	110.19	2.470		

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: STATE A 2 - OH - OH

Survey Program: 300-UNKNOWN										Rule Assigned:		Offset Site Error: 0.00 usft	
Reference										Offset Well Error: 0.00 usft			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,600.00	2,599.31	2,586.31	2,599.31	8.89	103.45	125.42	-192.39	264.44	270.89	158.56	112.34	2.411	
2,650.00	2,649.29	2,636.29	2,649.29	9.04	105.45	125.40	-192.39	264.44	269.66	155.17	114.48	2.355	
2,700.00	2,699.27	2,686.27	2,699.27	9.19	107.45	125.39	-192.39	264.44	268.42	151.79	116.63	2.301	
2,750.00	2,749.26	2,736.26	2,749.26	9.33	109.45	125.37	-192.39	264.44	267.18	148.40	118.78	2.249	
2,800.00	2,799.24	2,786.24	2,799.24	9.48	111.45	125.35	-192.39	264.44	265.94	145.02	120.92	2.199	
2,850.00	2,849.23	2,836.23	2,849.23	9.63	113.45	125.34	-192.39	264.44	264.70	141.63	123.07	2.151	
2,900.00	2,899.21	2,886.21	2,899.21	9.77	115.45	125.32	-192.39	264.44	263.46	138.25	125.21	2.104	
2,950.00	2,949.20	2,936.20	2,949.20	9.92	117.45	125.30	-192.39	264.44	262.22	134.87	127.36	2.059	
3,000.00	2,999.18	2,986.18	2,999.18	10.06	119.45	125.28	-192.39	264.44	260.98	131.48	129.50	2.015	
3,050.00	3,049.17	3,036.17	3,049.17	10.21	121.45	125.26	-192.39	264.44	259.75	128.10	131.65	1.973	
3,100.00	3,099.15	3,086.15	3,099.15	10.36	123.45	125.25	-192.39	264.44	258.51	124.72	133.79	1.932	
3,150.00	3,149.14	3,136.14	3,149.14	10.50	125.45	125.23	-192.39	264.44	257.27	121.33	135.94	1.893	
3,200.00	3,199.12	3,186.12	3,199.12	10.65	127.44	125.21	-192.39	264.44	256.03	117.95	138.08	1.854	
3,250.00	3,249.11	3,236.11	3,249.11	10.79	129.44	125.19	-192.39	264.44	254.79	114.57	140.23	1.817	
3,300.00	3,299.09	3,286.09	3,299.09	10.94	131.44	125.17	-192.39	264.44	253.55	111.18	142.37	1.781	
3,350.00	3,349.07	3,336.07	3,349.07	11.09	133.44	125.15	-192.39	264.44	252.31	107.80	144.52	1.746	
3,400.00	3,399.06	3,386.06	3,399.06	11.23	135.44	125.14	-192.39	264.44	251.08	104.42	146.66	1.712	
3,450.00	3,449.04	3,436.04	3,449.04	11.38	137.44	125.12	-192.39	264.44	249.84	101.03	148.81	1.679	
3,500.00	3,499.03	3,486.03	3,499.03	11.52	139.44	125.10	-192.39	264.44	248.60	97.65	150.95	1.647	
3,550.00	3,549.01	3,536.01	3,549.01	11.67	141.44	125.08	-192.39	264.44	247.36	94.27	153.09	1.616	
3,600.00	3,599.00	3,585.00	3,599.00	11.81	143.40	125.06	-192.39	264.44	246.12	90.93	155.20	1.586	
3,605.10	3,604.10	3,585.00	3,598.00	11.83	143.40	125.05	-192.39	264.44	246.07	90.90	155.17	1.586 CC, ES, SF	
3,650.00	3,648.98	3,585.00	3,598.00	11.96	143.40	125.04	-192.39	264.44	250.13	97.95	152.18	1.644	
3,700.00	3,698.97	3,585.00	3,598.00	12.11	143.40	125.02	-192.39	264.44	263.74	119.81	143.92	1.832	
3,750.00	3,748.95	3,585.00	3,598.00	12.25	143.40	125.00	-192.39	264.44	285.57	152.93	132.63	2.153	
3,800.00	3,798.94	3,585.00	3,598.00	12.40	143.40	124.98	-192.39	264.44	313.91	193.44	120.47	2.606	
3,850.00	3,848.92	3,585.00	3,598.00	12.54	143.40	124.95	-192.39	264.44	347.17	238.35	108.83	3.190	
3,900.00	3,898.91	3,585.00	3,598.00	12.69	143.40	124.93	-192.39	264.44	384.08	285.74	98.34	3.906	
3,950.00	3,948.89	3,585.00	3,598.00	12.83	143.40	124.91	-192.39	264.44	423.68	334.51	89.17	4.751	
4,000.00	3,998.87	3,585.00	3,598.00	12.98	143.40	124.89	-192.39	264.44	465.29	384.03	81.27	5.726	
4,050.00	4,048.86	3,585.00	3,598.00	13.12	143.40	124.87	-192.39	264.44	508.42	433.94	74.48	6.827	
4,100.00	4,098.84	3,585.00	3,598.00	13.27	143.40	124.85	-192.39	264.44	552.70	484.06	68.64	8.053	
4,150.00	4,148.83	3,585.00	3,598.00	13.41	143.40	124.82	-192.39	264.44	597.89	534.29	63.60	9.401	
4,200.00	4,198.81	3,585.00	3,598.00	13.56	143.40	124.80	-192.39	264.44	643.78	584.55	59.23	10.869	
4,250.00	4,248.80	3,585.00	3,598.00	13.71	143.40	124.78	-192.39	264.44	690.25	634.83	55.42	12.454	
4,300.00	4,298.78	3,585.00	3,598.00	13.85	143.40	124.76	-192.39	264.44	737.18	685.10	52.08	14.153	
4,350.00	4,348.77	3,585.00	3,598.00	14.00	143.40	124.73	-192.39	264.44	784.49	735.35	49.14	15.964	
4,400.00	4,398.75	3,585.00	3,598.00	14.14	143.40	124.71	-192.39	264.44	832.12	785.58	46.53	17.882	
4,450.00	4,448.74	3,585.00	3,598.00	14.29	143.40	124.69	-192.39	264.44	880.01	835.79	44.21	19.904	
4,500.00	4,498.72	3,585.00	3,598.00	14.43	143.40	124.66	-192.39	264.44	928.12	885.98	42.13	22.028	
4,550.00	4,548.70	3,585.00	3,598.00	14.58	143.40	124.64	-192.39	264.44	976.42	936.15	40.27	24.248	
4,600.00	4,598.69	3,585.00	3,598.00	14.72	143.40	124.61	-192.39	264.44	1,024.88	986.30	38.59	26.561	
4,650.00	4,648.67	3,585.00	3,598.00	14.87	143.40	124.59	-192.39	264.44	1,073.49	1,036.42	37.06	28.964	
4,700.00	4,698.66	3,585.00	3,598.00	15.01	143.40	124.56	-192.39	264.44	1,122.21	1,086.53	35.68	31.453	
4,750.00	4,748.64	3,585.00	3,598.00	15.16	143.40	124.54	-192.39	264.44	1,171.05	1,136.63	34.42	34.023	
4,800.00	4,798.63	3,585.00	3,598.00	15.30	143.40	124.51	-192.39	264.44	1,219.98	1,186.71	33.27	36.670	
4,850.00	4,848.61	3,585.00	3,598.00	15.45	143.40	124.49	-192.39	264.44	1,268.99	1,236.77	32.22	39.391	
4,900.00	4,898.60	3,585.00	3,598.00	15.59	143.40	124.46	-192.39	264.44	1,318.07	1,286.83	31.25	42.181	
4,950.00	4,948.58	3,585.00	3,598.00	15.73	143.40	124.43	-192.39	264.44	1,367.23	1,336.87	30.36	45.037	
5,000.00	4,998.57	3,585.00	3,598.00	15.80	143.40	124.24	-192.39	264.44	1,416.58	1,386.95	29.63	47.817	
5,050.00	5,048.48	3,585.00	3,598.00	15.75	143.40	123.66	-192.39	264.44	1,466.21	1,437.06	29.15	50.291	
5,100.00	5,098.19	3,585.00	3,598.00	15.66	143.40	122.72	-192.39	264.44	1,515.98	1,487.05	28.93	52.403	

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: STATE A 2 - OH - OH

Survey Program: 300-UNKNOWN												Offset Site Error:	0.00 usft
Reference												Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,150.00	5,147.54	3,585.00	3,598.00	15.55	143.40	121.46	-192.39	264.44	1,565.73	1,536.79	28.93	54.115	
5,200.00	5,196.42	3,585.00	3,598.00	15.43	143.40	119.96	-192.39	264.44	1,615.34	1,586.18	29.15	55.409	
5,250.00	5,244.67	3,585.00	3,598.00	15.31	143.40	118.28	-192.39	264.44	1,664.69	1,635.11	29.58	56.286	
5,300.00	5,292.18	3,585.00	3,598.00	15.18	143.40	116.50	-192.39	264.44	1,713.67	1,683.48	30.19	56.762	
5,350.00	5,338.81	3,585.00	3,598.00	15.06	143.40	114.68	-192.39	264.44	1,762.19	1,731.20	30.99	56.869	
5,400.00	5,384.43	3,585.00	3,598.00	14.93	143.40	112.89	-192.39	264.44	1,810.15	1,778.20	31.95	56.650	
5,450.00	5,428.92	3,585.00	3,598.00	14.81	143.40	111.15	-192.39	264.44	1,857.48	1,824.40	33.08	56.153	

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



PROTOTYPE Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: STATE A 608 - OH - OH

Survey Program: 221-INC-ONLY										Offset Site Error: 0.00 usft	
Reference										Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Minimum Separation (usft)	Warning
0.00	0.00	0.00	6.00	0.00	0.00	-23.99	789.11	-351.21	863.76		
50.00	50.00	44.00	50.00	0.92	0.89	-23.99	789.11	-351.21	863.74	861.92	1.81 476.137
100.00	100.00	94.00	100.00	0.92	1.90	-23.99	789.11	-351.21	863.74	860.91	2.83 305.721
150.00	150.00	144.00	150.00	1.23	2.91	-23.99	789.11	-351.21	863.74	859.60	4.14 208.759
200.00	200.00	194.00	200.00	1.53	3.92	-23.99	789.11	-351.21	863.74	858.29	5.45 158.492
250.00	250.00	244.01	250.00	1.74	5.00	-23.99	789.11	-351.21	863.74	857.00	6.74 128.131
300.00	300.00	294.01	300.00	1.95	6.16	-23.99	789.11	-351.21	863.74	855.63	8.11 106.509 CC
350.00	350.00	345.96	351.94	2.10	7.36	-24.00	789.50	-351.21	864.49	855.03	9.45 91.458
400.00	399.98	399.76	405.74	2.20	8.60	-24.04	789.24	-351.21	865.30	854.51	10.79 80.220
450.00	449.97	444.03	449.97	2.38	9.67	-24.08	789.11	-351.21	866.27	854.25	12.02 72.041
500.00	499.95	494.01	499.95	2.55	10.90	-24.11	789.11	-351.21	867.38	853.95	13.43 64.585
550.00	549.94	545.07	551.00	2.71	12.16	-24.13	789.87	-351.21	869.18	854.33	14.85 58.525
600.00	599.92	599.96	605.88	2.88	13.52	-24.17	789.62	-351.21	870.08	853.72	16.37 53.160
650.00	649.91	654.86	660.78	3.04	14.87	-24.23	789.04	-351.21	870.71	852.83	17.88 48.704
700.00	699.89	694.02	699.89	3.20	15.67	-24.26	789.11	-351.21	871.81	852.98	18.83 46.299
750.00	749.88	744.01	749.88	3.36	16.71	-24.30	789.11	-351.21	872.92	852.90	20.02 43.601
800.00	799.86	794.61	800.47	3.52	17.76	-24.31	789.94	-351.21	874.78	853.56	21.23 41.215
850.00	849.85	848.48	854.33	3.67	18.89	-24.35	789.77	-351.21	875.75	853.25	22.49 38.933
900.00	899.83	902.36	908.20	3.83	20.01	-24.40	789.33	-351.21	876.49	852.73	23.76 36.885
950.00	949.81	943.99	949.81	3.98	20.86	-24.44	789.11	-351.21	877.36	852.60	24.76 35.434
1,000.00	999.80	993.97	999.80	4.14	21.86	-24.48	789.11	-351.21	878.47	852.56	25.91 33.902
1,050.00	1,049.78	1,043.96	1,049.78	4.29	22.87	-24.52	789.11	-351.21	879.58	852.52	27.06 32.503
1,100.00	1,099.77	1,095.24	1,101.06	4.44	23.90	-24.55	789.35	-351.21	880.91	852.67	28.24 31.196
1,150.00	1,149.75	1,146.65	1,152.47	4.59	24.94	-24.59	789.22	-351.21	881.91	852.49	29.41 29.982
1,200.00	1,199.74	1,193.94	1,199.74	4.75	25.98	-24.62	789.11	-351.21	882.91	852.31	30.60 28.852
1,250.00	1,249.72	1,243.92	1,249.72	4.90	27.23	-24.66	789.11	-351.21	884.03	852.03	31.99 27.632
1,300.00	1,299.71	1,293.91	1,299.71	5.05	28.48	-24.70	789.11	-351.21	885.14	851.76	33.38 26.513
1,350.00	1,349.69	1,345.24	1,351.02	5.20	29.77	-24.71	789.86	-351.21	886.94	852.13	34.81 25.480
1,400.00	1,399.68	1,398.28	1,404.07	5.35	31.09	-24.75	789.67	-351.21	887.89	851.61	36.28 24.476
1,450.00	1,449.66	1,451.34	1,457.12	5.50	32.42	-24.80	789.28	-351.21	888.67	850.93	37.74 23.545
1,500.00	1,499.64	1,493.95	1,499.64	5.65	33.48	-24.84	789.11	-351.21	889.59	850.65	38.94 22.845
1,550.00	1,549.63	1,543.93	1,549.63	5.80	34.72	-24.87	789.11	-351.21	890.71	850.39	40.31 22.094
1,600.00	1,599.61	1,593.92	1,599.61	5.95	35.95	-24.91	789.11	-351.21	891.82	850.13	41.69 21.392
1,650.00	1,649.60	1,649.44	1,655.11	6.09	37.32	-24.92	789.91	-351.21	893.68	850.49	43.20 20.688
1,700.00	1,699.58	1,705.10	1,710.76	6.24	38.70	-24.97	789.34	-351.21	894.34	849.62	44.71 20.003
1,750.00	1,749.57	1,743.95	1,749.57	6.39	39.59	-25.01	789.11	-351.21	895.17	849.43	45.74 19.571
1,800.00	1,799.55	1,793.94	1,799.55	6.54	40.67	-25.05	789.11	-351.21	896.29	849.33	46.96 19.088
1,850.00	1,849.54	1,845.37	1,850.98	6.69	41.78	-25.07	789.60	-351.21	897.84	849.64	48.20 18.626
1,900.00	1,899.52	1,899.39	1,904.99	6.84	42.94	-25.11	789.37	-351.21	898.77	849.26	49.51 18.154
1,950.00	1,949.51	1,943.93	1,949.51	6.98	43.89	-25.15	789.11	-351.21	899.64	849.05	50.59 17.783
2,000.00	1,999.49	1,993.91	1,999.49	7.13	44.91	-25.19	789.11	-351.21	900.75	849.00	51.75 17.406
2,050.00	2,049.48	2,043.90	2,049.48	7.28	45.93	-25.22	789.11	-351.21	901.87	848.96	52.91 17.046
2,100.00	2,099.46	2,096.06	2,101.63	7.43	47.00	-25.24	789.61	-351.21	903.45	849.33	54.11 16.696
2,150.00	2,149.44	2,149.05	2,154.62	7.57	48.08	-25.28	789.37	-351.21	904.36	849.03	55.33 16.344
2,200.00	2,199.43	2,193.88	2,199.43	7.72	48.98	-25.32	789.11	-351.21	905.23	848.86	56.37 16.060
2,250.00	2,249.41	2,243.87	2,249.41	7.87	49.91	-25.36	789.11	-351.21	906.35	848.91	57.43 15.781
2,300.00	2,299.40	2,294.13	2,299.68	8.01	50.85	-25.38	789.48	-351.21	907.80	849.29	58.50 15.517
2,350.00	2,349.38	2,347.01	2,352.55	8.16	51.83	-25.42	789.36	-351.21	908.82	849.20	59.62 15.243
2,400.00	2,399.37	2,399.90	2,405.43	8.31	52.81	-25.46	789.07	-351.21	909.69	848.95	60.74 14.976
2,450.00	2,449.35	2,443.82	2,449.35	8.45	53.61	-25.49	789.11	-351.21	910.83	849.14	61.68 14.767
2,500.00	2,499.34	2,493.80	2,499.34	8.60	54.53	-25.52	789.11	-351.21	911.95	849.21	62.73 14.537
2,550.00	2,549.32	2,544.49	2,550.02	8.75	55.46	-25.55	789.37	-351.21	913.31	849.51	63.80 14.316

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: STATE A 608 - OH - OH

Survey Program: 221-INC-ONLY													Offset Site Error: 0.00 usft		
Reference				Offset		Semi Major Axis			Offset Wellbore Centre		Rule Assigned: Distance			Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
2,600.00	2,599.31	2,595.95	2,601.48	8.89	56.40	-25.59	789.29	-351.21	914.35	849.47	64.87	14.094			
2,650.00	2,649.29	2,647.41	2,652.94	9.04	57.34	-25.63	789.10	-351.21	915.31	849.36	65.95	13.878			
2,700.00	2,699.27	2,693.76	2,699.27	9.19	58.33	-25.66	789.11	-351.21	916.43	849.35	67.08	13.662			
2,750.00	2,749.26	2,743.74	2,749.26	9.33	59.40	-25.69	789.11	-351.21	917.55	849.28	68.28	13.438			
2,800.00	2,799.24	2,794.66	2,800.18	9.48	60.48	-25.71	789.48	-351.21	919.01	849.51	69.50	13.224			
2,850.00	2,849.23	2,846.75	2,852.27	9.63	61.59	-25.75	789.36	-351.21	920.02	849.28	70.74	13.006			
2,900.00	2,899.21	2,898.85	2,904.36	9.77	62.70	-25.79	789.10	-351.21	920.93	848.94	71.99	12.793			
2,950.00	2,949.20	2,943.72	2,949.20	9.92	63.70	-25.82	789.11	-351.21	922.05	848.92	73.13	12.609			
3,000.00	2,999.18	2,993.70	2,999.18	10.06	64.82	-25.86	789.11	-351.21	923.17	848.79	74.38	12.412			
3,050.00	3,049.17	3,043.69	3,049.17	10.21	65.94	-25.89	789.11	-351.21	924.29	848.66	75.63	12.221			
3,100.00	3,099.15	3,097.01	3,102.48	10.36	67.13	-25.90	789.85	-351.21	926.08	849.12	76.96	12.033			
3,150.00	3,149.14	3,150.43	3,155.89	10.50	68.32	-25.94	789.52	-351.21	926.94	848.65	78.29	11.840			
3,200.00	3,199.12	3,193.70	3,199.12	10.65	69.29	-25.99	789.11	-351.21	927.67	848.27	79.40	11.684			
3,250.00	3,249.11	3,243.69	3,249.11	10.79	70.45	-26.02	789.11	-351.21	928.79	848.11	80.69	11.511			
3,300.00	3,299.09	3,293.67	3,299.09	10.94	71.60	-26.05	789.11	-351.21	929.92	847.94	81.98	11.344			
3,350.00	3,349.07	3,345.61	3,351.02	11.09	72.80	-26.07	789.60	-351.21	931.48	848.17	83.31	11.181			
3,400.00	3,399.06	3,398.83	3,404.24	11.23	74.03	-26.11	789.37	-351.21	932.42	847.74	84.68	11.012			
3,450.00	3,449.04	3,443.68	3,449.04	11.38	75.08	-26.15	789.11	-351.21	933.30	847.43	85.86	10.870			
3,500.00	3,499.03	3,493.67	3,499.03	11.52	76.31	-26.18	789.11	-351.21	934.42	847.20	87.23	10.713			
3,550.00	3,549.01	3,543.65	3,549.01	11.67	77.54	-26.21	789.11	-351.21	935.55	846.96	88.59	10.560			
3,600.00	3,599.00	3,596.17	3,601.51	11.81	78.83	-26.22	789.93	-351.21	937.41	847.40	90.02	10.414			
3,650.00	3,648.98	3,650.73	3,656.07	11.96	80.17	-26.26	789.62	-351.21	938.29	846.79	91.49	10.255			
3,700.00	3,698.97	3,705.32	3,710.65	12.11	81.52	-26.31	789.01	-351.21	938.92	845.95	92.97	10.099			
3,750.00	3,748.95	3,743.67	3,748.95	12.25	82.37	-26.34	789.11	-351.21	940.06	846.09	93.97	10.004			
3,800.00	3,798.94	3,793.66	3,798.94	12.40	83.51	-26.37	789.11	-351.21	941.19	845.95	95.24	9.882			
3,850.00	3,848.92	3,845.30	3,850.57	12.54	84.69	-26.38	789.87	-351.21	943.00	846.44	96.55	9.767			
3,900.00	3,898.91	3,899.74	3,905.00	12.69	85.92	-26.42	789.62	-351.21	943.92	846.00	97.92	9.639			
3,950.00	3,948.89	3,954.19	3,959.44	12.83	87.16	-26.46	789.08	-351.21	944.61	845.31	99.30	9.513 ES			
4,000.00	3,998.87	3,993.65	3,998.87	12.98	87.92	-26.49	789.11	-351.21	945.70	845.51	100.19	9.439			
4,050.00	4,048.86	4,043.64	4,048.86	13.12	88.89	-26.53	789.11	-351.21	946.83	845.54	101.30	9.347			
4,100.00	4,098.84	4,095.05	4,100.26	13.27	89.89	-26.54	789.61	-351.21	948.42	845.98	102.43	9.259			
4,150.00	4,148.83	4,148.34	4,153.55	13.41	90.92	-26.58	789.42	-351.21	949.39	845.78	103.60	9.164			
4,200.00	4,198.81	4,193.61	4,198.81	13.56	91.80	-26.62	789.11	-351.21	950.23	845.61	104.61	9.083			
4,250.00	4,248.80	4,222.00	4,227.20	13.71	92.30	-26.65	789.11	-351.21	951.60	846.39	105.22	9.044 SF			
4,300.00	4,298.78	4,222.00	4,227.20	13.85	92.30	-26.68	789.11	-351.21	955.17	850.09	105.08	9.090			
4,350.00	4,348.77	4,222.00	4,227.20	14.00	92.30	-26.71	789.11	-351.21	961.34	856.66	104.68	9.184			
4,400.00	4,398.75	4,222.00	4,227.20	14.14	92.30	-26.74	789.11	-351.21	970.04	866.02	104.02	9.326			
4,450.00	4,448.74	4,222.00	4,227.20	14.29	92.30	-26.77	789.11	-351.21	981.22	878.10	103.12	9.515			
4,500.00	4,498.72	4,222.00	4,227.20	14.43	92.30	-26.80	789.11	-351.21	994.79	892.77	102.02	9.751			
4,550.00	4,548.70	4,222.00	4,227.20	14.58	92.30	-26.83	789.11	-351.21	1,010.65	909.92	100.72	10.034			
4,600.00	4,598.69	4,222.00	4,227.20	14.72	92.30	-26.86	789.11	-351.21	1,028.70	929.43	99.27	10.362			
4,650.00	4,648.67	4,222.00	4,227.20	14.87	92.30	-26.89	789.11	-351.21	1,048.83	951.13	97.69	10.736			
4,700.00	4,698.66	4,222.00	4,227.20	15.01	92.30	-26.92	789.11	-351.21	1,070.91	974.90	96.01	11.154			
4,750.00	4,748.64	4,222.00	4,227.20	15.16	92.30	-26.95	789.11	-351.21	1,094.83	1,000.58	94.25	11.616			
4,800.00	4,798.63	4,222.00	4,227.20	15.30	92.30	-26.98	789.11	-351.21	1,120.48	1,028.04	92.44	12.122			
4,850.00	4,848.61	4,222.00	4,227.20	15.45	92.30	-27.01	789.11	-351.21	1,147.73	1,057.14	90.59	12.670			
4,900.00	4,898.60	4,222.00	4,227.20	15.59	92.30	-27.04	789.11	-351.21	1,176.47	1,087.75	88.73	13.259			
4,950.00	4,948.58	4,222.00	4,227.20	15.73	92.30	-27.07	789.11	-351.21	1,206.61	1,119.75	86.86	13.892			
5,000.00	4,998.57	4,222.00	4,227.20	15.80	92.30	-27.05	789.11	-351.21	1,237.64	1,152.67	84.97	14.566			
5,050.00	5,048.48	4,222.00	4,227.20	15.75	92.30	-26.88	789.11	-351.21	1,268.94	1,185.96	82.98	15.292			
5,100.00	5,098.19	4,222.00	4,227.20	15.66	92.30	-26.58	789.11	-351.21	1,300.38	1,219.42	80.96	16.062			
5,150.00	5,147.54	4,222.00	4,227.20	15.55	92.30	-26.14	789.11	-351.21	1,331.89	1,252.95	78.94	16.873			

