

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

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

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

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

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

Form C-101
August 1, 2011
Permit 365472

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

1. Operator Name and Address Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024		2. OGRID Number 328947
		3. API Number 30-015-55070
4. Property Code 331679	5. Property Name WAUKEE 36 STATE COM	6. Well No. 090H

7. Surface Location									
UL - Lot M	Section 31	Township 17S	Range 28E	Lot Idn 4	Feet From 755	N/S Line S	Feet From 670	E/W Line W	County Eddy

8. Proposed Bottom Hole Location									
UL - Lot M	Section 36	Township 17S	Range 27W	Lot Idn M	Feet From 1100	N/S Line S	Feet From 50	E/W Line W	County Eddy

9. Pool Information									
RED LAKE; GLORIETA-YESO, NORTHEAST								96836	

Additional Well Information				
11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3666
16. Multiple N	17. Proposed Depth 10466	18. Formation Blinebry	19. Contractor	20. Spud Date 6/11/2024
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

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

21. Proposed Casing and Cement Program						
Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	12.25	9.625	36	1375	412	0
Prod	8.75	7	32	5000	1652	0
Prod	8.75	5.5	20	10466	1652	0

Casing/Cement Program: Additional Comments

22. Proposed Blowout Prevention Program			
Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	5	5000	SHAFFER

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒ if applicable. Signature:		OIL CONSERVATION DIVISION	
Printed Name: Electronically filed by Sarah Chapman		Approved By: Ward Rikala	
Title: Regulatory Director		Title:	
Email Address: schapman@spurenergy.com		Approved Date: 5/29/2024	Expiration Date: 5/29/2026
Date: 5/14/2024	Phone: 832-930-8613	Conditions of Approval Attached	

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-55070	² Pool Code 96836	³ Pool Name RED LAKE; GLORIETA-YESO, NORTHEAST
⁴ Property Code 331679	⁵ Property Name WAUKEE 36 STATE COM	⁶ Well Number 90H
⁷ OGRID NO. 328947	⁸ Operator Name SPUR ENERGY PARTNERS LLC.	⁹ Elevation 3666'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
4	31	17S	28E		755	SOUTH	670	WEST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	36	17S	27E		1100	SOUTH	50	WEST	EDDY

¹² Dedicated Acres 320	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. INFILL WELL
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No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.

¹⁶ <u>GEODETIC DATA</u> NAD 83 GRID - NM EAST <u>SURFACE LOCATION (SL)</u> N: 649468.1 - E: 575755.0 LAT: 32.7853701° N LONG: 104.2213397° W <u>FIRST TAKE POINT (FTP)</u> 1100' FSL & 100' FEL SEC. 36 N: 649800.7 - E: 574983.4 LAT: 32.7862867° N LONG: 104.2238494° W <u>LAST TAKE POINT (LTP)</u> 1100' FSL & 100' FWL SEC. 36 N: 649853.8 - E: 569871.9 LAT: 32.7864460° N LONG: 104.2404819° W <u>BOTTOM HOLE (BH)</u> N: 649854.3 - E: 569822.0 LAT: 32.7864475° N LONG: 104.2406446° W <u>CORNER DATA</u> NAD 83 GRID - NM EAST A: FOUND BRASS CAP "1941" N: 648755.1 - E: 569774.2 B: FOUND BRASS CAP "1941" N: 651389.1 - E: 569768.8 C: FOUND BRASS CAP "1941" N: 654022.0 - E: 569763.3 D: FOUND BRASS CAP "1941" N: 654002.1 - E: 572411.1 E: FOUND BRASS CAP "1941" N: 653983.5 - E: 575058.5 F: FOUND BRASS CAP "1941" N: 653999.6 - E: 577752.7 G: FOUND BRASS CAP "1941" N: 654017.3 - E: 580331.9 H: FOUND BRASS CAP "1941" N: 651411.9 - E: 580372.5 I: CALCULATED CORNER N: 648805.9 - E: 580413.8 J: FOUND BRASS CAP "1941" N: 648700.0 - E: 575089.7 K: FOUND BRASS CAP "1941" N: 651341.8 - E: 575074.4	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Sarah Chapman</i> 05/14/2024 Signature Date SARAH CHAPMAN Printed Name SCHAPMAN@SPURENERGY.COM E-mail Address ¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. 04/30/2024 Date of Survey Signature and Seal of Professional Surveyor 14400 05/07/2024 Certificate Number DALE E. BELL PROFESSIONAL SURVEYOR NEW MEXICO 14400 Job No.: LS24040371
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Santa Fe, NM 87505