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: STATE A 608 - OH - OH

Survey Program: 221-INC-ONLY								Rule Assigned:				Offset Site Error:	0.00 usft
Reference								Distance				Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.00	5,196.42	4,222.00	4,227.20	15.43	92.30	-25.55	789.11	-351.21	1,363.37	1,286.45	76.92	17.724	
5,250.00	5,244.67	4,222.00	4,227.20	15.31	92.30	-24.83	789.11	-351.21	1,394.74	1,319.81	74.93	18.613	
5,300.00	5,292.18	4,222.00	4,227.20	15.18	92.30	-23.96	789.11	-351.21	1,425.92	1,352.95	72.98	19.539	
5,350.00	5,338.81	4,222.00	4,227.20	15.06	92.30	-22.94	789.11	-351.21	1,456.85	1,385.78	71.07	20.499	
5,400.00	5,384.43	4,222.00	4,227.20	14.93	92.30	-21.77	789.11	-351.21	1,487.46	1,418.24	69.22	21.490	
5,450.00	5,428.92	4,222.00	4,227.20	14.81	92.30	-20.44	789.11	-351.21	1,517.68	1,450.25	67.43	22.508	
5,500.00	5,472.16	4,222.00	4,227.20	14.69	92.30	-18.96	789.11	-351.21	1,547.46	1,481.74	65.72	23.546	
5,550.00	5,514.02	4,222.00	4,227.20	14.58	92.30	-17.33	789.11	-351.21	1,576.74	1,512.64	64.10	24.598	
5,600.00	5,554.40	4,222.00	4,227.20	14.48	92.30	-15.53	789.11	-351.21	1,605.48	1,542.90	62.58	25.654	
5,650.00	5,593.18	4,222.00	4,227.20	14.39	92.30	-13.58	789.11	-351.21	1,633.62	1,572.45	61.17	26.704	
5,700.00	5,630.25	4,222.00	4,227.20	14.31	92.30	-11.47	789.11	-351.21	1,661.12	1,601.23	59.89	27.737	
5,750.00	5,665.52	4,222.00	4,227.20	14.24	92.30	-9.21	789.11	-351.21	1,687.94	1,629.21	58.73	28.739	
5,800.00	5,698.89	4,222.00	4,227.20	14.19	92.30	-6.81	789.11	-351.21	1,714.04	1,656.32	57.72	29.696	
5,850.00	5,730.26	4,222.00	4,227.20	14.16	92.30	-4.27	789.11	-351.21	1,739.37	1,682.52	56.85	30.593	
5,900.00	5,759.56	4,222.00	4,227.20	14.15	92.30	-1.62	789.11	-351.21	1,763.91	1,707.77	56.15	31.416	
5,950.00	5,786.69	4,222.00	4,227.20	14.16	92.30	1.13	789.11	-351.21	1,787.63	1,732.03	55.60	32.151	
6,000.00	5,811.93	4,222.00	4,227.20	14.19	92.30	3.96	789.11	-351.21	1,810.77	1,755.58	55.19	32.809	
6,050.00	5,836.93	4,222.00	4,227.20	14.25	92.30	6.77	789.11	-351.21	1,834.79	1,779.86	54.93	33.400	
6,100.00	5,861.93	4,222.00	4,227.20	14.32	92.30	9.54	789.11	-351.21	1,859.84	1,805.07	54.77	33.956	
6,150.00	5,886.93	4,222.00	4,227.20	14.41	92.30	12.27	789.11	-351.21	1,885.88	1,831.16	54.72	34.466	

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: YUCCA 3 - OH - OH

Survey Program:		100-GYRO-NS							Rule Assigned:				Offset Site Error:		0.00 usft	
Reference		Offset		Semi Major Axis		Offset Wellbore Centre			Distance				Offset Well Error:		0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
0.00	0.00	0.00	3.00	0.00	0.00	83.09	26.73	220.43	222.07							
50.00	50.00	48.18	51.18	0.92	0.07	83.10	26.67	220.31	221.92	220.92	1.00	222.505				
100.00	100.00	99.44	102.43	0.92	0.15	83.13	26.48	219.91	221.51	220.44	1.07	206.098				
150.00	150.00	152.81	155.80	1.23	0.35	83.22	26.05	218.96	220.58	219.02	1.57	140.899				
200.00	200.00	205.90	208.85	1.53	0.55	83.35	25.32	217.24	218.89	216.83	2.06	106.501				
250.00	250.00	256.88	259.79	1.74	0.75	83.51	24.47	215.14	216.75	214.30	2.45	88.488				
300.00	300.00	307.64	310.49	1.95	0.95	83.68	23.57	212.82	214.37	211.53	2.84	75.417				
350.00	350.00	357.28	360.06	2.10	1.14	83.76	22.72	210.50	211.66	208.50	3.15	67.121				
400.00	399.98	406.85	409.58	2.20	1.32	83.67	21.94	208.25	208.50	205.09	3.41	61.177				
450.00	449.97	456.18	458.85	2.38	1.49	83.55	21.28	206.11	205.39	201.65	3.75	54.819				
500.00	499.95	505.59	508.22	2.55	1.67	83.39	20.72	204.09	202.43	198.35	4.09	49.550				
550.00	549.94	555.57	558.15	2.71	1.85	83.21	20.23	202.08	199.52	195.10	4.41	45.214				
600.00	599.92	605.53	608.07	2.88	2.02	83.01	19.76	200.06	196.59	191.85	4.74	41.478				
650.00	649.91	655.34	657.84	3.04	2.20	82.81	19.31	198.05	193.67	188.61	5.06	38.288				
700.00	699.89	705.16	707.62	3.20	2.37	82.60	18.87	196.06	190.78	185.40	5.38	35.484				
750.00	749.88	755.08	757.49	3.36	2.54	82.38	18.41	194.08	187.90	182.21	5.69	33.027				
800.00	799.86	804.98	807.36	3.52	2.72	82.17	17.93	192.10	185.02	179.02	6.00	30.830				
850.00	849.85	854.75	857.08	3.67	2.89	81.96	17.43	190.16	182.17	175.86	6.31	28.877				
900.00	899.83	904.49	906.79	3.83	3.07	81.74	16.93	188.25	179.36	172.75	6.62	27.114				
950.00	949.81	953.99	956.25	3.98	3.24	81.51	16.46	186.44	176.64	169.72	6.92	25.537				
1,000.00	999.80	1,003.50	1,005.73	4.14	3.41	81.27	16.02	184.74	174.04	166.83	7.22	24.111				
1,050.00	1,049.78	1,053.12	1,055.32	4.29	3.58	81.02	15.61	183.14	171.55	164.04	7.52	22.823				
1,100.00	1,099.77	1,102.76	1,104.94	4.44	3.75	80.75	15.22	181.62	169.16	161.34	7.81	21.647				
1,150.00	1,149.75	1,152.64	1,154.79	4.59	3.93	80.46	14.89	180.14	166.81	158.70	8.11	20.570				
1,200.00	1,199.74	1,202.50	1,204.63	4.75	4.10	80.15	14.63	178.67	164.49	156.09	8.40	19.574				
1,250.00	1,249.72	1,252.14	1,254.25	4.90	4.27	79.78	14.48	177.24	162.24	153.55	8.69	18.661				
1,300.00	1,299.71	1,301.79	1,303.88	5.05	4.44	79.37	14.46	175.89	160.09	151.10	8.98	17.822				
1,350.00	1,349.69	1,351.76	1,353.83	5.20	4.61	78.92	14.51	174.55	157.98	148.71	9.27	17.043				
1,400.00	1,399.68	1,401.72	1,403.78	5.35	4.79	78.46	14.55	173.20	155.88	146.32	9.55	16.314				
1,450.00	1,449.66	1,451.66	1,453.70	5.50	4.96	77.97	14.62	171.85	153.78	143.94	9.84	15.632				
1,500.00	1,499.64	1,501.59	1,503.60	5.65	5.13	77.46	14.74	170.48	151.69	141.57	10.12	14.992				
1,550.00	1,549.63	1,551.28	1,553.28	5.80	5.30	76.93	14.87	169.17	149.66	139.27	10.40	14.397				
1,600.00	1,599.61	1,600.99	1,602.97	5.95	5.48	76.40	14.97	167.94	147.73	137.06	10.67	13.843				
1,650.00	1,649.60	1,651.01	1,652.98	6.09	5.65	75.87	15.05	166.73	145.83	134.89	10.95	13.322				
1,700.00	1,699.58	1,701.02	1,702.98	6.24	5.82	75.32	15.13	165.51	143.92	132.70	11.22	12.828				
1,750.00	1,749.57	1,751.01	1,752.95	6.39	6.00	74.77	15.19	164.26	142.01	130.52	11.49	12.359				
1,800.00	1,799.55	1,801.00	1,802.93	6.54	6.17	74.20	15.25	163.01	140.09	128.33	11.76	11.914				
1,850.00	1,849.54	1,851.02	1,852.93	6.69	6.34	73.63	15.26	161.73	138.16	126.14	12.03	11.489				
1,900.00	1,899.52	1,901.04	1,902.93	6.84	6.52	73.06	15.23	160.45	136.23	123.93	12.29	11.084				
1,950.00	1,949.51	1,951.12	1,953.00	6.98	6.69	72.49	15.15	159.14	134.26	121.71	12.55	10.695				
2,000.00	1,999.49	2,001.20	2,003.05	7.13	6.86	71.91	15.04	157.78	132.26	119.44	12.82	10.320				
2,050.00	2,049.48	2,051.25	2,053.08	7.28	7.04	71.31	14.91	156.38	130.22	117.15	13.07	9.960				
2,100.00	2,099.46	2,101.28	2,103.10	7.43	7.21	70.68	14.80	154.93	128.16	114.83	13.33	9.614				
2,150.00	2,149.44	2,151.15	2,152.94	7.57	7.39	70.04	14.68	153.49	126.12	112.53	13.58	9.284				
2,200.00	2,199.43	2,201.02	2,202.79	7.72	7.56	69.40	14.51	152.10	124.11	110.27	13.84	8.970				
2,250.00	2,249.41	2,251.01	2,252.76	7.87	7.73	68.76	14.30	150.72	122.13	108.04	14.09	8.669				
2,300.00	2,299.40	2,300.99	2,302.73	8.01	7.91	68.10	14.08	149.32	120.14	105.80	14.34	8.381				
2,350.00	2,349.38	2,350.93	2,352.64	8.16	8.08	67.43	13.85	147.93	118.16	103.58	14.58	8.104				
2,400.00	2,399.37	2,400.87	2,402.56	8.31	8.26	66.75	13.59	146.54	116.20	101.37	14.82	7.838				
2,450.00	2,449.35	2,450.84	2,452.51	8.45	8.43	66.06	13.29	145.17	114.25	99.18	15.07	7.583				
2,500.00	2,499.34	2,500.81	2,502.46	8.60	8.60	65.37	12.95	143.80	112.30	97.00	15.31	7.337				
2,550.00	2,549.32	2,550.72	2,552.35	8.75	8.78	64.67	12.60	142.44	110.38	94.83	15.54	7.101				

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



PROTOTYPE Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: YUCCA 3 - OH - OH

Survey Program: 100-GYRO-NS										Rule Assigned:				Offset Site Error:
Reference										Distance				Offset Well Error:
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
2,600.00	2,599.31	2,600.63	2,602.25	8.89	8.95	63.93	12.27	141.09	108.48	92.70	15.78	6.875		
2,650.00	2,649.29	2,650.56	2,652.15	9.04	9.13	63.19	11.91	139.77	106.62	90.61	16.01	6.659		
2,700.00	2,699.27	2,700.49	2,702.06	9.19	9.30	62.46	11.48	138.48	104.78	88.54	16.24	6.451		
2,750.00	2,749.26	2,750.49	2,752.05	9.33	9.47	61.73	11.01	137.21	102.95	86.48	16.47	6.249		
2,800.00	2,799.24	2,800.49	2,802.03	9.48	9.65	61.00	10.49	135.94	101.11	84.41	16.70	6.054		
2,850.00	2,849.23	2,850.52	2,852.04	9.63	9.82	60.24	9.95	134.64	99.26	82.33	16.93	5.863		
2,900.00	2,899.21	2,900.54	2,902.04	9.77	10.00	59.45	9.40	133.30	97.39	80.23	17.15	5.677		
2,950.00	2,949.20	2,950.46	2,951.94	9.92	10.17	58.62	8.85	131.95	95.52	78.15	17.38	5.498		
3,000.00	2,999.18	3,000.39	3,001.85	10.06	10.34	57.78	8.29	130.62	93.69	76.09	17.59	5.325		
3,050.00	3,049.17	3,050.40	3,051.84	10.21	10.52	56.90	7.72	129.27	91.86	74.05	17.81	5.157		
3,100.00	3,099.15	3,100.42	3,101.83	10.36	10.69	55.98	7.14	127.89	90.01	71.99	18.03	4.993		
3,150.00	3,149.14	3,150.24	3,151.63	10.50	10.87	55.04	6.54	126.55	88.21	69.97	18.24	4.836		
3,200.00	3,199.12	3,200.07	3,201.44	10.65	11.04	54.12	5.91	125.31	86.50	68.05	18.45	4.688		
3,250.00	3,249.11	3,249.98	3,251.33	10.79	11.22	53.23	5.23	124.17	84.86	66.19	18.67	4.546		
3,300.00	3,299.09	3,299.90	3,301.24	10.94	11.39	52.41	4.45	123.14	83.26	64.38	18.88	4.409		
3,350.00	3,349.07	3,349.78	3,351.10	11.09	11.56	51.62	3.61	122.19	81.72	62.62	19.10	4.278		
3,400.00	3,399.06	3,399.67	3,400.98	11.23	11.74	50.86	2.74	121.33	80.24	60.92	19.32	4.153		
3,450.00	3,449.04	3,449.65	3,450.94	11.38	11.91	50.08	1.87	120.49	78.80	59.26	19.54	4.033		
3,500.00	3,499.03	3,499.62	3,500.90	11.52	12.09	49.26	1.02	119.63	77.36	57.61	19.75	3.916		
3,550.00	3,549.01	3,549.67	3,550.93	11.67	12.26	48.37	0.17	118.73	75.91	55.94	19.97	3.802		
3,600.00	3,599.00	3,599.71	3,600.96	11.81	12.44	47.42	-0.68	117.76	74.43	54.25	20.18	3.688		
3,650.00	3,648.98	3,649.72	3,650.95	11.96	12.61	46.40	-1.53	116.73	72.93	52.53	20.40	3.575		
3,700.00	3,698.97	3,699.73	3,700.95	12.11	12.79	45.31	-2.39	115.65	71.41	50.80	20.61	3.465		
3,750.00	3,748.95	3,749.78	3,750.97	12.25	12.96	44.18	-3.27	114.53	69.87	49.05	20.83	3.355		
3,800.00	3,798.94	3,799.82	3,800.99	12.40	13.14	43.02	-4.23	113.41	68.30	47.26	21.05	3.245		
3,850.00	3,848.92	3,849.74	3,850.89	12.54	13.32	41.84	-5.23	112.29	66.74	45.47	21.27	3.138		
3,900.00	3,898.91	3,899.67	3,900.79	12.69	13.49	40.61	-6.21	111.20	65.23	43.74	21.49	3.035		
3,950.00	3,948.89	3,949.64	3,950.74	12.83	13.67	39.32	-7.18	110.11	63.76	42.04	21.72	2.935		
4,000.00	3,998.87	3,999.61	4,000.69	12.98	13.84	37.96	-8.16	109.00	62.32	40.36	21.96	2.838		
4,050.00	4,048.86	4,049.58	4,050.64	13.12	14.02	36.52	-9.13	107.87	60.90	38.69	22.20	2.743		
4,100.00	4,098.84	4,099.55	4,100.58	13.27	14.19	35.00	-10.11	106.73	59.51	37.05	22.46	2.650		
4,150.00	4,148.83	4,149.52	4,150.53	13.41	14.37	33.39	-11.08	105.56	58.15	35.43	22.72	2.559		
4,200.00	4,198.81	4,199.49	4,200.48	13.56	14.54	31.67	-12.05	104.37	56.83	33.82	23.00	2.470		
4,250.00	4,248.80	4,249.40	4,250.36	13.71	14.72	29.88	-13.01	103.18	55.57	32.27	23.30	2.385		
4,300.00	4,298.78	4,299.31	4,300.26	13.85	14.89	28.03	-13.95	102.03	54.41	30.79	23.61	2.304		
4,350.00	4,348.77	4,349.35	4,350.27	14.00	15.07	26.10	-14.91	100.87	53.28	29.34	23.94	2.225		
4,400.00	4,398.75	4,399.38	4,400.27	14.14	15.24	24.06	-15.93	99.65	52.15	27.85	24.30	2.146		
4,450.00	4,448.74	4,449.31	4,450.18	14.29	15.42	21.93	-16.96	98.42	51.05	26.38	24.68	2.069		
4,500.00	4,498.72	4,499.23	4,500.08	14.43	15.59	19.70	-17.98	97.20	50.06	24.98	25.08	1.996		
4,550.00	4,548.70	4,549.20	4,550.02	14.58	15.77	17.38	-18.98	95.97	49.15	23.63	25.51	1.926		
4,600.00	4,598.69	4,599.16	4,599.95	14.72	15.95	14.97	-20.00	94.73	48.31	22.34	25.97	1.860		
4,650.00	4,648.67	4,649.13	4,649.90	14.87	16.12	12.44	-21.02	93.46	47.54	21.08	26.46	1.797		
4,700.00	4,698.66	4,699.10	4,699.84	15.01	16.30	9.79	-22.06	92.15	46.85	19.87	26.97	1.737		
4,750.00	4,748.64	4,749.11	4,749.82	15.16	16.47	7.07	-23.15	90.83	46.21	18.70	27.51	1.680		
4,800.00	4,798.63	4,799.13	4,799.81	15.30	16.65	4.31	-24.31	89.55	45.61	17.53	28.07	1.625		
4,850.00	4,848.61	4,849.12	4,849.76	15.45	16.82	1.56	-25.54	88.30	45.05	16.41	28.64	1.573		
4,900.00	4,898.60	4,899.10	4,899.72	15.59	17.00	-1.17	-26.81	87.13	44.56	15.34	29.22	1.525		
4,950.00	4,948.58	4,949.07	4,949.66	15.73	17.17	-3.92	-28.10	86.00	44.14	14.35	29.79	1.482 Level 3		
5,000.00	4,998.57	4,999.06	4,999.62	15.80	17.35	-5.30	-29.40	84.86	43.70	13.48	30.21	1.446 Level 3		
5,050.00	5,048.48	5,049.02	5,049.55	15.75	17.52	-3.22	-30.70	83.74	43.05	12.85	30.20	1.426 Level 3, SF		
5,100.00	5,098.19	5,098.82	5,099.33	15.66	17.70	2.52	-32.00	82.70	42.50	12.74	29.76	1.428 Level 3, ES		
5,114.20	5,112.24	5,112.93	5,113.43	15.62	17.75	4.82	-32.37	82.41	42.46	12.90	29.56	1.436 Level 3, CC		