Form APD Conditions
Permit 365472

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: Spur Energy Partners LLC [328947] 9655 Katy Freeway Houston, TX 77024	API Number: 30-015-55070
	Well: WAUKEE 36 STATE COM #090H

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

Intent ☐ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number

Kick Off Point (KOP)

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

First Take Point (FTP)

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

Last Take Point (LTP)

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

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

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

API #		
Operator Name:	Property Name:	Well Number

KZ 06/29/2018



Permian Drilling

Hydrogen Sulfide Drilling Operations Plan

WAUKEE 36 STATE COM DEVELOPMENT

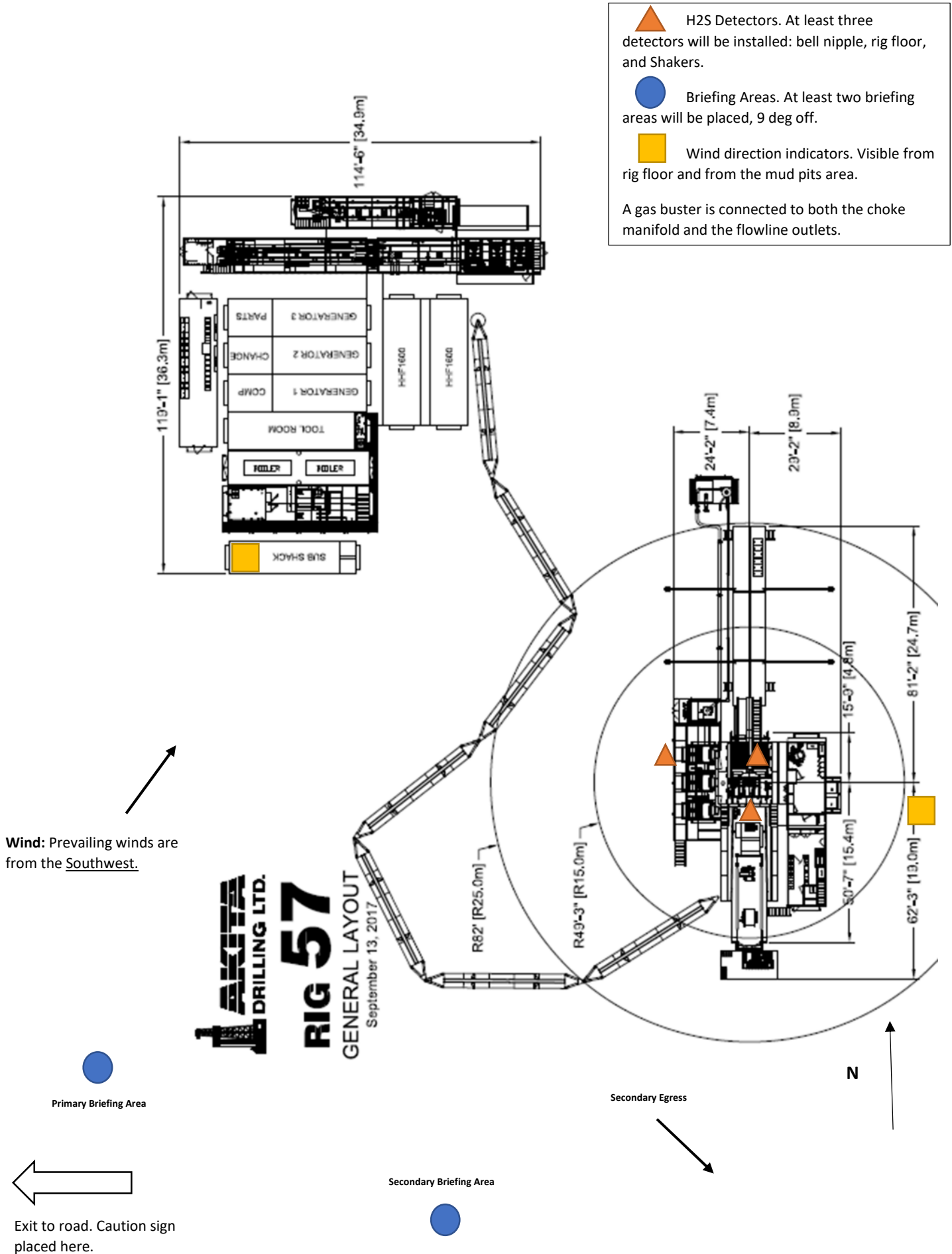
Open drill site. No homes or buildings are near the proposed location.