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: YUCCA 3 - OH - OH													Offset Site Error:
													0.00 usft
Survey Program: 100-GYRO-NS													Offset Well Error:
													0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,150.00	5,147.54	5,148.39	5,148.87	15.55	17.87	11.81	-33.31	81.65	42.82	13.86	28.96	1.478	Level 3
5,200.00	5,196.42	5,197.56	5,198.00	15.43	18.05	23.75	-34.67	80.56	45.13	17.03	28.10	1.606	
5,250.00	5,244.67	5,246.04	5,246.46	15.31	18.22	36.52	-36.02	79.46	50.63	22.98	27.65	1.831	
5,300.00	5,292.18	5,293.81	5,294.19	15.18	18.38	48.07	-37.32	78.43	60.03	32.19	27.84	2.156	
5,350.00	5,338.81	5,340.84	5,341.20	15.06	18.55	57.32	-38.56	77.43	73.28	44.90	28.38	2.582	
5,400.00	5,384.43	5,386.96	5,387.29	14.93	18.71	64.30	-39.78	76.40	90.01	61.04	28.96	3.108	
5,450.00	5,428.92	5,432.04	5,432.34	14.81	18.87	69.48	-40.96	75.36	109.84	80.38	29.46	3.729	
5,500.00	5,472.16	5,475.97	5,476.25	14.69	19.02	73.30	-42.05	74.29	132.49	102.63	29.85	4.438	
5,550.00	5,514.02	5,518.60	5,518.85	14.58	19.17	76.18	-43.05	73.20	157.71	127.55	30.16	5.229	
5,600.00	5,554.40	5,559.79	5,560.01	14.48	19.32	78.37	-43.94	72.12	185.36	154.95	30.40	6.097	
5,650.00	5,593.18	5,599.47	5,599.67	14.39	19.46	80.07	-44.74	71.05	215.27	184.67	30.60	7.036	
5,700.00	5,630.25	5,637.22	5,637.40	14.31	19.59	81.41	-45.45	70.04	247.34	216.59	30.76	8.042	
5,750.00	5,665.52	5,673.16	5,673.33	14.24	19.72	82.49	-46.12	69.11	281.48	250.59	30.89	9.112	
5,800.00	5,698.89	5,707.20	5,707.35	14.19	19.84	83.37	-46.73	68.25	317.56	286.56	31.01	10.241	
5,850.00	5,730.26	5,739.22	5,739.36	14.16	19.95	84.11	-47.31	67.47	355.47	324.36	31.11	11.426	
5,900.00	5,759.56	5,769.15	5,769.27	14.15	20.05	84.72	-47.86	66.77	395.08	363.88	31.20	12.662	
5,950.00	5,786.69	5,796.92	5,797.02	14.16	20.15	85.24	-48.38	66.14	436.27	404.99	31.28	13.946	
6,000.00	5,811.93	5,823.24	5,823.34	14.19	20.24	85.68	-48.88	65.56	478.72	447.37	31.35	15.270	
6,050.00	5,836.93	5,849.42	5,849.51	14.25	20.33	86.06	-49.40	64.97	521.32	489.91	31.41	16.599	
6,100.00	5,861.93	5,875.63	5,875.71	14.32	20.43	86.38	-49.94	64.36	563.92	532.46	31.46	17.926	
6,150.00	5,886.93	5,901.88	5,901.94	14.41	20.52	86.66	-50.51	63.75	606.54	575.02	31.51	19.248	
6,200.00	5,911.36	5,927.66	5,927.71	14.51	20.61	86.90	-51.05	63.14	649.47	617.91	31.57	20.573	
6,250.00	5,932.32	5,950.00	5,950.04	14.66	20.69	87.11	-51.51	62.60	694.26	662.62	31.65	21.939	
6,300.00	5,949.24	5,968.34	5,968.37	14.83	20.75	87.29	-51.87	62.14	740.81	709.10	31.71	23.360	
6,350.00	5,961.99	5,982.52	5,982.54	15.05	20.80	87.44	-52.13	61.79	788.75	756.99	31.77	24.829	
6,400.00	5,970.49	5,992.43	5,992.44	15.29	20.84	87.58	-52.32	61.53	837.74	805.93	31.81	26.336	
6,450.00	5,974.66	5,997.97	5,997.98	15.55	20.86	87.70	-52.42	61.39	887.40	855.56	31.84	27.872	
6,500.00	5,974.69	5,999.31	5,999.32	15.84	20.86	87.80	-52.44	61.36	937.34	905.49	31.86	29.423	
6,550.00	5,973.70	5,999.62	5,999.63	16.16	20.86	87.89	-52.45	61.35	987.32	955.45	31.87	30.978	
6,600.00	5,972.72	5,999.93	5,999.94	16.48	20.86	87.97	-52.45	61.34	1,037.30	1,005.41	31.88	32.533	
6,650.00	5,971.73	6,000.24	6,000.25	16.83	20.86	88.04	-52.46	61.33	1,087.28	1,055.38	31.90	34.086	
6,700.00	5,970.75	6,000.55	6,000.56	17.17	20.87	88.11	-52.46	61.33	1,137.26	1,105.35	31.91	35.637	
6,750.00	5,969.77	6,000.86	6,000.87	17.54	20.87	88.17	-52.47	61.32	1,187.24	1,155.32	31.93	37.187	
6,800.00	5,968.78	6,001.17	6,001.18	17.92	20.87	88.23	-52.47	61.31	1,237.23	1,205.29	31.94	38.736	
6,850.00	5,967.80	6,000.00	6,000.01	18.31	20.86	88.28	-52.45	61.34	1,287.22	1,255.26	31.95	40.283	
6,900.00	5,966.81	6,000.00	6,000.01	18.70	20.86	88.33	-52.45	61.34	1,337.20	1,305.24	31.97	41.829	
6,950.00	5,965.83	6,000.00	6,000.01	19.11	20.86	88.37	-52.45	61.34	1,387.19	1,355.21	31.98	43.372	
7,000.00	5,964.84	6,000.00	6,000.01	19.52	20.86	88.41	-52.45	61.34	1,437.18	1,405.18	32.00	44.915	
7,050.00	5,963.86	6,000.00	6,000.01	19.95	20.86	88.45	-52.45	61.34	1,487.17	1,455.16	32.01	46.454	
7,100.00	5,962.88	6,000.00	6,000.01	20.37	20.86	88.49	-52.45	61.34	1,537.16	1,505.13	32.03	47.993	
7,150.00	5,961.89	6,003.07	6,003.08	20.81	20.87	88.52	-52.51	61.26	1,587.15	1,555.10	32.05	49.525	
7,200.00	5,960.91	6,003.35	6,003.36	21.26	20.88	88.56	-52.51	61.26	1,637.14	1,605.08	32.06	51.059	
7,250.00	5,959.92	6,003.63	6,003.64	21.71	20.88	88.59	-52.52	61.25	1,687.13	1,655.05	32.08	52.590	
7,300.00	5,958.94	6,003.91	6,003.92	22.16	20.88	88.61	-52.52	61.24	1,737.12	1,705.03	32.10	54.119	
7,350.00	5,957.95	6,004.19	6,004.19	22.62	20.88	88.64	-52.53	61.23	1,787.12	1,755.00	32.12	55.646	
7,400.00	5,956.97	6,004.46	6,004.47	23.08	20.88	88.67	-52.53	61.23	1,837.11	1,804.97	32.13	57.171	
7,450.00	5,955.99	6,004.73	6,004.74	23.56	20.88	88.69	-52.54	61.22	1,887.10	1,854.95	32.15	58.693	

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: YUCCA STATE 4 - OH - OH

Survey Program: 91-INC-ONLY													Offset Site Error: 0.00 usft					
Reference Offset				Semi Major Axis					Offset Wellbore Centre				Rule Assigned: Distance				Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning					
0.00	0.00	7.00	0.00	0.00	0.11	-35.33	483.09	-342.41	592.13									
50.00	50.00	57.00	50.00	0.92	0.92	-35.33	483.09	-342.41	592.13	590.29	1.85	320.566						
100.00	100.00	107.00	100.00	0.92	1.77	-35.33	483.09	-342.41	592.13	589.44	2.69	219.869						
150.00	150.00	157.00	150.00	1.23	2.69	-35.33	483.09	-342.41	592.13	588.21	3.92	151.159						
200.00	200.00	208.47	201.47	1.53	3.64	-35.32	483.19	-342.41	592.21	587.05	5.17	114.580						
250.00	250.00	257.01	250.00	1.74	4.57	-35.33	483.09	-342.41	592.13	585.82	6.31	93.846						
300.00	300.00	307.47	300.47	1.95	5.57	-35.32	483.20	-342.41	592.22	584.70	7.52	78.718						
302.80	302.80	310.37	303.36	1.96	5.63	-35.32	483.20	-342.41	592.22	584.63	7.59	78.045						
350.00	350.00	357.02	350.00	2.10	6.56	-35.34	483.09	-342.41	592.55	583.89	8.66	68.416						
400.00	399.98	407.00	399.98	2.20	7.63	-35.37	483.09	-342.41	593.67	583.84	9.83	60.397						
450.00	449.97	456.99	449.97	2.38	8.70	-35.40	483.09	-342.41	594.87	583.79	11.07	53.719						
500.00	499.95	509.35	502.32	2.55	9.83	-35.41	483.50	-342.41	596.40	584.03	12.37	48.218						
550.00	549.94	561.77	554.74	2.71	10.95	-35.47	483.11	-342.41	597.30	583.64	13.66	43.739						
600.00	599.92	606.98	599.92	2.88	11.87	-35.50	483.09	-342.41	598.46	583.71	14.74	40.595						
650.00	649.91	656.96	649.91	3.04	12.89	-35.53	483.09	-342.41	599.65	583.74	15.92	37.673						
700.00	699.89	706.95	699.89	3.20	13.91	-35.56	483.09	-342.41	600.85	583.76	17.09	35.151						
750.00	749.88	758.05	750.99	3.36	14.95	-35.56	483.72	-342.41	602.56	584.27	18.29	32.948						
800.00	799.86	809.48	802.41	3.52	15.99	-35.60	483.52	-342.41	603.60	584.11	19.49	30.969						
850.00	849.85	860.91	853.84	3.67	17.04	-35.65	483.18	-342.41	604.53	583.84	20.69	29.219						
900.00	899.83	906.92	899.83	3.83	18.01	-35.69	483.09	-342.41	605.64	583.82	21.82	27.759						
950.00	949.81	956.91	949.81	3.98	19.09	-35.72	483.09	-342.41	606.83	583.79	23.04	26.338						
1,000.00	999.80	1,006.89	999.80	4.14	20.16	-35.75	483.09	-342.41	608.03	583.77	24.26	25.060						
1,050.00	1,049.78	1,057.42	1,050.32	4.29	21.24	-35.75	483.57	-342.41	609.62	584.12	25.50	23.911						
1,100.00	1,099.77	1,108.41	1,101.32	4.44	22.33	-35.79	483.46	-342.41	610.73	583.99	26.74	22.840						
1,150.00	1,149.75	1,159.41	1,152.31	4.59	23.43	-35.83	483.25	-342.41	611.76	583.78	27.98	21.864						
1,200.00	1,199.74	1,206.88	1,199.74	4.75	24.52	-35.87	483.09	-342.41	612.82	583.60	29.22	20.970						
1,250.00	1,249.72	1,256.87	1,249.72	4.90	25.80	-35.90	483.09	-342.41	614.02	583.38	30.64	20.037						
1,300.00	1,299.71	1,310.01	1,302.85	5.05	27.15	-35.91	483.42	-342.41	615.50	583.35	32.15	19.147						
1,350.00	1,349.69	1,356.90	1,349.69	5.20	28.37	-35.96	483.09	-342.41	616.42	582.91	33.51	18.392						
1,400.00	1,399.68	1,409.57	1,402.35	5.35	29.86	-35.97	483.45	-342.41	617.92	582.77	35.15	17.581						
1,450.00	1,449.66	1,456.93	1,449.66	5.50	31.16	-36.02	483.09	-342.41	618.82	582.22	36.59	16.911						
1,500.00	1,499.64	1,510.99	1,503.71	5.65	32.56	-36.03	483.43	-342.41	620.30	582.16	38.14	16.262						
1,550.00	1,549.63	1,556.94	1,549.63	5.80	33.75	-36.08	483.09	-342.41	621.22	581.74	39.48	15.735						
1,600.00	1,599.61	1,609.96	1,602.65	5.95	35.12	-36.10	483.27	-342.41	622.57	581.57	41.00	15.186						
1,650.00	1,649.60	1,656.94	1,649.60	6.09	36.35	-36.14	483.09	-342.41	623.62	581.25	42.37	14.720						
1,700.00	1,699.58	1,706.93	1,699.58	6.24	37.65	-36.17	483.09	-342.41	624.82	581.00	43.82	14.259						
1,750.00	1,749.57	1,760.11	1,752.74	6.39	39.04	-36.16	483.81	-342.41	626.61	581.25	45.35	13.816						
1,800.00	1,799.55	1,815.29	1,807.91	6.54	40.49	-36.22	483.19	-342.41	627.35	580.41	46.94	13.365						
1,850.00	1,849.54	1,856.96	1,849.54	6.69	41.41	-36.25	483.09	-342.41	628.42	580.41	48.01	13.090						
1,900.00	1,899.52	1,906.96	1,899.52	6.84	42.44	-36.28	483.09	-342.41	629.62	580.44	49.18	12.802						
1,950.00	1,949.51	1,956.94	1,949.51	6.98	43.35	-36.31	483.09	-342.41	630.82	580.58	50.24	12.556						
2,000.00	1,999.49	2,009.43	2,001.99	7.13	44.31	-36.33	483.18	-342.41	632.10	580.76	51.34	12.311						
2,050.00	2,049.48	2,056.92	2,049.48	7.28	45.15	-36.37	483.09	-342.41	633.22	580.89	52.33	12.101						
2,100.00	2,099.46	2,106.91	2,099.46	7.43	46.03	-36.40	483.09	-342.41	634.42	581.08	53.35	11.892						
2,150.00	2,149.44	2,156.89	2,149.44	7.57	46.90	-36.42	483.09	-342.41	635.62	581.26	54.36	11.692						
2,200.00	2,199.43	2,206.87	2,199.43	7.72	47.77	-36.45	483.09	-342.41	636.82	581.45	55.38	11.499						
2,250.00	2,249.41	2,256.86	2,249.41	7.87	48.64	-36.48	483.09	-342.41	638.03	581.63	56.39	11.314						
2,300.00	2,299.40	2,307.24	2,299.79	8.01	49.52	-36.48	483.56	-342.41	639.61	582.19	57.42	11.140						
2,350.00	2,349.38	2,357.68	2,350.23	8.16	50.40	-36.51	483.50	-342.41	640.76	582.32	58.44	10.964						
2,400.00	2,399.37	2,408.11	2,400.67	8.31	51.28	-36.55	483.39	-342.41	641.88	582.41	59.46	10.794						
2,450.00	2,449.35	2,458.55	2,451.10	8.45	52.16	-36.58	483.25	-342.41	642.96	582.47	60.49	10.630						
2,500.00	2,499.34	2,506.80	2,499.34	8.60	53.02	-36.62	483.09	-342.41	644.04	582.55	61.49	10.474						

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: YUCCA STATE 4 - OH - OH

Survey Program: 91-INC-ONLY												Offset Site Error:	0.00 usft		
Reference				Offset		Semi Major Axis			Offset Wellbore Centre		Rule Assigned:			Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
2,550.00	2,549.32	2,556.78	2,549.32	8.75	53.99	-36.65	483.09	-342.41	645.24	582.64	62.60	10.307			
2,600.00	2,599.31	2,606.77	2,599.31	8.89	54.96	-36.67	483.09	-342.41	646.44	582.72	63.72	10.145			
2,650.00	2,649.29	2,656.75	2,649.29	9.04	55.94	-36.70	483.09	-342.41	647.65	582.81	64.84	9.989			
2,700.00	2,699.27	2,706.74	2,699.27	9.19	56.91	-36.73	483.09	-342.41	648.85	582.90	65.95	9.838			
2,750.00	2,749.26	2,756.77	2,749.31	9.33	57.88	-36.73	483.60	-342.41	650.46	583.40	67.07	9.699			
2,800.00	2,799.24	2,807.19	2,799.72	9.48	58.87	-36.76	483.58	-342.41	651.65	583.45	68.19	9.556			
2,850.00	2,849.23	2,857.61	2,850.14	9.63	59.85	-36.79	483.51	-342.41	652.80	583.48	69.32	9.417			
2,900.00	2,899.21	2,908.03	2,900.56	9.77	60.83	-36.82	483.40	-342.41	653.91	583.47	70.44	9.283			
2,950.00	2,949.20	2,958.45	2,950.98	9.92	61.81	-36.85	483.25	-342.41	655.00	583.43	71.57	9.152			
3,000.00	2,999.18	3,006.69	2,999.18	10.06	62.76	-36.89	483.09	-342.41	656.07	583.41	72.66	9.030			
3,050.00	3,049.17	3,056.67	3,049.17	10.21	63.82	-36.91	483.09	-342.41	657.27	583.41	73.86	8.898			
3,100.00	3,099.15	3,106.66	3,099.15	10.36	64.88	-36.94	483.09	-342.41	658.48	583.41	75.07	8.771			
3,150.00	3,149.14	3,156.64	3,149.14	10.50	65.95	-36.97	483.09	-342.41	659.68	583.41	76.28	8.649			
3,200.00	3,199.12	3,206.63	3,199.12	10.65	67.01	-36.99	483.09	-342.41	660.89	583.40	77.48	8.529			
3,250.00	3,249.11	3,256.95	3,249.44	10.79	68.08	-36.96	484.12	-342.41	662.91	584.22	78.70	8.424			
3,300.00	3,299.09	3,307.94	3,300.42	10.94	69.17	-37.00	484.04	-342.41	664.06	584.13	79.92	8.309			
3,350.00	3,349.07	3,358.93	3,351.41	11.09	70.25	-37.03	483.86	-342.41	665.12	583.97	81.15	8.196			
3,400.00	3,399.06	3,409.93	3,402.41	11.23	71.34	-37.07	483.59	-342.41	666.11	583.73	82.38	8.086			
3,450.00	3,449.04	3,460.93	3,453.40	11.38	72.42	-37.11	483.23	-342.41	667.03	583.42	83.61	7.978			
3,500.00	3,499.03	3,506.61	3,499.03	11.52	73.40	-37.15	483.09	-342.41	668.12	583.39	84.72	7.886			
3,550.00	3,549.01	3,556.59	3,549.01	11.67	74.46	-37.17	483.09	-342.41	669.32	583.39	85.93	7.789			
3,600.00	3,599.00	3,606.57	3,599.00	11.81	75.52	-37.20	483.09	-342.41	670.53	583.39	87.14	7.695			
3,650.00	3,648.98	3,656.56	3,648.98	11.96	76.59	-37.22	483.09	-342.41	671.73	583.39	88.34	7.604			
3,700.00	3,698.97	3,706.67	3,699.09	12.11	77.65	-37.20	484.06	-342.41	673.71	584.16	89.55	7.523			
3,750.00	3,748.95	3,757.74	3,750.15	12.25	78.74	-37.23	484.00	-342.41	674.87	584.09	90.78	7.434			
3,800.00	3,798.94	3,808.81	3,801.22	12.40	79.83	-37.26	483.84	-342.41	675.95	583.94	92.01	7.347			
3,850.00	3,848.92	3,859.88	3,852.29	12.54	80.91	-37.30	483.57	-342.41	676.94	583.71	93.24	7.260			
3,900.00	3,898.91	3,910.96	3,903.36	12.69	82.00	-37.34	483.20	-342.41	677.86	583.40	94.47	7.176			
3,950.00	3,948.89	3,956.53	3,948.89	12.83	82.97	-37.37	483.09	-342.41	678.97	583.39	95.58	7.104			
4,000.00	3,998.87	4,006.52	3,998.87	12.98	84.03	-37.40	483.09	-342.41	680.17	583.39	96.79	7.028			
4,050.00	4,048.86	4,056.50	4,048.86	13.12	85.10	-37.42	483.09	-342.41	681.38	583.39	97.99	6.953			
4,100.00	4,098.84	4,106.49	4,098.84	13.27	86.16	-37.45	483.09	-342.41	682.59	583.39	99.20	6.881			
4,150.00	4,148.83	4,156.47	4,148.83	13.41	87.22	-37.47	483.09	-342.41	683.80	583.39	100.41	6.810			
4,200.00	4,198.81	4,207.38	4,199.73	13.56	88.31	-37.44	484.09	-342.41	685.79	584.16	101.63	6.748			
4,250.00	4,248.80	4,258.40	4,250.74	13.71	89.39	-37.48	483.95	-342.41	686.90	584.04	102.86	6.678			
4,300.00	4,298.78	4,309.42	4,301.76	13.85	90.48	-37.51	483.72	-342.41	687.93	583.84	104.09	6.609			
4,350.00	4,348.77	4,360.45	4,352.78	14.00	91.57	-37.55	483.40	-342.41	688.88	583.56	105.32	6.541			
4,400.00	4,398.75	4,406.47	4,398.75	14.14	92.54	-37.59	483.09	-342.41	689.83	583.39	106.44	6.481			
4,450.00	4,448.74	4,456.45	4,448.74	14.29	93.61	-37.61	483.09	-342.41	691.04	583.39	107.64	6.420			
4,500.00	4,498.72	4,506.44	4,498.72	14.43	94.67	-37.64	483.09	-342.41	692.25	583.40	108.85	6.360			
4,550.00	4,548.70	4,556.42	4,548.70	14.58	95.74	-37.66	483.09	-342.41	693.45	583.40	110.06	6.301			
4,600.00	4,598.69	4,606.41	4,598.69	14.72	96.80	-37.69	483.09	-342.41	694.66	583.40	111.26	6.243			
4,650.00	4,648.67	4,656.82	4,649.09	14.87	97.87	-37.66	484.12	-342.41	696.68	584.21	112.48	6.194			
4,700.00	4,698.66	4,707.85	4,700.12	15.01	98.96	-37.69	484.03	-342.41	697.82	584.12	113.71	6.137			
4,750.00	4,748.64	4,758.89	4,751.15	15.16	100.04	-37.72	483.85	-342.41	698.89	583.95	114.94	6.081			
4,800.00	4,798.63	4,809.93	4,802.19	15.30	101.13	-37.76	483.57	-342.41	699.88	583.72	116.16	6.025			
4,850.00	4,848.61	4,860.97	4,853.23	15.45	102.22	-37.80	483.19	-342.41	700.80	583.41	117.39	5.970			
4,900.00	4,898.60	4,906.39	4,898.60	15.59	103.10	-37.83	483.09	-342.41	701.91	583.49	118.42	5.927			
4,950.00	4,948.58	4,956.37	4,948.58	15.73	104.04	-37.85	483.09	-342.41	703.12	583.64	119.49	5.885			
5,000.00	4,998.57	5,006.36	4,998.57	15.80	104.97	-37.80	483.09	-342.41	703.66	583.15	120.51	5.839			
5,050.00	5,048.48	5,056.27	5,048.48	15.75	105.91	-37.59	483.09	-342.41	702.61	581.20	121.41	5.787			
5,100.00	5,098.19	5,105.98	5,098.19	15.66	106.84	-37.20	483.09	-342.41	699.98	577.72	122.26	5.726			

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: YUCCA STATE 4 - OH - OH

Survey Program: 91-INC-ONLY													Offset Site Error: 0.00 usft			
Reference				Offset		Semi Major Axis			Offset Wellbore Centre			Rule Assigned: Distance			Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
5,150.00	5,147.54	5,156.28	5,148.48	15.55	107.78	-36.60	484.09	-342.41	696.62	573.53	123.09	5.659				
5,200.00	5,196.42	5,206.19	5,198.39	15.43	108.72	-35.87	483.96	-342.41	690.92	567.01	123.91	5.576				
5,250.00	5,244.67	5,255.48	5,247.67	15.31	109.64	-34.96	483.74	-342.41	683.78	559.08	124.71	5.483				
5,300.00	5,292.18	5,304.00	5,296.19	15.18	110.55	-33.85	483.44	-342.41	675.34	549.86	125.48	5.382				
5,350.00	5,338.81	5,351.63	5,343.82	15.06	111.44	-32.55	483.06	-342.41	665.75	539.52	126.23	5.274				
5,400.00	5,384.43	5,392.25	5,384.43	14.93	112.13	-31.01	483.09	-342.41	655.58	528.82	126.76	5.172				
5,450.00	5,428.92	5,436.74	5,428.92	14.81	112.89	-29.24	483.09	-342.41	644.71	517.35	127.36	5.062				
5,500.00	5,472.16	5,479.98	5,472.16	14.69	113.62	-27.23	483.09	-342.41	633.40	505.46	127.94	4.951				
5,550.00	5,514.02	5,521.84	5,514.02	14.58	114.33	-24.97	483.09	-342.41	621.93	493.44	128.48	4.841				
5,600.00	5,554.40	5,562.22	5,554.40	14.48	115.02	-22.44	483.09	-342.41	610.62	481.61	129.00	4.733				
5,650.00	5,593.18	5,601.08	5,593.26	14.39	115.68	-19.62	483.35	-342.41	600.06	470.56	129.49	4.634				
5,700.00	5,630.25	5,638.35	5,630.53	14.31	116.31	-16.54	483.34	-342.41	590.14	460.19	129.95	4.541				
5,750.00	5,665.52	5,673.81	5,665.98	14.24	116.92	-13.18	483.31	-342.41	581.51	451.13	130.38	4.460				
5,800.00	5,698.89	5,707.35	5,699.53	14.19	117.49	-9.55	483.28	-342.41	574.60	443.82	130.78	4.394				
5,850.00	5,730.26	5,738.89	5,731.07	14.16	118.02	-5.68	483.24	-342.41	569.83	438.69	131.14	4.345				
5,900.00	5,759.56	5,768.34	5,760.52	14.15	118.52	-1.60	483.19	-342.41	567.61	436.13	131.48	4.317				
5,913.85	5,767.29	5,776.11	5,768.29	14.15	118.66	-0.44	483.18	-342.41	567.50	435.93	131.57	4.313	CC, ES			
5,950.00	5,786.69	5,795.62	5,787.79	14.16	118.99	2.63	483.14	-342.41	568.30	436.52	131.79	4.312	SF			
6,000.00	5,811.93	5,820.99	5,813.16	14.19	119.42	6.95	483.09	-342.41	572.19	440.12	132.08	4.332				
6,050.00	5,836.93	5,844.76	5,836.93	14.25	119.83	11.20	483.09	-342.41	579.35	446.98	132.38	4.377				
6,100.00	5,861.93	5,869.76	5,861.93	14.32	120.25	15.33	483.09	-342.41	589.61	456.91	132.71	4.443				
6,150.00	5,886.93	5,894.76	5,886.93	14.41	120.68	19.29	483.09	-342.41	602.82	469.76	133.06	4.530				
6,200.00	5,911.36	5,919.19	5,911.36	14.51	121.10	23.09	483.09	-342.41	618.91	485.49	133.41	4.639				
6,250.00	5,932.32	5,940.15	5,932.32	14.66	121.46	26.83	483.09	-342.41	638.38	504.66	133.72	4.774				
6,300.00	5,949.24	5,957.07	5,949.24	14.83	121.75	30.46	483.09	-342.41	661.25	527.27	133.98	4.935				
6,350.00	5,961.99	5,969.82	5,961.99	15.05	121.97	33.92	483.09	-342.41	687.32	553.15	134.17	5.123				
6,400.00	5,970.49	5,978.32	5,970.49	15.29	122.11	37.17	483.09	-342.41	716.27	581.97	134.30	5.333				
6,450.00	5,974.66	5,982.49	5,974.66	15.55	122.18	40.20	483.09	-342.41	747.71	613.35	134.35	5.565				
6,500.00	5,974.69	5,982.52	5,974.69	15.84	122.19	42.98	483.09	-342.41	781.18	646.85	134.33	5.815				
6,550.00	5,973.70	5,981.53	5,973.70	16.16	122.17	45.53	483.09	-342.41	816.35	682.03	134.31	6.078				
6,600.00	5,972.72	5,980.55	5,972.72	16.48	122.15	47.86	483.09	-342.41	852.99	718.70	134.29	6.352				
6,650.00	5,971.73	5,979.57	5,971.73	16.83	122.13	50.00	483.09	-342.41	890.94	756.65	134.29	6.635				
6,700.00	5,970.75	5,978.58	5,970.75	17.17	122.12	51.96	483.09	-342.41	930.02	795.75	134.28	6.926				
6,750.00	5,969.77	5,977.60	5,969.77	17.54	122.10	53.77	483.09	-342.41	970.11	835.84	134.27	7.225				
6,800.00	5,968.78	5,976.61	5,968.78	17.92	122.08	55.42	483.09	-342.41	1,011.08	876.81	134.27	7.530				
6,850.00	5,967.80	5,975.63	5,967.80	18.31	122.07	56.95	483.09	-342.41	1,052.83	918.56	134.27	7.841				
6,900.00	5,966.81	5,974.64	5,966.81	18.70	122.05	58.36	483.09	-342.41	1,095.27	961.00	134.27	8.157				
6,950.00	5,965.83	5,973.66	5,965.83	19.11	122.03	59.66	483.09	-342.41	1,138.32	1,004.04	134.28	8.477				
7,000.00	5,964.84	5,972.68	5,964.84	19.52	122.02	60.87	483.09	-342.41	1,181.92	1,047.64	134.28	8.802				
7,050.00	5,963.86	5,971.69	5,963.86	19.95	122.00	61.99	483.09	-342.41	1,226.01	1,091.72	134.29	9.129				
7,100.00	5,962.88	5,970.71	5,962.88	20.37	121.98	63.04	483.09	-342.41	1,270.53	1,136.24	134.30	9.461				
7,150.00	5,961.89	5,969.72	5,961.89	20.81	121.97	64.01	483.09	-342.41	1,315.45	1,181.14	134.31	9.794				
7,200.00	5,960.91	5,968.74	5,960.91	21.26	121.95	64.92	483.09	-342.41	1,360.72	1,226.41	134.31	10.131				
7,250.00	5,959.92	5,967.75	5,959.92	21.71	121.93	65.77	483.09	-342.41	1,406.31	1,271.99	134.32	10.470				
7,300.00	5,958.94	5,966.77	5,958.94	22.16	121.92	66.56	483.09	-342.41	1,452.19	1,317.86	134.33	10.811				
7,350.00	5,957.95	5,965.79	5,957.95	22.62	121.90	67.31	483.09	-342.41	1,498.34	1,364.00	134.34	11.153				
7,400.00	5,956.97	5,964.80	5,956.97	23.08	121.88	68.01	483.09	-342.41	1,544.72	1,410.37	134.35	11.498				
7,450.00	5,955.99	5,963.82	5,955.99	23.56	121.86	68.67	483.09	-342.41	1,591.32	1,456.96	134.36	11.844				
7,500.00	5,955.00	5,962.83	5,955.00	24.03	121.85	69.30	483.09	-342.41	1,638.12	1,503.75	134.37	12.191				
7,550.00	5,954.02	5,961.85	5,954.02	24.51	121.83	69.89	483.09	-342.41	1,685.11	1,550.73	134.38	12.540				
7,600.00	5,953.03	5,960.86	5,953.03	24.99	121.81	70.44	483.09	-342.41	1,732.26	1,597.87	134.39	12.890				
7,650.00	5,952.05	5,959.88	5,952.05	25.47	121.80	70.97	483.09	-342.41	1,779.57	1,645.17	134.40	13.241				

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: YUCCA STATE 4 - OH - OH

Survey Program: 91-INC-ONLY												Offset Site Error:	0.00 usft
Reference												Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre		Rule Assigned: Distance				Warning
							+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
7,700.00	5,951.06	5,958.90	5,951.06	25.96	121.78	71.47	483.09	-342.41	1,827.02	1,692.61	134.41	13.593	
7,750.00	5,950.08	5,957.91	5,950.08	26.45	121.76	71.94	483.09	-342.41	1,874.60	1,740.18	134.42	13.946	



PROTOTYPE Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: YUCCA STATE 6 - OH - OH

Survey Program:		255-INC-ONLY							Rule Assigned:				Offset Site Error:		0.00 usft	
Reference		Offset		Semi Major Axis		Offset Wellbore Centre			Distance		Offset Well Error:		0.00 usft			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
0.00	0.00	0.00	5.00	0.00	0.00	-121.91	-272.68	-437.96	515.93							
50.00	50.00	45.00	50.00	0.92	0.79	-121.91	-272.68	-437.96	515.91	514.19	1.72	300.490				
100.00	100.00	95.00	100.00	0.92	1.67	-121.91	-272.68	-437.96	515.91	513.31	2.60	198.605				
150.00	150.00	145.00	150.00	1.23	2.55	-121.91	-272.68	-437.96	515.91	512.13	3.78	136.503				
200.00	200.00	195.00	200.00	1.53	3.44	-121.91	-272.68	-437.96	515.91	510.95	4.96	103.987				
250.00	250.00	245.00	250.00	1.74	4.32	-121.91	-272.68	-437.96	515.91	509.85	6.06	85.191				
300.00	300.00	295.00	300.00	1.95	5.21	-121.91	-272.68	-437.96	515.91	508.74	7.17	71.991				
350.00	350.00	345.00	350.00	2.10	6.11	-121.86	-272.68	-437.96	516.05	507.86	8.19	63.013				
400.00	399.98	394.37	399.96	2.20	7.00	-121.73	-272.54	-437.96	516.36	507.21	9.14	56.465				
450.00	449.97	444.98	449.97	2.38	7.91	-121.61	-272.68	-437.96	516.85	506.63	10.22	50.582				
500.00	499.95	494.96	499.95	2.55	8.81	-121.48	-272.68	-437.96	517.26	505.98	11.28	45.854				
550.00	549.94	544.94	549.94	2.71	9.72	-121.35	-272.68	-437.96	517.67	505.35	12.33	41.999				
600.00	599.92	594.72	599.72	2.88	10.61	-121.21	-272.57	-437.96	518.04	504.67	13.37	38.755				
650.00	649.91	644.46	649.45	3.04	11.51	-121.09	-272.63	-437.96	518.49	504.09	14.40	36.014				
700.00	699.89	694.90	699.89	3.20	12.44	-120.96	-272.68	-437.96	518.94	503.48	15.46	33.561				
750.00	749.88	744.89	749.88	3.36	13.39	-120.83	-272.68	-437.96	519.36	502.83	16.54	31.409				
800.00	799.86	794.87	799.86	3.52	14.34	-120.71	-272.68	-437.96	519.79	502.18	17.61	29.520				
850.00	849.85	844.86	849.85	3.67	15.29	-120.58	-272.68	-437.96	520.22	501.55	18.68	27.856				
900.00	899.83	894.84	899.83	3.83	16.23	-120.45	-272.68	-437.96	520.66	500.92	19.74	26.373				
950.00	949.81	944.83	949.81	3.98	17.18	-120.32	-272.68	-437.96	521.10	500.29	20.80	25.048				
1,000.00	999.80	994.76	999.75	4.14	18.13	-120.13	-272.00	-437.96	521.19	499.33	21.87	23.837				
1,050.00	1,049.78	1,044.57	1,049.55	4.29	19.07	-120.00	-272.03	-437.96	521.65	498.73	22.92	22.760				
1,100.00	1,099.77	1,094.37	1,099.35	4.44	20.02	-119.88	-272.09	-437.96	522.13	498.15	23.97	21.779				
1,150.00	1,149.75	1,144.18	1,149.16	4.59	20.96	-119.77	-272.19	-437.96	522.62	497.60	25.03	20.884				
1,200.00	1,199.74	1,193.99	1,198.97	4.75	21.91	-119.65	-272.32	-437.96	523.14	497.06	26.08	20.062				
1,250.00	1,249.72	1,243.80	1,248.78	4.90	22.85	-119.54	-272.49	-437.96	523.68	496.55	27.12	19.306				
1,300.00	1,299.71	1,294.76	1,299.71	5.05	23.82	-119.43	-272.68	-437.96	524.22	496.03	28.20	18.592				
1,350.00	1,349.69	1,344.74	1,349.69	5.20	24.80	-119.31	-272.68	-437.96	524.68	495.41	29.28	17.922				
1,400.00	1,399.68	1,394.73	1,399.68	5.35	25.78	-119.18	-272.68	-437.96	525.14	494.79	30.36	17.300				
1,450.00	1,449.66	1,444.71	1,449.66	5.50	26.75	-119.06	-272.68	-437.96	525.60	494.17	31.43	16.721				
1,500.00	1,499.64	1,494.59	1,499.54	5.65	27.73	-118.87	-272.06	-437.96	525.77	493.26	32.51	16.173				
1,550.00	1,549.63	1,544.15	1,549.10	5.80	28.70	-118.75	-272.12	-437.96	526.27	492.69	33.58	15.673				
1,600.00	1,599.61	1,593.72	1,598.66	5.95	29.67	-118.64	-272.27	-437.96	526.81	492.16	34.64	15.206				
1,650.00	1,649.60	1,643.29	1,648.23	6.09	30.64	-118.54	-272.50	-437.96	527.39	491.68	35.71	14.769				
1,700.00	1,699.58	1,694.67	1,699.58	6.24	31.66	-118.43	-272.68	-437.96	527.95	491.13	36.83	14.337				
1,750.00	1,749.57	1,744.65	1,749.57	6.39	32.67	-118.31	-272.68	-437.96	528.43	490.50	37.93	13.931				
1,800.00	1,799.55	1,794.64	1,799.55	6.54	33.68	-118.18	-272.68	-437.96	528.91	489.87	39.04	13.549				
1,850.00	1,849.54	1,844.62	1,849.54	6.69	34.69	-118.06	-272.68	-437.96	529.39	489.25	40.14	13.188				
1,900.00	1,899.52	1,894.21	1,899.12	6.84	35.69	-117.88	-272.14	-437.96	529.62	488.38	41.24	12.842				
1,950.00	1,949.51	1,943.75	1,948.66	6.98	36.69	-117.77	-272.26	-437.96	530.17	487.83	42.34	12.523				
2,000.00	1,999.49	1,993.29	1,998.20	7.13	37.70	-117.67	-272.48	-437.96	530.76	487.33	43.43	12.221				
2,050.00	2,049.48	2,044.60	2,049.48	7.28	38.73	-117.57	-272.68	-437.96	531.35	486.78	44.56	11.924				
2,100.00	2,099.46	2,094.58	2,099.46	7.43	39.75	-117.44	-272.68	-437.96	531.84	486.17	45.67	11.645				
2,150.00	2,149.44	2,144.57	2,149.44	7.57	40.76	-117.32	-272.68	-437.96	532.34	485.56	46.78	11.380				
2,200.00	2,199.43	2,194.55	2,199.43	7.72	41.78	-117.20	-272.68	-437.96	532.84	484.95	47.88	11.128				
2,250.00	2,249.41	2,244.54	2,249.41	7.87	42.79	-117.08	-272.68	-437.96	533.34	484.35	48.99	10.886				
2,300.00	2,299.40	2,294.12	2,298.98	8.01	43.80	-116.86	-271.75	-437.96	533.42	483.33	50.09	10.649				
2,350.00	2,349.38	2,343.64	2,348.51	8.16	44.80	-116.76	-271.88	-437.96	533.99	482.80	51.19	10.432				
2,400.00	2,399.37	2,393.18	2,398.04	8.31	45.81	-116.66	-272.11	-437.96	534.60	482.32	52.29	10.225				
2,450.00	2,449.35	2,442.72	2,447.57	8.45	46.81	-116.57	-272.43	-437.96	535.26	481.88	53.38	10.027				
2,500.00	2,499.34	2,494.51	2,499.34	8.60	47.88	-116.47	-272.68	-437.96	535.88	481.35	54.54	9.826				
2,550.00	2,549.32	2,544.50	2,549.32	8.75	48.93	-116.35	-272.68	-437.96	536.40	480.72	55.68	9.633				