1. Escape

Personnel shall escape upwind of wellbore in the even of an emergency gas release.

Escape can take place through the lease road on the Southeast side of the location.

Personnel need to move to a safe distance and block the entrance to location. If the primary route is not an option due to the wind direction, then secondary egress route should be taken.





Project: Eddy County, NM (NAD 83 - NME)
Site: WAUKEE 36 STATE 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' @ 3686.00usft (AKITA 57)			
		Ground Level:		3666.00	
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	649468.10	575755.00	32.7853701	-104.2213398

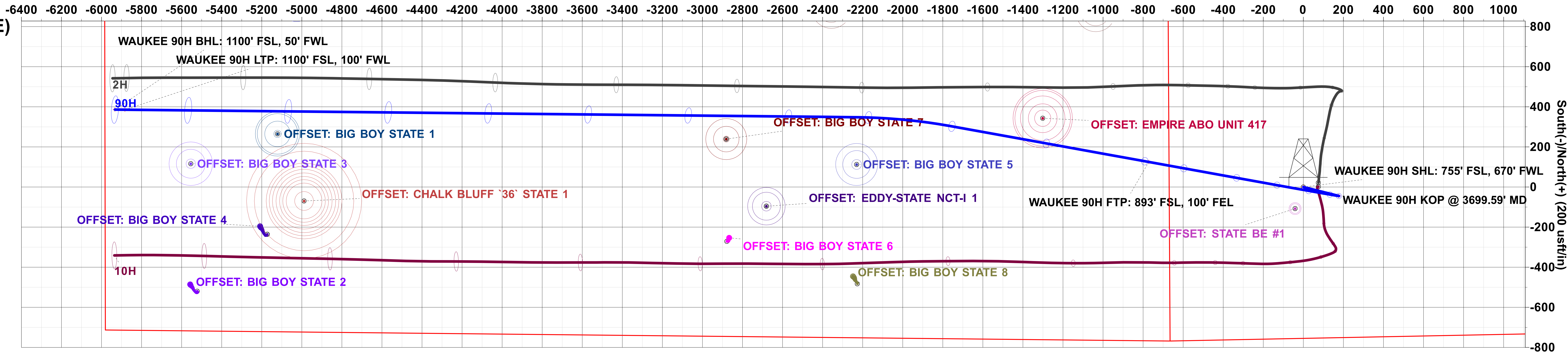
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00
3	457.28	3.15	104.07	457.20	-1.05	4.19	2.00	-4.20
4	3699.59	3.15	104.07	3694.63	-44.31	176.77	0.00	-177.21
5	4751.91	60.00	280.25	4573.91	38.28	-292.05	6.00	292.43
6	4951.91	60.00	280.25	4673.91	69.10	-462.49	0.00	463.18
7	5279.56	92.76	280.25	4750.00	125.00	-771.60	10.00	772.85
8	6279.56	92.76	280.25	4701.76	302.74	-1754.50	0.00	1757.52
9	6762.07	92.76	270.59	4678.44	348.20	-2233.72	2.00	2237.19
10	10465.84	92.76	270.59	4500.00	386.20	-5933.00	0.00	5936.66