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: YUCCA STATE 6 - OH - OH

Survey Program: 255-INC-ONLY														Offset Site Error: 0.00 usft	
Reference				Offset		Semi Major Axis			Offset Wellbore Centre		Rule Assigned: Distance			Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
2,600.00	2,599.31	2,594.48	2,599.31	8.89	49.98	-116.23	-272.68	-437.96	536.92	480.10	56.82	9.449			
2,650.00	2,649.29	2,644.47	2,649.29	9.04	51.03	-116.11	-272.68	-437.96	537.44	479.47	57.97	9.272			
2,700.00	2,699.27	2,694.45	2,699.27	9.19	52.09	-115.99	-272.68	-437.96	537.96	478.86	59.11	9.101			
2,750.00	2,749.26	2,744.10	2,748.92	9.33	53.13	-115.80	-271.99	-437.96	538.19	477.94	60.25	8.933			
2,800.00	2,799.24	2,793.75	2,798.57	9.48	54.17	-115.69	-272.10	-437.96	538.77	477.38	61.38	8.777			
2,850.00	2,849.23	2,843.40	2,848.22	9.63	55.22	-115.59	-272.28	-437.96	539.38	476.86	62.52	8.628			
2,900.00	2,899.21	2,893.06	2,897.87	9.77	56.26	-115.50	-272.53	-437.96	540.02	476.37	63.65	8.484			
2,950.00	2,949.20	2,944.44	2,949.20	9.92	57.36	-115.39	-272.68	-437.96	540.62	475.77	64.84	8.337			
3,000.00	2,999.18	2,994.43	2,999.18	10.06	58.45	-115.27	-272.68	-437.96	541.15	475.13	66.02	8.196			
3,050.00	3,049.17	3,044.41	3,049.17	10.21	59.54	-115.15	-272.68	-437.96	541.69	474.49	67.21	8.060			
3,100.00	3,099.15	3,094.40	3,099.15	10.36	60.63	-115.04	-272.68	-437.96	542.24	473.85	68.39	7.929			
3,150.00	3,149.14	3,144.38	3,149.14	10.50	61.72	-114.92	-272.68	-437.96	542.78	473.21	69.57	7.802			
3,160.78	3,159.91	3,155.15	3,159.89	10.53	61.96	-114.77	-271.39	-437.96	542.35	472.52	69.83	7.766			
3,200.00	3,199.12	3,193.96	3,198.70	10.65	62.81	-114.68	-271.42	-437.96	542.80	472.05	70.75	7.672			
3,250.00	3,249.11	3,243.44	3,248.18	10.79	63.89	-114.58	-271.57	-437.96	543.41	471.49	71.92	7.556			
3,300.00	3,299.09	3,292.94	3,297.66	10.94	64.97	-114.49	-271.83	-437.96	544.08	470.98	73.09	7.444			
3,350.00	3,349.07	3,342.43	3,347.16	11.09	66.05	-114.40	-272.21	-437.96	544.79	470.52	74.26	7.336			
3,400.00	3,399.06	3,394.40	3,399.06	11.23	67.18	-114.33	-272.68	-437.96	545.54	470.05	75.48	7.227			
3,450.00	3,449.04	3,444.38	3,449.04	11.38	68.24	-114.22	-272.68	-437.96	546.09	469.46	76.63	7.126			
3,500.00	3,499.03	3,494.37	3,499.03	11.52	69.29	-114.10	-272.68	-437.96	546.65	468.87	77.78	7.028			
3,550.00	3,549.01	3,544.35	3,549.01	11.67	70.35	-113.98	-272.68	-437.96	547.22	468.28	78.94	6.932			
3,600.00	3,599.00	3,594.33	3,599.00	11.81	71.41	-113.87	-272.68	-437.96	547.78	467.69	80.09	6.840			
3,650.00	3,648.98	3,644.20	3,648.85	11.96	72.47	-113.65	-271.65	-437.96	547.93	466.69	81.24	6.744			
3,700.00	3,698.97	3,693.79	3,698.44	12.11	73.51	-113.55	-271.72	-437.96	548.53	466.15	82.38	6.658			
3,750.00	3,748.95	3,743.39	3,748.04	12.25	74.56	-113.45	-271.88	-437.96	549.17	465.64	83.53	6.575			
3,800.00	3,798.94	3,793.00	3,797.64	12.40	75.61	-113.36	-272.13	-437.96	549.85	465.18	84.67	6.494			
3,850.00	3,848.92	3,842.60	3,847.25	12.54	76.66	-113.28	-272.48	-437.96	550.56	464.75	85.81	6.416			
3,900.00	3,898.91	3,894.31	3,898.91	12.69	77.76	-113.18	-272.68	-437.96	551.21	464.22	87.00	6.336			
3,950.00	3,948.89	3,944.30	3,948.89	12.83	78.82	-113.07	-272.68	-437.96	551.79	463.64	88.15	6.260			
4,000.00	3,998.87	3,994.28	3,998.87	12.98	79.88	-112.95	-272.68	-437.96	552.38	463.07	89.30	6.185			
4,050.00	4,048.86	4,044.27	4,048.86	13.12	80.94	-112.84	-272.68	-437.96	552.96	462.50	90.46	6.113			
4,100.00	4,098.84	4,094.25	4,098.84	13.27	82.00	-112.73	-272.68	-437.96	553.55	461.94	91.61	6.042			
4,150.00	4,148.83	4,143.94	4,148.52	13.41	83.05	-112.52	-271.67	-437.96	553.75	460.98	92.77	5.969			
4,200.00	4,198.81	4,193.55	4,198.12	13.56	84.10	-112.41	-271.79	-437.96	554.39	460.48	93.91	5.903			
4,250.00	4,248.80	4,243.16	4,247.73	13.71	85.15	-112.32	-272.00	-437.96	555.06	460.01	95.06	5.839			
4,300.00	4,298.78	4,292.78	4,297.35	13.85	86.21	-112.24	-272.30	-437.96	555.77	459.57	96.20	5.777			
4,350.00	4,348.77	4,344.25	4,348.77	14.00	87.29	-112.16	-272.68	-437.96	556.51	459.13	97.38	5.715			
4,400.00	4,398.75	4,394.23	4,398.75	14.14	88.32	-112.05	-272.68	-437.96	557.11	458.61	98.50	5.656			
4,450.00	4,448.74	4,444.22	4,448.74	14.29	89.34	-111.94	-272.68	-437.96	557.71	458.09	99.62	5.598			
4,500.00	4,498.72	4,494.20	4,498.72	14.43	90.36	-111.83	-272.68	-437.96	558.32	457.58	100.74	5.542			
4,550.00	4,548.70	4,544.19	4,548.70	14.58	91.38	-111.72	-272.68	-437.96	558.92	457.07	101.86	5.487			
4,600.00	4,598.69	4,594.07	4,598.58	14.72	92.40	-111.51	-271.64	-437.96	559.15	456.17	102.98	5.430			
4,650.00	4,648.67	4,643.69	4,648.20	14.87	93.42	-111.40	-271.71	-437.96	559.79	455.70	104.09	5.378			
4,700.00	4,698.66	4,693.32	4,697.82	15.01	94.43	-111.31	-271.87	-437.96	560.46	455.26	105.20	5.327			
4,750.00	4,748.64	4,742.95	4,747.45	15.16	95.45	-111.22	-272.12	-437.96	561.17	454.85	106.31	5.278			
4,800.00	4,798.63	4,792.59	4,797.08	15.30	96.46	-111.14	-272.46	-437.96	561.91	454.49	107.42	5.231			
4,850.00	4,848.61	4,844.15	4,848.61	15.45	97.55	-111.06	-272.68	-437.96	562.60	453.99	108.61	5.180			
4,900.00	4,898.60	4,894.14	4,898.60	15.59	98.65	-110.95	-272.68	-437.96	563.22	453.41	109.81	5.129			
4,950.00	4,948.58	4,944.12	4,948.58	15.73	99.75	-110.84	-272.68	-437.96	563.85	452.86	110.99	5.080			
5,000.00	4,998.57	4,994.11	4,998.57	15.80	100.85	-110.77	-272.68	-437.96	563.46	451.36	112.10	5.026			
5,050.00	5,048.48	5,044.00	5,048.46	15.75	101.95	-110.72	-271.96	-437.96	560.37	447.23	113.14	4.953			
5,100.00	5,098.19	5,093.42	5,097.88	15.66	103.04	-110.85	-272.00	-437.96	555.13	440.98	114.14	4.863			

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



PROTOTYPE Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: YUCCA STATE 6 - OH - OH

Survey Program: 255-INC-ONLY													Offset Site Error: 0.00 usft
Rule Assigned:													Offset Well Error: 0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,150.00	5,147.54	5,142.50	5,146.95	15.55	104.11	-111.08	-272.11	-437.96	547.49	432.37	115.12	4.756	
5,200.00	5,196.42	5,191.10	5,195.55	15.43	105.18	-111.43	-272.29	-437.96	537.50	421.42	116.08	4.630	
5,250.00	5,244.67	5,239.09	5,243.54	15.31	106.24	-111.90	-272.54	-437.96	525.20	408.18	117.01	4.488	
5,300.00	5,292.18	5,287.81	5,292.18	15.18	107.37	-112.49	-272.68	-437.96	510.57	392.55	118.02	4.326	
5,350.00	5,338.81	5,334.43	5,338.81	15.06	108.51	-113.21	-272.68	-437.96	493.69	374.67	119.03	4.148	
5,400.00	5,384.43	5,380.06	5,384.43	14.93	109.63	-114.11	-272.68	-437.96	474.70	354.69	120.01	3.956	
5,450.00	5,428.92	5,424.55	5,428.92	14.81	110.72	-115.21	-272.68	-437.96	453.71	332.75	120.96	3.751	
5,500.00	5,472.16	5,467.78	5,472.16	14.69	111.77	-116.55	-272.68	-437.96	430.85	308.96	121.89	3.535	
5,550.00	5,514.02	5,509.37	5,513.72	14.58	112.79	-118.02	-271.25	-437.96	405.63	282.84	122.79	3.303	
5,600.00	5,554.40	5,549.31	5,553.66	14.48	113.76	-120.04	-271.35	-437.96	379.62	255.97	123.65	3.070	
5,650.00	5,593.18	5,587.68	5,592.03	14.39	114.70	-122.56	-271.55	-437.96	352.47	227.97	124.49	2.831	
5,700.00	5,630.25	5,624.37	5,628.71	14.31	115.60	-125.71	-271.81	-437.96	324.55	199.22	125.33	2.590	
5,750.00	5,665.52	5,659.28	5,663.61	14.24	116.45	-129.68	-272.13	-437.96	296.39	170.20	126.19	2.349	
5,800.00	5,698.89	5,692.31	5,696.63	14.19	117.26	-134.74	-272.51	-437.96	268.73	141.61	127.12	2.114	
5,850.00	5,730.26	5,726.04	5,730.26	14.16	118.05	-141.18	-272.68	-437.96	242.42	114.21	128.21	1.891	
5,900.00	5,759.56	5,755.34	5,759.56	14.15	118.72	-149.41	-272.68	-437.96	218.97	89.53	129.43	1.692	
5,950.00	5,786.69	5,782.47	5,786.69	14.16	119.35	-159.74	-272.68	-437.96	200.53	69.64	130.90	1.532	
6,000.00	5,811.93	5,807.70	5,811.93	14.19	119.92	-172.03	-272.68	-437.96	189.62	57.11	132.51	1.431	Level 3
6,032.03	5,827.94	5,823.72	5,827.94	14.22	120.29	179.56	-272.68	-437.96	187.58	54.05	133.53	1.405	Level 3, CC, ES
6,050.00	5,836.93	5,832.70	5,836.93	14.25	120.50	174.82	-272.68	-437.96	188.23	54.17	134.05	1.404	Level 3, SF
6,100.00	5,861.93	5,857.70	5,861.93	14.32	121.07	162.14	-272.68	-437.96	196.60	61.36	135.25	1.454	Level 3
6,150.00	5,886.93	5,882.70	5,886.93	14.41	121.64	150.99	-272.68	-437.96	213.61	77.56	136.05	1.570	
6,200.00	5,911.36	5,907.14	5,911.36	14.51	122.20	141.71	-272.68	-437.96	237.58	101.04	136.54	1.740	
6,250.00	5,932.32	5,928.10	5,932.32	14.66	122.68	134.02	-272.68	-437.96	267.83	131.02	136.81	1.958	
6,300.00	5,949.24	5,945.00	5,949.24	14.83	123.07	127.55	-271.13	-437.96	302.25	165.32	136.93	2.207	
6,350.00	5,961.99	5,957.63	5,961.99	15.05	123.36	122.56	-271.13	-437.96	341.64	204.68	136.96	2.494	
6,400.00	5,970.49	5,966.04	5,970.49	15.29	123.55	118.55	-271.14	-437.96	383.90	246.97	136.93	2.804	
6,450.00	5,974.66	5,970.17	5,974.66	15.55	123.65	115.32	-271.15	-437.96	428.15	291.32	136.83	3.129	
6,500.00	5,974.69	5,970.20	5,974.69	15.84	123.65	112.69	-271.15	-437.96	473.67	337.00	136.68	3.466	
6,550.00	5,973.70	5,969.23	5,973.70	16.16	123.62	110.53	-271.14	-437.96	520.02	383.49	136.53	3.809	
6,600.00	5,972.72	5,968.26	5,972.72	16.48	123.60	108.72	-271.14	-437.96	566.98	430.58	136.40	4.157	
6,650.00	5,971.73	5,967.28	5,971.73	16.83	123.58	107.19	-271.14	-437.96	614.42	478.13	136.29	4.508	
6,700.00	5,970.75	5,966.31	5,970.75	17.17	123.56	105.88	-271.14	-437.96	662.24	526.05	136.19	4.863	
6,750.00	5,969.77	5,965.33	5,969.77	17.54	123.54	104.75	-271.14	-437.96	710.35	574.25	136.10	5.219	
6,800.00	5,968.78	5,964.36	5,968.78	17.92	123.51	103.76	-271.14	-437.96	758.71	622.69	136.02	5.578	
6,850.00	5,967.80	5,963.38	5,967.80	18.31	123.49	102.89	-271.14	-437.96	807.27	671.31	135.95	5.938	
6,900.00	5,966.81	5,962.41	5,966.81	18.70	123.47	102.12	-271.14	-437.96	855.99	720.10	135.89	6.299	
6,950.00	5,965.83	5,961.44	5,965.83	19.11	123.45	101.43	-271.13	-437.96	904.85	769.01	135.84	6.661	
7,000.00	5,964.84	5,960.46	5,964.84	19.52	123.42	100.81	-271.13	-437.96	953.83	818.04	135.78	7.025	
7,050.00	5,963.86	5,959.49	5,963.86	19.95	123.40	100.25	-271.13	-437.96	1,002.91	867.17	135.74	7.388	
7,100.00	5,962.88	5,958.51	5,962.88	20.37	123.38	99.75	-271.13	-437.96	1,052.07	916.37	135.70	7.753	
7,150.00	5,961.89	5,957.54	5,961.89	20.81	123.36	99.29	-271.13	-437.96	1,101.31	965.65	135.66	8.118	
7,200.00	5,960.91	5,956.56	5,960.91	21.26	123.33	98.87	-271.13	-437.96	1,150.61	1,014.99	135.62	8.484	
7,250.00	5,959.92	5,955.59	5,959.92	21.71	123.31	98.48	-271.13	-437.96	1,199.97	1,064.38	135.59	8.850	
7,300.00	5,958.94	5,954.61	5,958.94	22.16	123.29	98.13	-271.13	-437.96	1,249.38	1,113.82	135.56	9.216	
7,350.00	5,957.95	5,953.64	5,957.95	22.62	123.27	97.80	-271.13	-437.96	1,298.83	1,163.30	135.54	9.583	
7,400.00	5,956.97	5,952.66	5,956.97	23.08	123.25	97.49	-271.13	-437.96	1,348.33	1,212.82	135.51	9.950	
7,450.00	5,955.99	5,951.69	5,955.99	23.56	123.22	97.21	-271.13	-437.96	1,397.86	1,262.37	135.49	10.317	
7,500.00	5,955.00	5,950.71	5,955.00	24.03	123.20	96.95	-271.13	-437.96	1,447.42	1,311.95	135.47	10.685	
7,550.00	5,954.02	5,949.74	5,954.02	24.51	123.18	96.70	-271.13	-437.96	1,497.01	1,361.56	135.45	11.052	
7,600.00	5,953.03	5,948.76	5,953.03	24.99	123.16	96.47	-271.13	-437.96	1,546.62	1,411.19	135.43	11.420	
7,650.00	5,952.05	5,947.79	5,952.05	25.47	123.13	96.26	-271.13	-437.96	1,596.26	1,460.85	135.41	11.788	

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: YUCCA STATE 6 - OH - OH

Survey Program:		255-INC-ONLY							Rule Assigned:				Offset Well Error:	
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		Minimum Separation		Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
7,700.00	5,951.06	5,946.81	5,951.01	25.96	123.11	96.05	-271.13	-437.96	1,645.92	1,510.53	135.40	12.156		
7,750.00	5,950.08	5,945.84	5,950.04	26.45	123.09	95.86	-271.13	-437.96	1,695.60	1,560.22	135.38	12.525		
7,800.00	5,949.10	5,944.86	5,949.06	26.95	123.07	95.68	-271.13	-437.96	1,745.30	1,609.93	135.37	12.893		
7,850.00	5,948.11	5,943.89	5,948.09	27.45	123.04	95.51	-271.13	-437.96	1,795.01	1,659.65	135.36	13.261		
7,900.00	5,947.13	5,942.91	5,947.13	27.95	123.02	95.40	-272.68	-437.96	1,844.88	1,709.53	135.35	13.630		
7,950.00	5,946.14	5,941.92	5,946.14	28.45	123.00	95.25	-272.68	-437.96	1,894.62	1,759.28	135.34	13.999		

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



PROTOTYPE Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: YUCCA STATE 7 - OH - OH

Survey Program: 277-INC-ONLY													Offset Site Error: 0.00 usft					
Reference Offset				Semi Major Axis					Offset Wellbore Centre				Rule Assigned: Distance				Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning					
0.00	0.00	9.00	0.00	0.00	0.15	24.10	486.81	217.71	533.27									
50.00	50.00	59.00	50.00	0.92	0.99	24.10	486.81	217.71	533.27	531.36	1.91	278.948						
100.00	100.00	109.00	100.00	0.92	1.82	24.10	486.81	217.71	533.27	530.53	2.75	194.015						
150.00	150.00	159.00	150.00	1.23	2.66	24.10	486.81	217.71	533.27	529.39	3.89	137.210						
200.00	200.00	209.00	200.00	1.53	3.50	24.10	486.81	217.71	533.27	528.25	5.02	106.135						
250.00	250.00	259.00	250.00	1.74	4.34	24.10	486.81	217.71	533.27	527.20	6.08	87.778						
300.00	300.00	309.00	300.00	1.95	5.19	24.10	486.81	217.71	533.27	526.13	7.15	74.594	CC					
350.00	350.00	359.09	350.09	2.10	6.07	24.05	486.84	217.71	533.41	525.27	8.14	65.500						
400.00	399.98	409.39	400.39	2.20	6.95	23.93	486.81	217.71	533.69	524.60	9.09	58.725						
450.00	449.97	458.97	449.97	2.38	7.81	23.80	486.81	217.71	534.01	523.90	10.12	52.787						
500.00	499.95	508.95	499.95	2.55	8.69	23.67	486.81	217.71	534.34	523.19	11.15	47.915						
550.00	549.94	558.94	549.94	2.71	9.56	23.54	486.81	217.71	534.67	522.50	12.17	43.936						
600.00	599.92	608.92	599.92	2.88	10.44	23.42	486.81	217.71	535.00	521.82	13.19	40.573						
650.00	649.91	658.91	649.91	3.04	11.31	23.29	486.81	217.71	535.34	521.15	14.19	37.720						
700.00	699.89	708.89	699.89	3.20	12.19	23.16	486.81	217.71	535.68	520.48	15.20	35.246						
750.00	749.88	758.88	749.88	3.36	13.07	23.03	486.81	217.71	536.02	519.81	16.20	33.082						
800.00	799.86	808.86	799.86	3.52	13.96	22.90	486.81	217.71	536.36	519.14	17.22	31.149						
850.00	849.85	858.85	849.85	3.67	14.86	22.78	486.81	217.71	536.70	518.48	18.23	29.442						
900.00	899.83	908.83	899.83	3.83	15.75	22.65	486.81	217.71	537.05	517.81	19.24	27.915						
950.00	949.81	958.81	949.81	3.98	16.64	22.52	486.81	217.71	537.40	517.16	20.24	26.546						
1,000.00	999.80	1,008.89	999.89	4.14	17.54	22.39	486.90	217.71	537.84	516.59	21.25	25.310						
1,050.00	1,049.78	1,058.98	1,049.98	4.29	18.43	22.27	486.89	217.71	538.19	515.93	22.25	24.185						
1,100.00	1,099.77	1,109.06	1,100.06	4.44	19.33	22.14	486.86	217.71	538.52	515.27	23.26	23.157						
1,150.00	1,149.75	1,159.15	1,150.15	4.59	20.22	22.02	486.83	217.71	538.85	514.60	24.25	22.217						
1,200.00	1,199.74	1,208.75	1,199.74	4.75	21.14	21.89	486.81	217.71	539.20	513.93	25.27	21.335						
1,250.00	1,249.72	1,258.73	1,249.72	4.90	22.08	21.76	486.81	217.71	539.57	513.25	26.32	20.501						
1,300.00	1,299.71	1,308.72	1,299.71	5.05	23.03	21.64	486.81	217.71	539.94	512.57	27.36	19.732						
1,350.00	1,349.69	1,358.70	1,349.69	5.20	23.97	21.51	486.81	217.71	540.31	511.90	28.41	19.020						
1,400.00	1,399.68	1,408.81	1,399.80	5.35	24.92	21.36	487.48	217.71	541.30	511.85	29.45	18.379						
1,450.00	1,449.66	1,459.52	1,450.50	5.50	25.88	21.24	487.43	217.71	541.64	511.13	30.51	17.755						
1,500.00	1,499.64	1,510.22	1,501.20	5.65	26.84	21.12	487.31	217.71	541.91	510.35	31.56	17.170						
1,550.00	1,549.63	1,560.93	1,551.91	5.80	27.80	21.00	487.12	217.71	542.11	509.50	32.61	16.622						
1,600.00	1,599.61	1,611.64	1,602.62	5.95	28.76	20.89	486.85	217.71	542.26	508.59	33.67	16.107						
1,650.00	1,649.60	1,658.65	1,649.60	6.09	29.64	20.76	486.81	217.71	542.59	507.95	34.65	15.661						
1,700.00	1,699.58	1,709.16	1,700.11	6.24	30.60	20.63	487.08	217.71	543.23	507.54	35.69	15.220						
1,750.00	1,749.57	1,761.53	1,752.47	6.39	31.58	20.51	486.90	217.71	543.47	506.70	36.77	14.780						
1,800.00	1,799.55	1,808.61	1,799.55	6.54	32.46	20.39	486.81	217.71	543.77	506.03	37.74	14.409						
1,850.00	1,849.54	1,858.60	1,849.54	6.69	33.38	20.27	486.81	217.71	544.17	505.42	38.75	14.043						
1,900.00	1,899.52	1,908.67	1,899.61	6.84	34.30	20.13	487.09	217.71	544.83	505.07	39.76	13.702						
1,950.00	1,949.51	1,959.55	1,950.49	6.98	35.24	20.01	487.03	217.71	545.18	504.39	40.79	13.366						
2,000.00	1,999.49	2,010.43	2,001.37	7.13	36.18	19.89	486.89	217.71	545.46	503.64	41.82	13.044						
2,050.00	2,049.48	2,058.55	2,049.48	7.28	37.09	19.77	486.81	217.71	545.79	502.97	42.82	12.747						
2,100.00	2,099.46	2,108.53	2,099.46	7.43	38.06	19.65	486.81	217.71	546.20	502.32	43.87	12.450						
2,150.00	2,149.44	2,158.52	2,149.44	7.57	39.03	19.53	486.81	217.71	546.61	501.68	44.93	12.167						
2,200.00	2,199.43	2,208.50	2,199.43	7.72	39.99	19.41	486.81	217.71	547.02	501.04	45.98	11.897						
2,250.00	2,249.41	2,258.48	2,249.41	7.87	40.96	19.28	486.81	217.71	547.44	500.41	47.04	11.639						
2,300.00	2,299.40	2,308.95	2,299.87	8.01	41.94	19.14	487.29	217.71	548.31	500.22	48.10	11.400						
2,350.00	2,349.38	2,359.43	2,350.36	8.16	42.91	19.02	487.22	217.71	548.67	499.51	49.16	11.160						
2,400.00	2,399.37	2,409.92	2,400.85	8.31	43.89	18.91	487.10	217.71	548.99	498.76	50.23	10.930						
2,450.00	2,449.35	2,460.41	2,451.34	8.45	44.87	18.79	486.93	217.71	549.26	497.97	51.29	10.709						
2,500.00	2,499.34	2,508.45	2,499.34	8.60	45.83	18.67	486.81	217.71	549.57	497.23	52.34	10.501						
2,550.00	2,549.32	2,558.43	2,549.32	8.75	46.89	18.55	486.81	217.71	550.00	496.52	53.48	10.284						

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: YUCCA STATE 7 - OH - OH

Survey Program: 277-INC-ONLY										Offset Site Error: 0.00 usft	
Rule Assigned:										Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Minimum Separation (usft)	Warning
2,600.00	2,599.31	2,608.42	2,599.31	8.89	47.95	18.43	486.81	217.71	550.44	54.63	10.076
2,650.00	2,649.29	2,658.40	2,649.29	9.04	49.01	18.31	486.81	217.71	550.87	55.77	9.877
2,700.00	2,699.27	2,708.39	2,699.27	9.19	50.06	18.19	486.81	217.71	551.31	56.92	9.687
2,750.00	2,749.26	2,758.93	2,749.81	9.33	51.14	18.04	487.84	217.71	552.74	58.07	9.518
2,800.00	2,799.24	2,809.90	2,800.77	9.48	52.21	17.92	487.74	217.71	553.09	59.24	9.337
2,850.00	2,849.23	2,860.87	2,851.75	9.63	53.29	17.81	487.55	217.71	553.35	60.40	9.161
2,900.00	2,899.21	2,911.85	2,902.72	9.77	54.37	17.70	487.26	217.71	553.53	61.57	8.991
2,950.00	2,949.20	2,962.84	2,953.70	9.92	55.45	17.59	486.87	217.71	553.63	62.73	8.825
3,000.00	2,999.18	3,008.39	2,999.18	10.06	56.42	17.47	486.81	217.71	554.01	63.79	8.685
3,050.00	3,049.17	3,058.38	3,049.17	10.21	57.49	17.35	486.81	217.71	554.46	64.94	8.538
3,100.00	3,099.15	3,108.36	3,099.15	10.36	58.55	17.23	486.81	217.71	554.92	66.09	8.397
3,150.00	3,149.14	3,158.34	3,149.14	10.50	59.62	17.11	486.81	217.71	555.38	67.24	8.260
3,200.00	3,199.12	3,208.88	3,199.66	10.65	60.69	16.96	488.04	217.71	557.03	68.40	8.144
3,250.00	3,249.11	3,260.30	3,251.08	10.79	61.79	16.84	487.92	217.71	557.38	69.58	8.010
3,300.00	3,299.09	3,311.73	3,302.50	10.94	62.89	16.73	487.66	217.71	557.61	70.76	7.880
3,350.00	3,349.07	3,363.17	3,353.93	11.09	63.98	16.63	487.27	217.71	557.71	71.94	7.752
3,397.87	3,396.93	3,412.42	3,403.17	11.23	65.03	16.53	486.76	217.71	557.70	73.07	7.632
3,400.00	3,399.06	3,408.35	3,399.06	11.23	64.94	16.52	486.81	217.71	557.73	72.99	7.641
3,450.00	3,449.04	3,458.33	3,449.04	11.38	65.90	16.40	486.81	217.71	558.21	74.03	7.540
3,500.00	3,499.03	3,508.32	3,499.03	11.52	66.86	16.29	486.81	217.71	558.68	75.08	7.441
3,550.00	3,549.01	3,558.30	3,549.01	11.67	67.82	16.17	486.81	217.71	559.16	76.12	7.346
3,600.00	3,599.00	3,608.29	3,599.00	11.81	68.77	16.05	486.81	217.71	559.65	77.17	7.253
3,650.00	3,648.98	3,658.54	3,649.25	11.96	69.74	15.91	487.73	217.71	561.02	78.22	7.173
3,700.00	3,698.97	3,709.45	3,700.15	12.11	70.71	15.79	487.66	217.71	561.44	79.28	7.082
3,750.00	3,748.95	3,760.37	3,751.06	12.25	71.69	15.68	487.51	217.71	561.79	80.34	6.993
3,800.00	3,798.94	3,811.28	3,801.98	12.40	72.66	15.57	487.27	217.71	562.05	81.40	6.905
3,850.00	3,848.92	3,862.21	3,852.90	12.54	73.64	15.47	486.94	217.71	562.23	82.46	6.818
3,900.00	3,898.91	3,908.23	3,898.91	12.69	74.48	15.35	486.81	217.71	562.60	83.39	6.747
3,950.00	3,948.89	3,958.21	3,948.89	12.83	75.36	15.24	486.81	217.71	563.09	84.36	6.675
4,000.00	3,998.87	4,008.20	3,998.87	12.98	76.25	15.12	486.81	217.71	563.60	85.33	6.605
4,050.00	4,048.86	4,058.18	4,048.86	13.12	77.13	15.01	486.81	217.71	564.10	86.31	6.536
4,100.00	4,098.84	4,108.17	4,098.84	13.27	78.02	14.89	486.81	217.71	564.61	87.28	6.469
4,150.00	4,148.83	4,158.51	4,149.18	13.41	78.91	14.77	487.21	217.71	565.50	88.26	6.407
4,200.00	4,198.81	4,208.90	4,199.58	13.56	79.80	14.65	487.15	217.71	565.96	89.24	6.342
4,250.00	4,248.80	4,259.30	4,249.98	13.71	80.69	14.54	487.07	217.71	566.39	90.22	6.278
4,300.00	4,298.78	4,309.70	4,300.37	13.85	81.59	14.43	486.94	217.71	566.78	91.20	6.215
4,350.00	4,348.77	4,358.10	4,348.77	14.00	82.44	14.32	486.81	217.71	567.17	92.14	6.156
4,400.00	4,398.75	4,408.08	4,398.75	14.14	83.29	14.21	486.81	217.71	567.69	93.08	6.099
4,450.00	4,448.74	4,458.07	4,448.74	14.29	84.14	14.09	486.81	217.71	568.21	94.02	6.043
4,500.00	4,498.72	4,508.05	4,498.72	14.43	85.00	13.98	486.81	217.71	568.74	94.96	5.989
4,550.00	4,548.70	4,558.04	4,548.70	14.58	85.85	13.87	486.81	217.71	569.26	95.91	5.936
4,600.00	4,598.69	4,608.16	4,598.83	14.72	86.70	13.74	487.12	217.71	570.09	96.85	5.886
4,650.00	4,648.67	4,658.46	4,649.12	14.87	87.56	13.63	487.09	217.71	570.59	97.80	5.834
4,700.00	4,698.66	4,708.75	4,699.42	15.01	88.42	13.52	487.03	217.71	571.07	98.75	5.783
4,750.00	4,748.64	4,759.05	4,749.72	15.16	89.28	13.41	486.95	217.71	571.53	99.70	5.733
4,800.00	4,798.63	4,809.35	4,800.02	15.30	90.14	13.30	486.84	217.71	571.96	100.65	5.683
4,850.00	4,848.61	4,857.95	4,848.61	15.45	90.97	13.19	486.81	217.71	572.47	101.57	5.636
4,900.00	4,898.60	4,907.93	4,898.60	15.59	91.83	13.08	486.81	217.71	573.01	102.52	5.589
4,950.00	4,948.58	4,957.92	4,948.58	15.73	92.69	12.97	486.81	217.71	573.56	103.45	5.544
5,000.00	4,998.57	5,007.90	4,998.57	15.80	93.54	12.96	486.81	217.71	574.34	104.39	5.502 ES
5,050.00	5,048.48	5,057.82	5,048.49	15.75	94.40	13.21	486.91	217.71	575.81	105.28	5.469
5,100.00	5,098.19	5,107.63	5,098.29	15.66	95.26	13.70	486.91	217.71	577.80	106.13	5.444

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: GARRISON 17 FEDERAL COM - OFFSET: YUCCA STATE 7 - OH - OH

Survey Program: 277-INC-ONLY													Offset Site Error: 0.00 usft					
Reference Offset				Semi Major Axis					Offset Wellbore Centre				Rule Assigned: Distance				Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning					
5,150.00	5,147.54	5,157.09	5,147.75	15.55	96.10	14.45	486.89	217.71	580.45	473.51	106.94	5.428						
5,200.00	5,196.42	5,206.06	5,196.73	15.43	96.94	15.43	486.87	217.71	583.86	476.13	107.73	5.420 SF						
5,250.00	5,244.67	5,254.42	5,245.09	15.31	97.77	16.63	486.84	217.71	588.14	479.65	108.49	5.421						
5,300.00	5,292.18	5,301.52	5,292.18	15.18	98.58	18.05	486.81	217.71	593.43	484.22	109.21	5.434						
5,350.00	5,338.81	5,348.15	5,338.81	15.06	99.39	19.67	486.81	217.71	599.92	490.00	109.92	5.458						
5,400.00	5,384.43	5,393.77	5,384.43	14.93	100.17	21.46	486.81	217.71	607.74	497.13	110.61	5.494						
5,450.00	5,428.92	5,438.26	5,428.92	14.81	100.94	23.41	486.81	217.71	617.06	505.77	111.29	5.545						
5,500.00	5,472.16	5,481.49	5,472.16	14.69	101.68	25.49	486.81	217.71	628.03	516.08	111.95	5.610						
5,550.00	5,514.02	5,523.57	5,514.23	14.58	102.41	27.66	487.07	217.71	641.04	528.44	112.60	5.693						
5,600.00	5,554.40	5,564.24	5,554.90	14.48	103.11	29.92	487.05	217.71	655.73	542.49	113.23	5.791						
5,650.00	5,593.18	5,603.31	5,593.97	14.39	103.78	32.23	487.00	217.71	672.46	558.60	113.86	5.906						
5,700.00	5,630.25	5,640.66	5,631.32	14.31	104.42	34.56	486.94	217.71	691.31	576.84	114.47	6.039						
5,750.00	5,665.52	5,676.19	5,666.85	14.24	105.04	36.89	486.87	217.71	712.35	597.27	115.07	6.190						
5,800.00	5,698.89	5,708.23	5,698.89	14.19	105.59	39.19	486.81	217.71	735.61	619.98	115.63	6.362						
5,850.00	5,730.26	5,739.60	5,730.26	14.16	106.12	41.44	486.81	217.71	761.13	644.95	116.18	6.551						
5,900.00	5,759.56	5,768.90	5,759.56	14.15	106.61	43.62	486.81	217.71	788.81	672.11	116.71	6.759						
5,950.00	5,786.69	5,796.03	5,786.69	14.16	107.07	45.73	486.81	217.71	818.60	701.39	117.21	6.984						
6,000.00	5,811.93	5,821.27	5,811.93	14.19	107.49	47.75	486.81	217.71	850.27	732.58	117.69	7.225						
6,050.00	5,836.93	5,846.27	5,836.93	14.25	107.92	49.62	486.81	217.71	883.01	764.84	118.18	7.472						
6,100.00	5,861.93	5,871.27	5,861.93	14.32	108.34	51.36	486.81	217.71	916.64	797.98	118.66	7.725						
6,150.00	5,886.93	5,896.27	5,886.93	14.41	108.76	52.97	486.81	217.71	951.04	831.90	119.14	7.982						
6,200.00	5,911.36	5,920.70	5,911.36	14.51	109.17	54.48	486.81	217.71	986.40	866.78	119.62	8.246						
6,250.00	5,932.32	5,941.66	5,932.32	14.66	109.53	55.94	486.81	217.71	1,023.87	903.81	120.06	8.528						
6,300.00	5,949.24	5,958.60	5,949.26	14.83	109.81	57.34	486.92	217.71	1,063.41	942.99	120.42	8.831						
6,350.00	5,961.99	5,971.38	5,962.04	15.05	110.03	58.68	486.92	217.71	1,104.60	983.89	120.71	9.151						
6,400.00	5,970.49	5,979.89	5,970.55	15.29	110.17	59.94	486.92	217.71	1,147.15	1,026.23	120.92	9.487						
6,450.00	5,974.66	5,984.07	5,974.73	15.55	110.24	61.13	486.92	217.71	1,190.71	1,069.65	121.05	9.836						
6,500.00	5,974.69	5,984.10	5,974.76	15.84	110.25	62.23	486.92	217.71	1,234.89	1,113.78	121.11	10.196						
6,550.00	5,973.70	5,983.11	5,973.77	16.16	110.23	63.26	486.92	217.71	1,279.51	1,158.36	121.15	10.561						
6,600.00	5,972.72	5,982.13	5,972.79	16.48	110.21	64.22	486.92	217.71	1,324.51	1,203.32	121.19	10.929						
6,650.00	5,971.73	5,981.14	5,971.80	16.83	110.20	65.11	486.92	217.71	1,369.85	1,248.62	121.23	11.300						
6,700.00	5,970.75	5,980.15	5,970.81	17.17	110.18	65.95	486.92	217.71	1,415.51	1,294.25	121.27	11.673						
6,750.00	5,969.77	5,979.17	5,969.83	17.54	110.16	66.74	486.92	217.71	1,461.45	1,340.15	121.30	12.048						
6,800.00	5,968.78	5,978.18	5,968.84	17.92	110.15	67.47	486.92	217.71	1,507.65	1,386.31	121.34	12.425						
6,850.00	5,967.80	5,977.19	5,967.85	18.31	110.13	68.17	486.92	217.71	1,554.09	1,432.71	121.38	12.804						
6,900.00	5,966.81	5,976.21	5,966.87	18.70	110.11	68.82	486.92	217.71	1,600.74	1,479.33	121.41	13.185						
6,950.00	5,965.83	5,975.22	5,965.88	19.11	110.10	69.43	486.92	217.71	1,647.58	1,526.14	121.44	13.567						
7,000.00	5,964.84	5,974.24	5,964.90	19.52	110.08	70.02	486.92	217.71	1,694.60	1,573.13	121.47	13.950						
7,050.00	5,963.86	5,973.25	5,963.91	19.95	110.06	70.57	486.92	217.71	1,741.79	1,620.29	121.51	14.335						
7,100.00	5,962.88	5,972.26	5,962.92	20.37	110.05	71.09	486.92	217.71	1,789.14	1,667.60	121.54	14.721						
7,150.00	5,961.89	5,971.28	5,961.94	20.81	110.03	71.58	486.92	217.71	1,836.62	1,715.05	121.57	15.108						
7,200.00	5,960.91	5,970.29	5,960.95	21.26	110.01	72.05	486.92	217.71	1,884.23	1,762.63	121.59	15.496						

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



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Reference Depths are relative to RKB = 20' @ 3773.00usft (AKITA 57) Coordinates are relative to: 90H

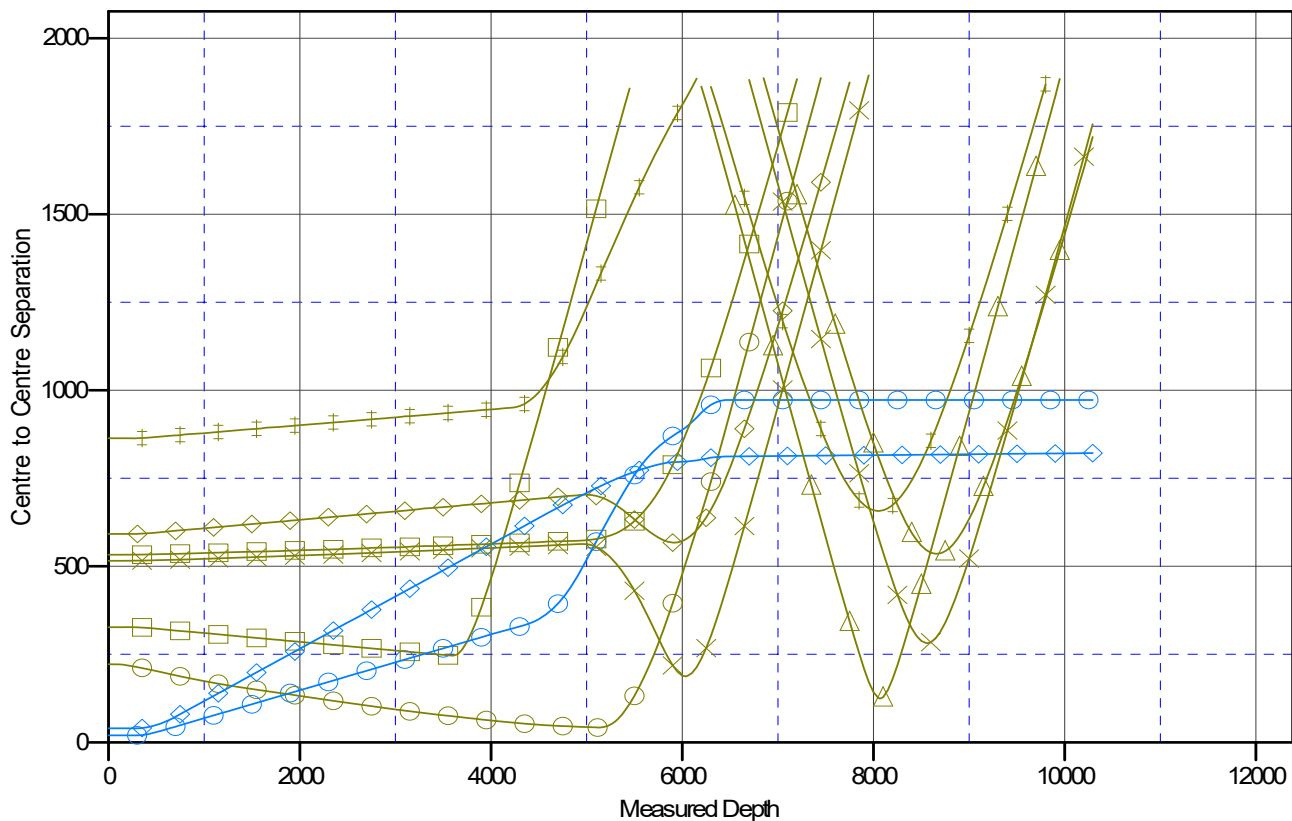
Offset Depths are relative to Offset Datum

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

Central Meridian is -104.33334

Grid Convergence at Surface is: 0.25°

Ladder Plot



LEGEND

- OFFSET: STATE A 2, OH, OH V0 - OFFSET: YUCCA 3, OH, OH V0 20H, OH, PERMIT V0 - OFFSET: YUCCA STATE 4, OH, OH V0	- OFFSET: YUCCA STATE 6, OH, OH V0 70H, OH, PERMIT V0 - OFFSET: FOSTER EDDY 11, OH, OH V0 - OFFSET: FOSTER EDDY 36, OH, OH V0	- OFFSET: STATE A 608, OH, OH V0 - OFFSET: FOSTER EDDY 35, OH, OH V0 - OFFSET: YUCCA STATE 7, OH, OH V0 - OFFSET: FOSTER EDDY 9, OH, OH V0
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CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



PROTOTYPE

Anticollision Report



Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 90H
Project:	EDDY COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3773.00usft (AKITA 57)
Reference Site:	GARRISON 17 FEDERAL COM	MD Reference:	RKB = 20' @ 3773.00usft (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	OH	Database:	EDM 5000.17 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Reference Depths are relative to RKB = 20' @ 3773.00usft (AKITA 57) Coordinates are relative to: 90H

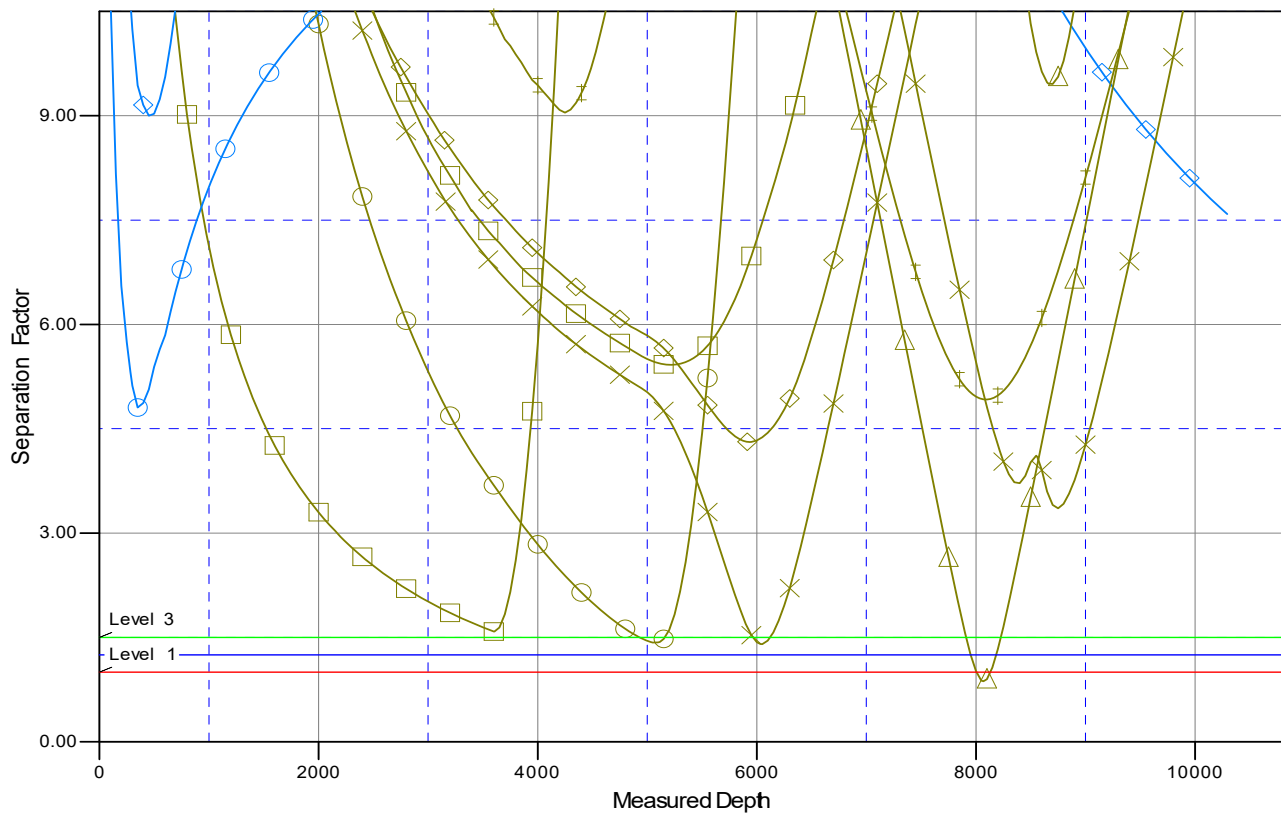
Offset Depths are relative to Offset Datum