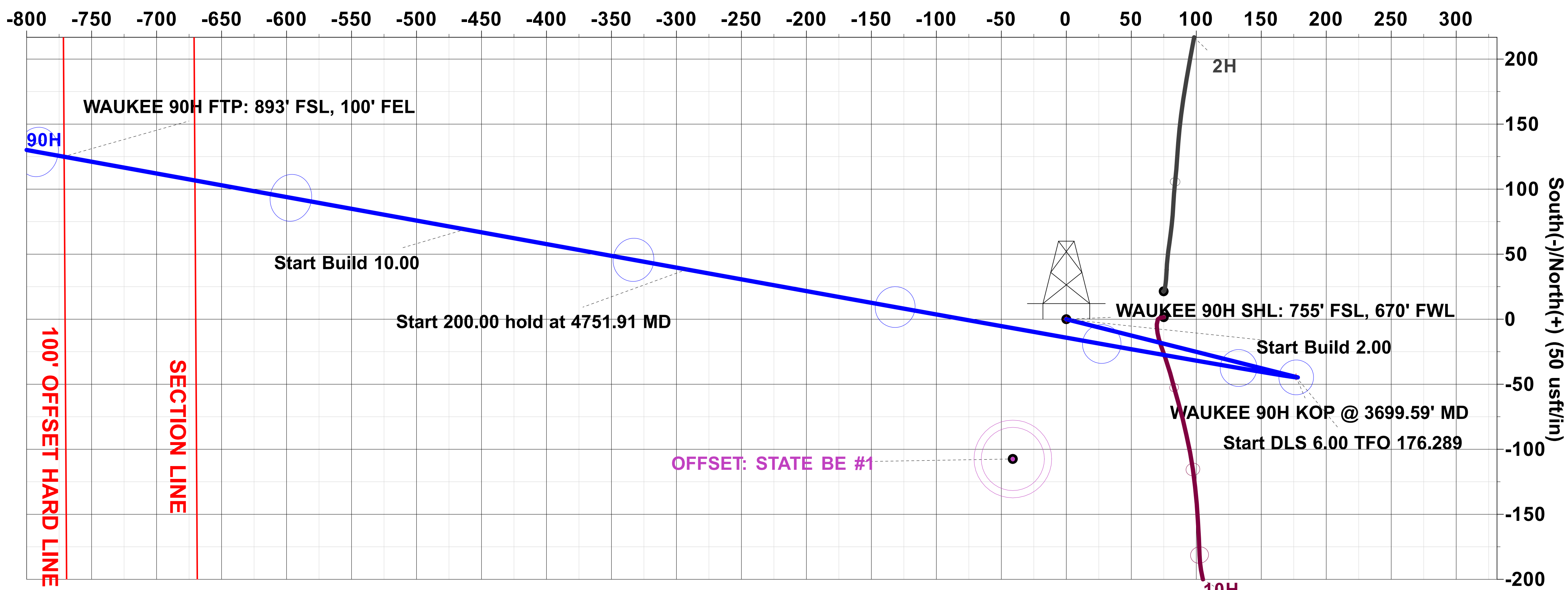
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
WAUKEE 90H BHL: 1100' FSL, 50' FWL	4500.00	386.20	-5933.00	649854.30	569822.00	32.7864474	-104.2406445
WAUKEE 90H FTP: 893' FSL, 100' FEL	4750.00	125.00	-771.60	649593.10	574983.40	32.7857159	-104.2238501
WAUKEE 90H KOP @ 3699.59' MD	3694.63	-44.31	176.77	649423.79	575931.77	32.7852478	-104.2207647
WAUKEE 90H LTP: 1100' FSL, 100' FWL	4502.41	385.70	-5883.10	649853.80	569871.90	32.7864459	-104.2404821
WAUKEE 90H SHL: 755' FSL, 670' FWL	0.00	0.00	0.00	649468.10	575755.00	32.7853701	-104.2213398