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

Central Meridian is -104.33334

Grid Convergence at Surface is: 0.25°

Separation Factor Plot



LEGEND

- OFFSET: STATE A 2, OH, OH V0 - OFFSET: YUCCA 3, OH, OH V0 20H, OH, PERMIT V0 - OFFSET: YUCCA STATE 4, OH, OH V0	- OFFSET: YUCCA STATE 6, OH, OH V0 70H, OH, PERMIT V0 - OFFSET: FOSTER EDDY 11, OH, OH V0 - OFFSET: FOSTER EDDY 36, OH, OH V0	- OFFSET: STATE A 608, OH, OH V0 - OFFSET: FOSTER EDDY 35, OH, OH V0 - OFFSET: YUCCA STATE 7, OH, OH V0 - OFFSET: FOSTER EDDY 9, OH, OH V0
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Pecos District

Application for Permit to Drill

Conditions of Approval

Geology Concerns

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

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

Additional Engineering Requirements

Surface casing must be set at: 450 feet

Intermediate casing must be set at: 2,400 feet

General Requirements

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

Eddy County

620 East Greene Street, Carlsbad, NM 88220

(575) 361-2822

BLM_NM_CFO_DrillingNotifications@BLM.GOV

Lea County

414 West Taylor, Hobbs, NM 88240

(575) 689-5981

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

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

Pressure Control

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

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

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

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

Casing and Cement

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

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

14. Potash Areas:

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

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

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

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

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

Drilling Mud

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

Waste Material and Fluids

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

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

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

Special Requirements

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

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

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



Permian Drilling
Hydrogen Sulfide Drilling Operations Plan
GARRISON 17 FEDERAL COM DEVELOPMENT

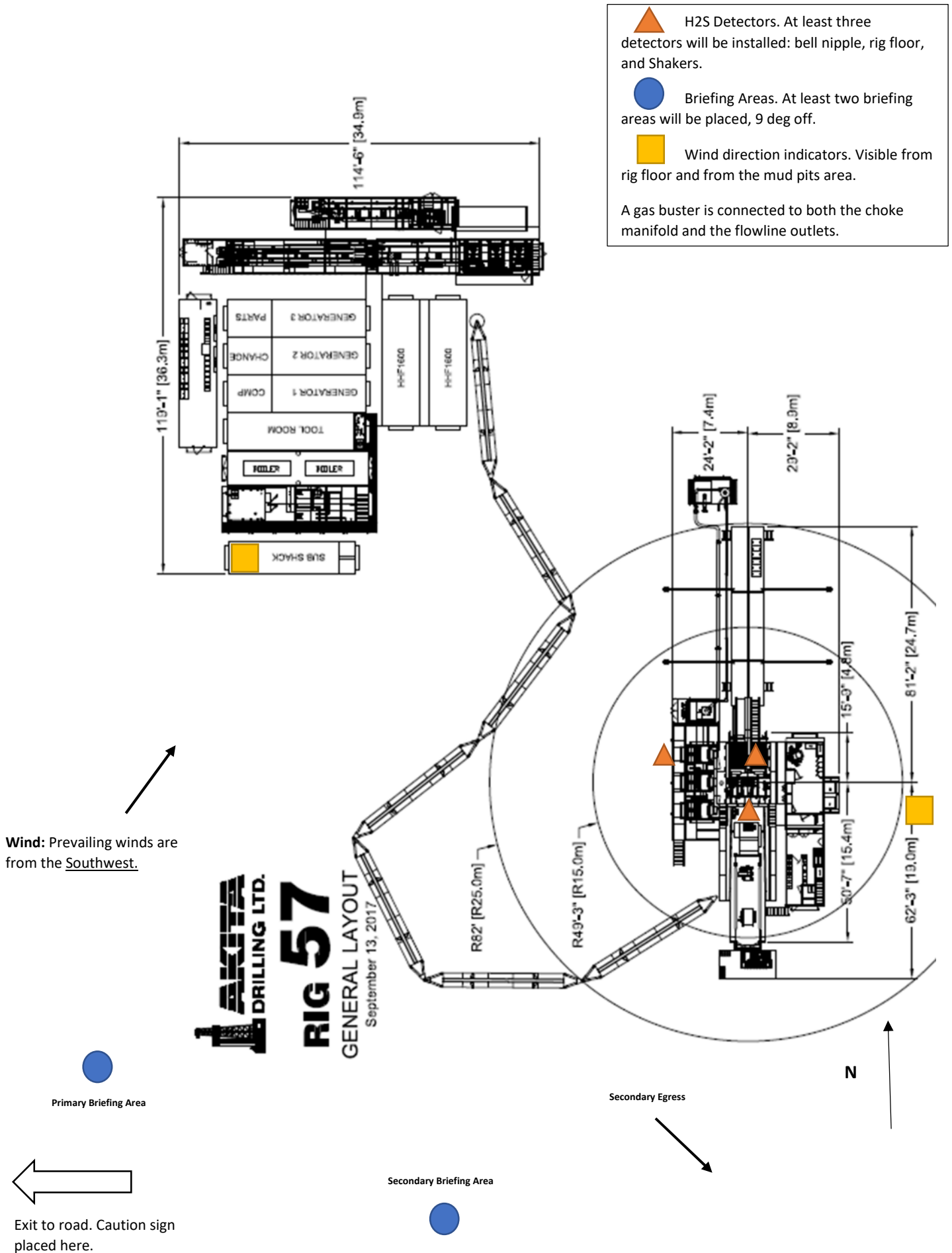
Open drill site. No homes or buildings are near the proposed location.

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

New Mexico Operations

Hydrogen Sulfide Operation Plan

A. Introduction:

The Safety of all personnel at Spur Energy Partners Facilities is of utmost importance to the company, and therefor management and employees must take responsibility for their safety and for the safety of all employees and others at a facility. If you have any concerns about the safe operations of the facility, contract personnel, or vendors, please contact the Company's Safety Contact, Superintendent, or Production Foreman immediately.

The objective of this contingency plan is to provide an organized plan of action for alerting, responding to and protecting employees, other workers and the public from H₂S exposure in the event of a release of a potentially hazardous volume of H₂S to the atmosphere. This plan should be activated immediately if any such release occurs. The Superintendent is responsible for initiating and carrying out the plan.

B. Scope:

Prevent the uncontrolled release of H₂S into the atmosphere. Provide proper procedures and equipment to alert and respond to emergencies.

Provide immediate and adequate medical attention should an injury occur.

To provide Company employees working at actual or potential Hydrogen Sulfide (H₂S) facilities with a safe procedure to comply with applicable Federal, State and Company requirements.

This document is intended to provide general policy, procedures and expectations surrounding elevated levels of H₂S. The intent is to promote sound and safe operations, while seeking effective communication surrounding operational considerations working around H₂S.

This procedure applies to all Company employees and contractors working at facilities that have the potential to release 100 ppm or higher concentrations of H₂S.

The plan establishes guidelines for all personnel whose work activity may involve exposure to Hydrogen Sulfide Gas (H₂S).

C. Hydrogen Sulfide Gas (H₂S) Characteristics:

1. H₂S is a toxic, poisonous gas that could cause death or injury. And it is also flammable.
2. H₂S is an irritant and extremely toxic gas that is several times deadlier than carbon monoxide (CO).
3. H₂S is heavier than air with a specific gravity of 1.1895 @ 600 F. so it will tend to lie in lower areas. Wind movement or air currents can readily disperse H₂S since wind currents can easily overcome the heavier weight. On calm days, with no wind, the H₂S will tend to accumulate in dangerous concentrations; however, if the H₂S is warmer than the surrounding air it may rise.
4. H₂S is colorless.
5. In small concentrations, H₂S has the characteristic odor of rotten eggs. It may be detected by smell at a concentration in air of about 2 ppm but may NOT be detected

at high concentrations. DO NOT DEPEND ON THE SENSE OF SMELL TO DETECT H₂S! H₂S will paralyze the olfactory nerve causing a loss of the sense of smell within 2 – 15 minutes of an exposure in concentrations as low as 100-150 ppm.

6. H₂S burns with a blue flame and has an auto ignition temperature of 5000 F. H₂S forms an explosive mixture in the range of 4.3% to 45% by volume with air. H₂S, when ignited, produces Sulfur Dioxide (SO₂). SO₂ is another toxic gas but less toxic than H₂S.
7. Physiological Effects
 - 1,000-2,000+ ppm: Loss of consciousness and possible death.
 - 100-1,000 ppm: Serious respiratory, central nervous, and cardiovascular system effects.
 - 150-200 ppm: Olfactory fatigue (sense of smell is significantly impaired).
 - 100 ppm: Immediately Dangerous to Life and Health (IDLH concentration).
 - 5-30 ppm: Moderate irritation of the eyes.
 - 5-10 ppm: Relatively minor metabolic changes in exercising individuals during short-term exposures.
 - Less than 5 ppm: Metabolic changes observed in exercising individuals, but not clinically significant.
 - 5 ppm: Increase in anxiety symptoms (single exposure).
 - 5 ppm: Start of the dose-response curve (short-term exposure).
 - 0.032-0.02 ppm: Olfactory threshold (begin to smell).

D. H₂S Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing work at an effected facility:

1. The hazards and characteristics of hydrogen sulfide (H₂S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.
5. The procedures for operating process equipment.

In addition, supervisory personnel will be trained in the following areas:

1. Corrective action and shutdown procedures when a release or leak occurs.
2. Notification process

Annual drills will be conducted to utilize the procedures and make improvements as needed. It will also serve as refresher training on the process.

Note: All H₂S safety equipment and systems will be installed, tested, and operational when operation commences.

E. Protective equipment controls:

Any facility that has the potential to emit H₂S at 100 ppm or higher will be required to install and utilize the below controls:

1. Where applicable, area air monitors will be installed and function tested and calibrated no less than monthly and set on a quarterly basis PM schedule.
2. Facility operators will use self contained breathing apparatuses (SCBA's) to perform routine operations in areas where H₂S may be present.
3. Trigger of 100 PPM or more must be communicated and work proceeding the trigger must use the buddy system.
4. Visible windsocks must be installed at key locations surrounding the facility.
5. H₂S warning signs must be placed at the entrance to the facility as well as other key locations.
6. Personal H₂S Monitor are required to be worn by all personnel on locations.
7. Stairs and ladders leading to the top of a tank or vessel containing 300 ppm or greater shall be chained or marked to restrict entry.

F. Emergency Procedures

1. Spill or Release of H₂S gas

If a spill or leak releases H₂S the following action must be initiated and completed:

- a. Internally – Employee contacts supervisor and HSE Department and performs “d” below.
- b. Externally - Someone identifies a possible H₂S emergency and reports it to Company Management, via the listed phone number on posted facility signs.
- c. The Company dispatches an employee to investigate possible H₂S emergency and will secure situation or initiate emergency call for backup.
- d. If the Radius of Exposure has been breached begin the following:
 - Establish safe command center.
 - Call for additional personnel and delegate the following:
 - i. Notifying public safety agencies (Sheriff, Fire Department, Department of Public Safety, Hwy. Department).
 - ii. Safeguarding the facility and effected area.
 - iii. Blocking roads as needed.
 - iv. Notifying/evacuating public.
 - v. Notifying regulatory agencies.
 - vi. Gathering additional information about release ie., location, flowrate, quantity, etc.
 - vii. Stopping release if safe to do so (use 2 trained persons)
 - viii. Notifying company management.
 - ix. Cleanup/repair facilities.

e. Facility Standard Operating Procedure

- Evacuate the area, travel crosswind then proceed upwind.
- Gather at muster point. Ensure Primary Muster point is upwind
- Notify managers & appropriate EMS if required.
- Safely shut down (ESD) facility if the facility hasn't already shut in.
- Pick up SCBA (should be a 30 minute - 1 hour pack, located at Muster point.)
- Use buddy system for man down scenario with rescuers assigned.
 - 1 person to mask up to operate facility controls as needed.
 - 1 person for rescue if needed.
 - 1 person for calling EMS and company management
- Investigate area and isolate release of gas if safe to do and ensure closure using 4 gas monitor.
- If venting gas can't be isolated, return to muster point, and re-evaluate path forward.
- Give detailed description where/how gas is being released.
- After isolation verify that area monitors return to 0 and are not in alarm.
- Resume normal operations, once managers agree the ROOT CAUSE has been addressed and corrected.

G. Contacting Authorities

Company personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the NM Emergency Response Commission must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. Spur Energy Partners response must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER).

H. Call List

Spur Energy Partners Emergency Contact List			
Person	Location	Office Phone	Cell Phone
Drilling and Completions Department			
Drilling Manager - Chris Hollis	Houston	832-930-8629	713-380-7754
Completions Manager - Theresa Voss	Houston	832-930-8614	832-849-8635
VP of Operations - Seth Ireland	Houston	832-930-8527	940-704-6375
Senior VP of Operations - John Nabors	Houston	832-930-8526	281-904-8811
Executive VP of Operations - Todd Mucha	Houston	832-930-8515	281-795-2286
HES/Environmental and Regulatory Department			
EHS Manager - Braidy Moulder	Artesia	575-616-5400	713-264-2517
Superintendent - Jerry Mathews	Artesia	575-616-5400	575-748-5234
Asst. Superintendent - Kenny Kidd	Artesia	575-616-5400	575-703-5851
Regulatory Director - Sarah Chapman	Houston	832-930-8613	281-642-5503
Regulatory Agencies			
Bureau of Land Management	Carlsbad	575-886-6544	
Bureau of Land Management	Hobbs	575-393-3612	
Bureau of Land Management	Roswell	575-622-5335	
Bureau of Land Management	Santa Fe	505-954-2000	
DOT Judicial Pipelines - Incident Reporting NM Public Regulation Commission	Santa Fe	505-827-3549 505-490-2375	
EPA Hotline	Dallas	214-665-6444	
Federal OSHA, Area Office	Lubbock	806-472-7681	
National Response Center	Washington, D.C.	800-424-8803	
National Infrastructure Coordinator Center	Washington, D.C.	202-282-2901	
New Mexico Air Quality Bureau	Santa Fe	505-827-1494	
New Mexico Oil Conservation Division	Artesia	575-748-1283 575-370-7545After	
New Mexico Oil Conservation Division	Hobbs	575-393-6161	
New Mexico Oil Conservation Division	Santa Fe	505-476-3770	
New Mexico OCD Environmental Bureau	Santa Fe	505-827-7152 505-476-3470	
New Mexico Environmental Department	Hobbs	575-827-9329	
NM State Emergency Response Center	Santa Fe	505-476-9600	

Medical Facilities		
Artesia General Hospital	Artesia	575-748-3333
Covenant Medical Center	Lubbock	806-725-1011
Covenant Medical Center Lakeside	Lubbock	806-725-6000
Guadalupe County Hospital	Carlsbad	575-887-6633
Lea Regional Hospital	Hobbs	575-492-5000
Medical Center Hospital	Odessa	432-640-4000
Midland Memorial Hospital	Midland	432-685-1111
Nor-Lea General Hospital	Lovington	575-396-6611
Odessa Regional Hospital	Odessa	432-334-8200
Union County General Hospital	Clayton	575-374-2585
University Medical Center	Lubbock	806-725-8200
Law Enforcement - Sheriff		
Ector County Sheriff's Department	Odessa	432-335-3050
Ector County Sheriff's Department	Artesia	575-746-2704

Ector County Sheriff's Department	Carlsbad	575-887-7551
Lea County Sherri's Department	Eunice	575-384-2020
Lea County Sherri's Department	Hobbs	575-393-2515
Lea County Sherri's Department	Lovington	575-396-3611
Lubbock County Sheriff's Department	Abernathy	806-296-2724
Midland County Sheriff's Department	Midland	432-688-1277
Union County Sheriff's Department	Clayton	575-374-2583
Law Enforcement - Police		
Abernathy Police Department	Abernathy	806-298-2545
Artesia City Police	Artesia	575-746-2704
Carlsbad City Police	Carlsbad	575-885-2111
Clayton City Police	Clayton	575-374-2504
Eunice City Police	Eunice	575-394-2112
Hobbs City Police	Hobbs	575-397-9265 575-393-2677
Jal City Police	Jal	575-395-2501
Lovington City Police	Lovington	575-396-2811

Midland City Police	Midland	432-685-7113
Odessa City Police	Odessa	432-335-3378
Law Enforcement - FBI		
FBI	Albuquerque	505-224-2000
FBI	Midland	432-570-0255
Law Enforcement - DPS (911)		
NM State Police	Artesia	575-746-2704
NM State Police	Carlsbad	575-885-3137
NM State Police	Eunice	575-392-5588
NM State Police	Hobbs	575-392-5588
NM State Police	Clayton	575-374-2473
Firefighting and Rescue (911)		
Abernathy	Abernathy	806-298-2022
Amistad/Rosebud	Amistad/Rosebud	575-633-9113
Artesia	Artesia	575-746-5751
Carlsbad	Carlsbad	575-885-3125
Clayton	Clayton	575-374-2435
Eunice	Eunice	575-394-2111
Hobbs	Hobbs	575-397-9308
Jal	Jal	575-395-2221
Lovington	Lovington	575-396-2359
Maljamar	Maljamar	575-676-4100
Midland	Midland	432-685-7346
Nara Visa	Nara Visa	575-461-3300
Odessa	Odessa	432-335-4659
Tucumcari	Tucumcari	911
West Odessa	Odessa	432-381-3033

Ambulance (911)		
Abernathy Ambulance	Abernathy	806-298-2241
Amistad/Rosebud	Amistad/Rosebud	575-633-9113
Artesia Ambulance	Artesia	575-746-2701
Carlsbad Ambulance	Carlsbad	575-885-2111
Clayton Ambulance	Clayton	575-374-2501
Eunice Ambulance	Eunice	575-394-3258
Hobbs Ambulance	Hobbs	575-397-9308
Jal Ambulance	Jal	575-395-3501
Lovington Ambulance	Lovington	575-396-2811
Midland Ambulance	Midland	432-685-7499
Nara Visa Ambulance	Nara Visa	575-461-3300
Odessa Ambulance	Odessa	432-335-3378
Tucumcari Ambulance	Tucumcari	911
Medical Air Ambulance Service		
AEROCARE - Methodist Hospital	Lubbock	800-627-2376
Southwest MediVac	Hobbs	800-242-6199
Odessa Care Star	Odessa	888-624-3571

I. List of Facilities with the potential for 500ppm or higher H₂S exposure.

ATTACHMENT 1: SPUR FACILITIES WITH ROE REVIEW

ALASKA 29 FEE TANK BATTERY	CHASER 8 STATE 2 TANK BATTERY
ARABIAN 6 FEE TANK BATTERY	CHEYENNE FEDERAL TNK BTY
ARCO 26 A STATE OIL BATTERY	CLYDESDALE 1 FEE #1H BAT
ARCO B FEDERAL COM NO. 001	CLYDESDALE 1 FEE 6H - BATTERY
ARKANSAS STATE 23 TANK BATTERY	COAL TRAIN FEDERAL COM #1
AVALON FEDERAL #001	COFFIN STATE #1
B&B/ROSS RANCH OIL TANK BATTERY	COLLIER 22 STATE COM #43H
BC FEDERAL 10 (9-13) TNK BTY	COLLIER STATE OIL BATTERY
BC FEDERAL 1-8 &14 TNK BTY	CONOCO 8 STATE 4 TB
BC FEDERAL 42 TNK BTY	CONTINENTAL A STATE TNK BTY
BEE FED OIL BATTERY	CONTINENTAL B YESO TANK BTY
BEECH 25 FEDERAL #9H BATTERY	CONTINENTAL STATE 15A TNK BTY
BEECH FEDERAL 1	CRYPT 30 STATE #1H
BEECH FEDERAL 2 BATTERY	DAGGER DRAW FED/FOSTER FED TANK BATTERY
BERRY A FEDERAL #005 SWB	DARNER 9 STATE 1 TANK BATTERY
BERRY A FEDERAL PADD BATTERY	DARNER 9 STATE 2
BIG BOY STATE TB	DARTER 9 STATE 8 TANK BATTERY
BLUETAIL 8 FEDERAL 2 TANK BATTERY	DARNER 9 STATE CTB
BONE YARD 11 FEE TANK BATTERY	DEXTER FEDERAL PAD TNK BTY
BOOT HILL 25 1H SWB	DODD 10A OIL BATTERY
BOSE IKARD 4 ST COM 18H BATTERY	DODD 10B TK BTTY
BRANTLEY FEDERAL #001	DODD FED #14C TK BATT
BR-549 STATE BATTERY	DODD FED 11A BATTERY
BRADLEY 8 FEE #3H-BATTERY	DODD FED UNIT 980H BATTERY
BRADLEY 8 FEE BATTERY	DODD FEDERAL 14A-TB
BRAGG 10 FEE 1 BATTERY	DODD FEDERAL UNIT 15A BTTY
BRIGHAM H 2	DODD FEDERAL UNIT NORTH BTTY
BRIGHAM H FED (NORTH) BATTERY	DODD FEDERAL UNIT SOUTH BTTY
BURCH KEELY 13C TK BTY	DOGWOOD FEDERAL TNK BTY
BURCH KEELY 18A TK BATT	DORAMI 33 FEDERAL COM 2H.4H.9H TANK BATTERY
BURCH KEELY 19A OIL BATT	EBONY STATE TB
BURCH KEELY 23A TK BATT	EDWARD STATE TNK BTY
BURCH KEELY EAST 18B TANK BAT	ELECTRA FEDERAL 33 (NORTH) BATTERY
BURCH KEELY SEC 13A NORTH BTTY	ELECTRA FEDERAL 5 (SWEET) TNK BTY
BURCH KEELY SEC 13B SOUTH BTTY	ELECTRA FEDERAL SOUR TNK BTY
BURCH KEELY UNIT CTB BTTY	EMPIRE SOUTH DEEP UNIT 21
BURCH KEELY UNIT E BATTERY	FALABELLA 31 FEE #1H TK BATT
BURKETT 16 STATE	FALABELLA 31 FEE 8H TK BTY
CADDO FEDERAL BATTERY	FAT TIRE 12 COM FEDERAL CTB
CADILLAC ST 4 BATTERY	FEDERAL BA COM NO. 001
CALIFORNIA 29 FEE 1	FEDERAL BB NO. 001
CARMEN 3 FEDERAL BATTERY	FLAT HEAD FED COM 6H TANK BATTERY
CARRINGTON 12 ST 3,4,7 BATTERY	FLAT HEAD FED COM 27H TANK BATTERY