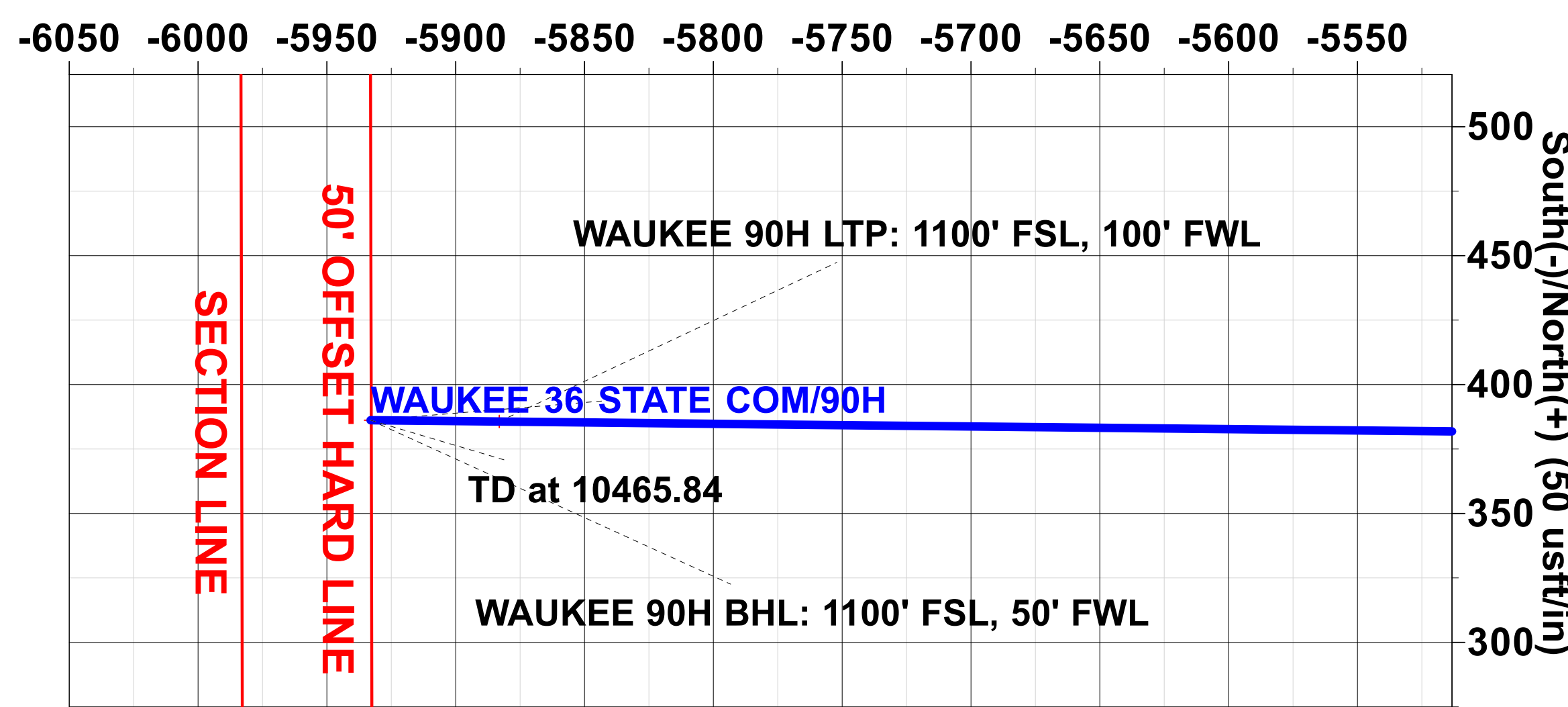
West(-)/East(+) (200 usft/in)



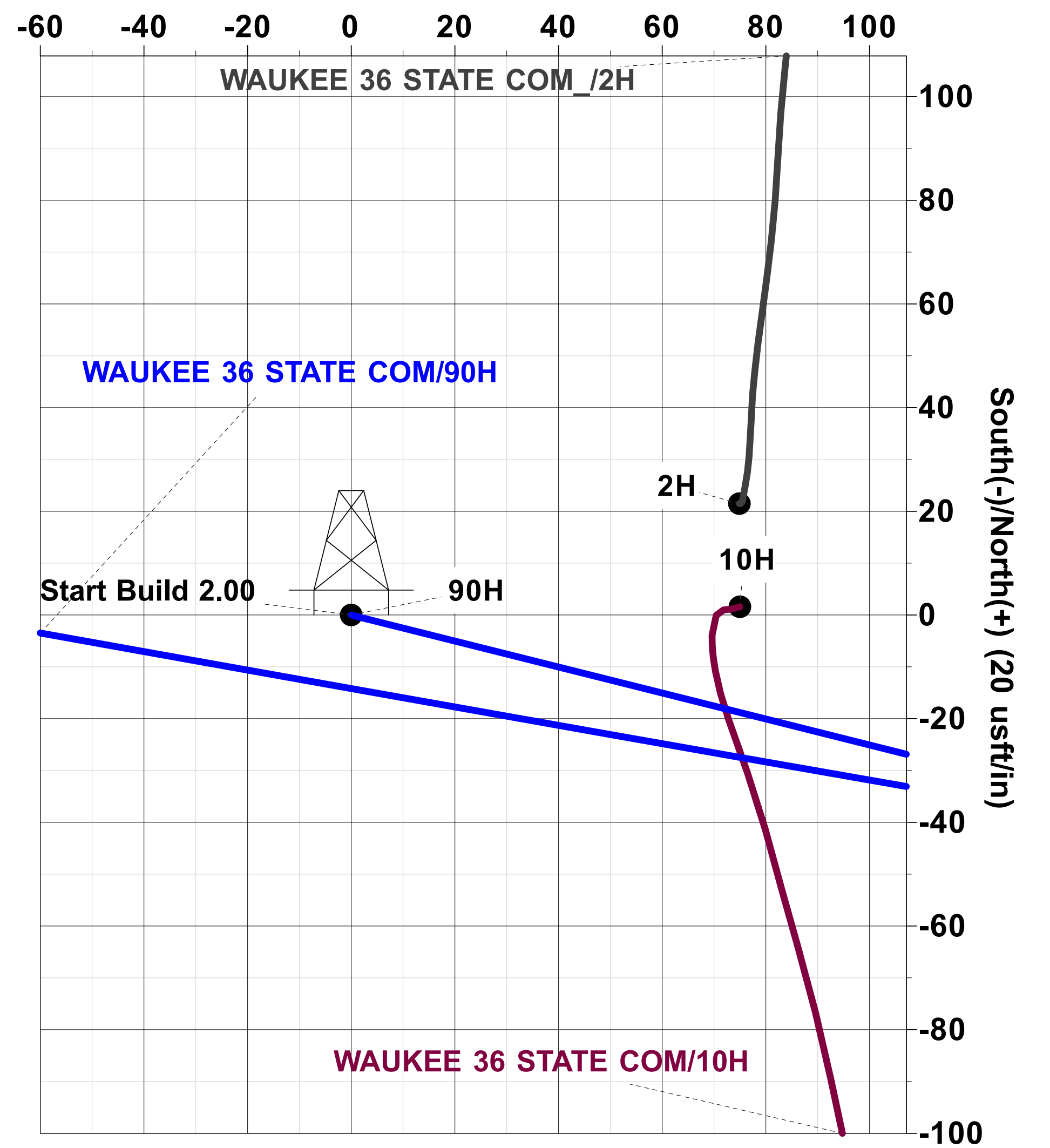
West(-)/East(+) (50 usft/in)