ATTACHMENT 1: SPUR FACILITIES WITH ROE REVIEW

FIR FEDERAL TNK BTY	IVAR THE BONELESS FED 11H - BATTERY
FIRECRACKER STATE TB	JC FEDERAL 13 TNK BTY
FLEMMING STATE OIL BATTERY	JC FEDERAL 2 (SOUR) TNK BTY
FOLK FEDERAL B TNK BTY	JC FEDERAL 27 TNK BTY
FOLK FEDERAL TNK BTY	JENKINS B FEDERAL TNK BTY
FOLK STATE TANK BATTERY	JG STATE 16 1 TANK BATTERY
FORAN STATE OIL BATTERY	JG STATE 16 7 TANK BATTERY
GC FEDERAL 11 TNK BTY	JON BOB 1
GC FEDERAL 27 TNK BTY	JUNIPER STATE TNK BTY
GC FEDERAL TNK BTY	KIOWA OIL BATTERY
GILLESPIE STATE OIL BATTERY	KOOL AID STATE
GISSLER FEDERAL 13H TANK BATT	LAKEWOOD NORTH TANK BATTERY
GJ WEST COOP SOUTH TB	LAKEWOOD SOUTH TANK BATTERY
GJ WEST COOP UNIT 092 BTY	LARA MICHELLE STATE OIL BTTY
GJ WEST COOP UNIT 191 BTY	LEAKER CC STATE TB
GJ WEST COOP UNIT 210 BTY	LEE 3 FEE 6H - TK BATT
GJ WEST COOP UNIT CENTRAL	LIVE OAK TANK BATTERY
GJ WEST COOP UNIT N TNK BTY	MALCO 23 FEDERAL COM #13H
GOLD STAR TNK BTY	MAPLE STATE
GOODMAN 22 TANK BATTERY	MARACAS 22 STATE TANK BATTERY
GRAVE DIGGER FEDERAL COM TANK BATTERY	MARY FEDERAL OIL BATTERY
GRAVE DIGGER ST COM #3H TANK BATTERY	MAYARO 22 STATE TANK BATTERY
GRAVE DIGGER STATE COM #8H SWB	MC FEDERAL 14 TANK BATTERY
HALBERD 27 ST 3H BATTERY	MC FEDERAL 6 DEVONIAN
HANOVER STATE #3 (YESO)	MC FEDERAL PADDOCK TNK BTY
HARPER STATE TNK BTY	MC SOUTHEAST BATTERY
HARVARD FEDERAL TNK BTY	MC STATE OIL BATTERY
HATFIELD B TB	MCCOY STATE TB
HEARSE 36 ST COM TANK BATTERY	MCINTYRE A EAST TANK BATTERY
HOBGOBLIN 7 FED COM 4H TK BAT	MCINTYRE B 10
HOLDER CB 11 TNK BTY	MCINTYRE B 4
HOLDER CB FEDERAL 6&7 TNK BTY	MCINTYRE B TNK BTY
HOLIDAY	MCINTYRE DK 15 TNK BTY
HOUMA STATE TNK BTY	MCINTYRE DK FEDERAL 28H SWB
HT 18 FED 01.05.04 TANK BATTERY	MEADOWHAWK 5 FEDERAL 3
HT 18 FEDERAL 8	MELROSE FEDERAL TNK BTY
HUBER 10,11,12 FEDERAL OIL TANK BATTERY	MERAK 7 FEDERAL 8 TANK BATTERY
HUBER 3 FEDERAL OIL TANK BATTERY	MESILLA STATE 3 & 5 TNK BTY
HUBER 5 FEDERAL OIL TANK BATTERY	MESILLA STATE TNK BTY
HYDRUS 10 FED 03.07.08.11 TANK BATTERY	MESQUITE STATE TANK BATTERY
HYDRUS 10 FED 04.05 TANK BATTERY	MIMOSA STATE TNK BTY
HYDRUS 10 FED 06.09.10.12 TANK BATTERY	MIRANDA FEDERAL B TNK BTY
IMPERIAL STATE TNK BTY	MIRANDA FEDERAL TB

ATTACHMENT 1: SPUR FACILITIES WITH ROE REVIEW

MOE FEDERAL OIL BATTERY	ROSE SOUTH TANK BATTERY
MOHAWK FEDERAL TNK BTY	ROSS RANCH 09.13.14 BATTERY
MONCRIEF 3 OIL BATTERY	SAM ADAMS 12 FED 4H UBB TK BATT
MOORE STATE OIL BATTERY	SANDY CROSSING 32 STATE COM 1
MORRIS BOYD 26 FEE COM 1H	SCHLEY FEDERAL TNK BTY
MORRIS BOYD TANK BATTERY	SHAWNEE FEDERAL TNK BTY
MORRIS E & F TANK BATTERY	SHELBY 23 BATTERY
MUSKEGON SOUTH STATE OIL BATTERY	SHERMAN 4 FEE 4H BATTERY
NAVAHO FEDERAL TNK BTY	SHERMAN 4 FEE 6H BATTERY
NELSON 13.23. TNK BATT	SHORTY 2 STATE COM TANK BATTERY
NEWCASTLE 6 FED COM - TANK BATTERY	SINCLAIR PARKE (PADDOCK) TNK BTY
NIRVANA TANK BATTERY	SKELLY 605 BATTERY
NOOSE FED 10 TANK BATTERY	SKELLY 942 BATTERY
NOOSE FED 5 TANK BATTERY	SKELLY 968 BATTERY
OKLAHOMA 32 TANK BATTERY	SKELLY 973 BATTERY
OSAGE BOYD 15 FED 09.12.13.14 TANK BATTERY	SKELLY 989 BATTERY
OSAGE BOYD YESO TANK BATTERY	SKELLY UNIT 907 CTB BATTERY
PAINT 32 FEE OIL BATTERY	SKELLY UNIT 940 BATTERY
PAN CANADIAN A2-B3 TANK BATTERY	SOUTH BOYD FED COM OIL TANK BATTERY
PASSION 1 FED PDK 5H TK BATT	SOUTH EMPIRE STATE COM 1
PATTON 5 FEE 2H OIL BATTERY	SPIKETAIL 5 STATE 2 TANK BATTERY
PATTON 5 FEE 8H OIL BATTERY	SPRUCE FEDERAL TNK BTY
PAWNEE STATE TNK BTY	STATE B GAS COM NO. 001
PEACEMAKER 25 FEDERAL TANK BATTERY	STATE S-19 YESO (SOUR) TNK BTY
PERE MARQUETTE 18 FEDERAL 1 TANK BATTERY	STONEWALL 9 FEE #1H TBAT
PILUM 15 FEE 2H BATTERY	STONEWALL 9 FEE 8H BATTERY
PINTO 36 STATE COM 1H TNK BTY	SUBMARINE 10 FED COM 2H OIL BAT
PINTO 36 STATE COM 4H TNK BTY	TAYLOR D TANK BATTEY
PINTO 36 STATE TB	TENNECO STATE TNK BTY
POLARIS B 5-10 TANK BTTY	TEX MACK FED
POSEIDON 3 FEDERAL 4 TANK BATTERY	TEXACO BE TNK BTY
POSEIDON 3 FEDERAL 05.07.17.18 TANK BATTERY	TEXAS 32 FEE TANK BATTERY
PUCKETT 13 FEDERAL COM 35H	TEXMACK 36 STATE COM #1
PUCKETT 13 FEDERAL TB	TH STATE #1
RAGNAR FED COM 25H - BATTERY	THO STATE OIL BATTRY
RANDALL FED 3 BATTERY	THORNTAIL 31 FEDERAL 1
RED LAKE 32 TANK BATTERY	THUNDER ROAD FEDERAL OIL BTTY
REDBUD FEDERAL TNK BTY	TUMAK FED 3 BAT
RINCON STATE TANK BATTERY	VEGA 9 FED TANK BATTERY
RJ UNIT NORTH TANK BATTERY	VT 36 STATE #1H
RJ UNIT SOUTH TANK BATTERY	W D MCINTYRE C 10
RONCO FEDERAL #1	WAUKEE 36 STATE COME CTB
ROSE 02.03.04.05.06 TANK BATTERY	WD MCINTYRE C 8-9 TNK BTY

ATTACHMENT 1: SPUR FACILITIES WITH ROE REVIEW

WD MCINTYRE E TNK BTY
WELCH A 28 10.20.50 CTB
WESTERN FEDERAL TNK BTY
WHITE OAK STATE B TB
WHITE OAK STATE TNK BTY
WHITE STAR FEDERAL TNK BTY
WICHITA STATE TNK BTY
WILLOW STATE TNK BTY
YALE B OIL BATTERY
YALE STATE TANK BTY
YUCCA STATE TNK BTY



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

SUBSTRUCTURE

One Piece Step Down

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

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

Rotary Capacity: 400,000 lbf

Max Pipe Setback: 400,000 lbf

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

MAST

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

Static Hook Load: 440,000 lbf

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

DRAWWORKS

TSM 850 425,000lbs w/ 10 Lines

Input Power: 1,150 hp AC traction motor

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

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

TOP DRIVE

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

Continuous Drill Torque: 30,000 ft-lbs

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

600 hp AC induction motor & drive system with PLC

250 Ton 5 x 36" Becket Block Assembly

IRON ROUGHNECK

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

Spin Speed: 75 rpm nominal on 5" drill pipe

Spin Torque: 1,750 ft-lbs

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

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

ROTARY TABLE

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

27 1/2" Diameter opening

POWER SYSTEM

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

sets, 1220 BHP.

MUD PUMP #1

HHF1600 Triplex Rated Power: 1600 hp

Stroke: 12"

Input Power: 1500 hp AC traction motor

Pressure Rating: 5000 psi

MUD PUMP #2

HHF1600 Triplex Rated Power: 1600 hp

Stroke: 12"

Input Power: 1500 hp AC traction motor

Pressure Rating: 5000 psi

MUD TANKS

Two Tank system w/ 1200 bbls total capacity

Shakers: Three MI Swaco Mongoose 4 panel dual motion

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

Pill Tank: 54 bbls

MUD SYSTEM

5000 psi Max Pressure

5" Main plumbing and standpipe

SCALPING TANK

Main Tank: 186 bbls capacity

Trip Tank: 24 bbls capacity

Shakers: Three NOV Venom shakers dual motion

BOP (NACE)

11" x 5000 psi WP Spherical Annular

11" x 5000 psi WP Double Ram

11" x 5000 psi WP Single Ram (Optional)

MANIFOLD

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

ACCUMULATOR

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

CATWALK

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

TUBULARS

Drill Pipe: Supplied as needed, per availability

Drill Collars & heavywate: Supplied as needed, per availability

MISC.

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

Boiler: 125 hp with Full Winterization

MOVING SYSTEM:

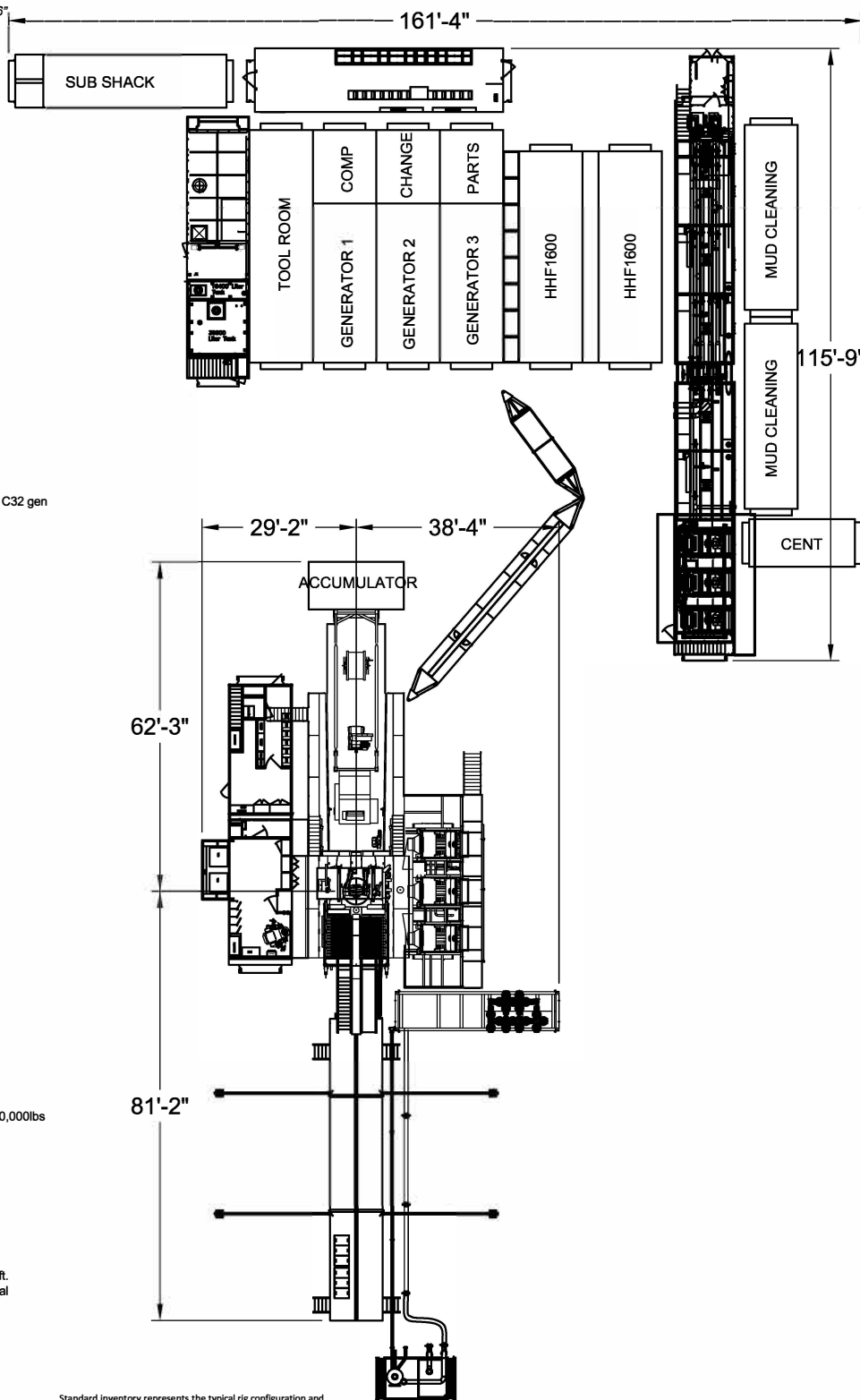
Walking beam hydraulic pony sub moving system for linear motion & side shift.

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

TOOL/ STORAGE/ CAMP

Parts Storage Room and Tool House Room

Rig Manage Trailer: 14' x 44' skid mounted

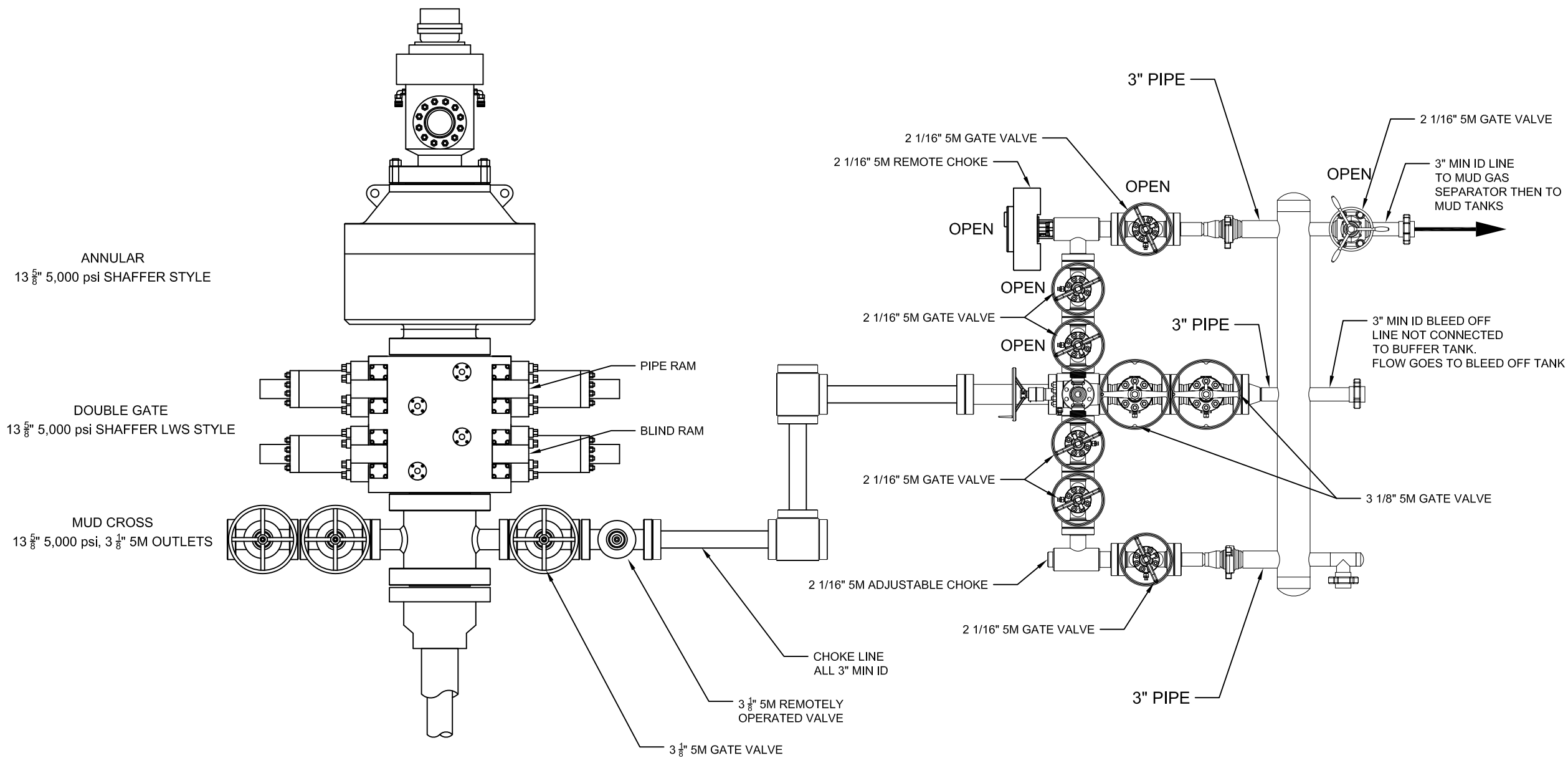


Standard inventory represents the typical rig configuration and inventory available, but specifications are subject to slight modifications from time to time due to customer requirements.

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

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TRANSCEND RIG 4	Contractor Specification
Make	Schram
Model	TXD 130
Year of Manufacture	2006
Truck Mounted	YES
Rated Drilling Depth	130,000# hook load
Rated Depth with Tubing	
Derrick Height	69' 9"
Derrick Type	Telescoping Hydraulic
Derrick Capacity	130,000#
Elevators	N/A
Drawworks	760 HP Detroit
Wire Diameter	Hydraulic
Workfloor Max Height	8'
Tongs	Hydraulic Iron Roughneck
Slips	Manual Slips
Included Tubing Handling Tools	• 13 3/8" handling tools
Included Rod Handling Tools	85jts of 4.5" drill pipe
BOP Class Compatibility	
Weight Indicator	Hydraulic
Rig Safety Equipment	Eye wash station, fire extengushers, wind sock
Pad Size Requirements/Limitations	60' x 60'
Guy Line Spacing	N/A
Other Supplied Rig Equipment	Standard Rig Hand Tools: • (2) 36" pipe wrenches • (2) 24" pipe wrenches • (2) 18" pipe wrenches • (1) 24" crescent wrench • (2) 12" crescent wrenches • (1) 4 lb shop hammer • (1) 12 lb sledge hammer • (1) 4 foot pry bar • Vehicles for Contractor personnel • Air Impact Wrench with Sockets • Mud Scales (as needed) 1- F800 pump 1- Pill pit 80bbl 1- 400 bbl mud mix 1- Shaker 150mesh 1- 500 bbl fresh water frac tank



Notes
-
-
-

No.	Revision	Date
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AKITA
DRILLING LTD.
2302 8th Street, Nisku Alberta
T9E 7Z2 Tel: (780) 955-6700

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

RIG 57 BOP SCHEMATIC

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

General Information
Phone: (505) 629-6116

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

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

ACKNOWLEDGMENTS

Action 548234

ACKNOWLEDGMENTS

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID: 328947
	Action Number: 548234
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

ACKNOWLEDGMENTS

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

General Information
Phone: (505) 629-6116

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

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

CONDITIONS

Action 548234

CONDITIONS

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID: 328947
	Action Number: 548234
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
schapman01	Cement is required to circulate on both surface and intermediate1 strings of casing.	1/29/2026
schapman01	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	1/29/2026
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	4/24/2026
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	4/24/2026
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.	4/24/2026
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.	4/24/2026
ward.rikala	If the method of isolation was not by circulation, a CBL must be performed; if strata isolation is not achieved, then remediation will be required before further operations.	4/24/2026