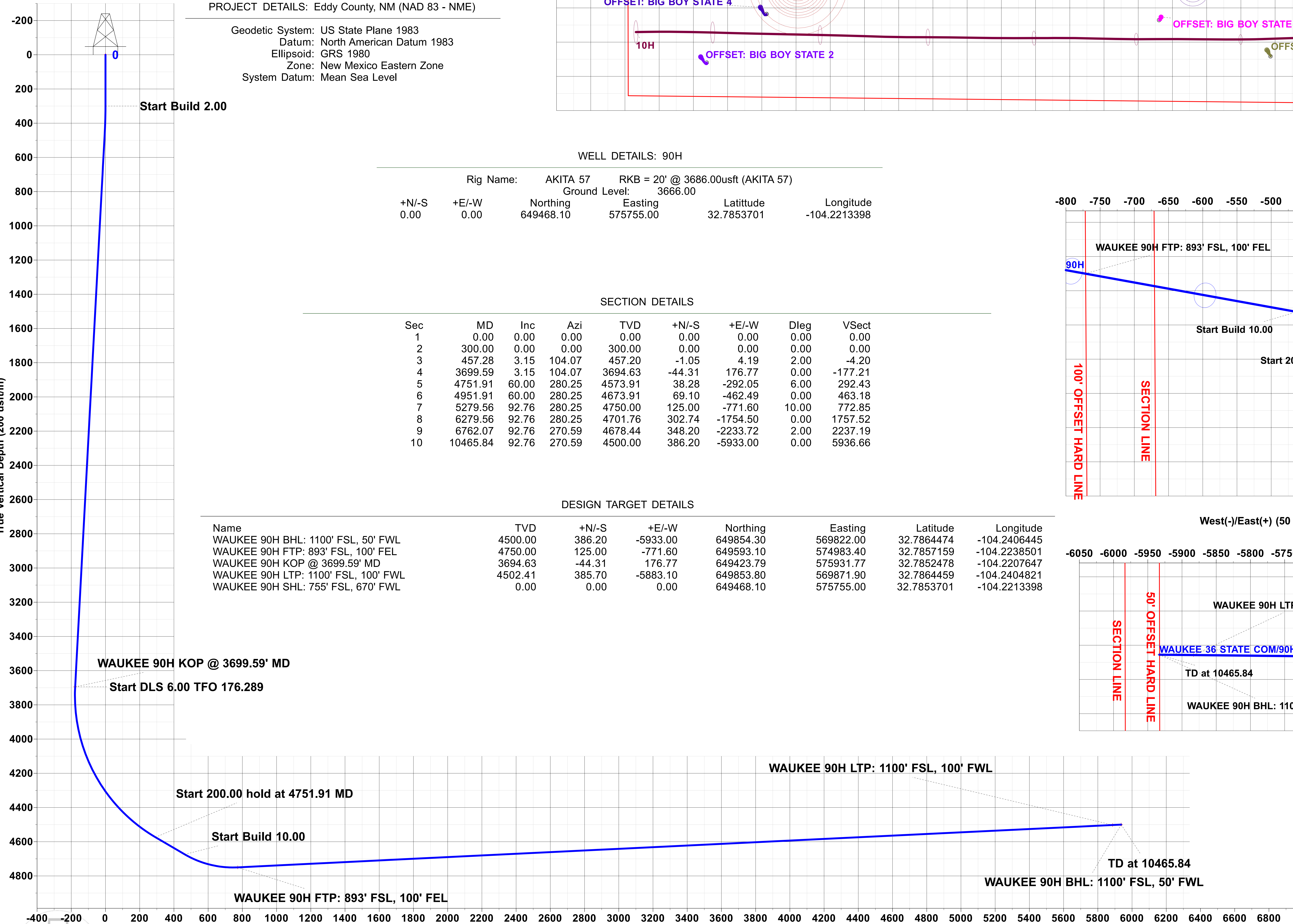
West(-)/East(+) (50 usft/in)



West(-)/East(+) (20 usft/in)



Vertical Section at 270.59° (200 usft/in)



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Plan: PERMIT (90H/OH)

Created By: PROTOTYPE WELL PLANNING / Date: 9:38, May 13 2024



Spur Energy Partners, LLC

Eddy County, NM (NAD 83 - NME)

WAUKEE 36 STATE COM

90H

OH

Plan: PERMIT

Standard Planning Report

13 May, 2024



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well 90H
Company:	Spur Energy Partners, LLC	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Project:	Eddy County, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Site:	WAUKEE 36 STATE 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		

Site	WAUKEE 36 STATE COM			
Site Position:		Northing:	649,489.60 usft	Latitude: 32.7854290
From:	Map	Easting:	575,829.90 usft	Longitude: -104.2210960
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.061 °

Well	90H			
Well Position	+N/-S	-21.50 usft	Northing:	649,468.10 usft
	+E/-W	-74.90 usft	Easting:	575,755.00 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft
			Ground Level:	3,666.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	05/09/24	6.552	60.218	47,454

Design	PERMIT			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	270.59

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.000	
457.28	3.15	104.07	457.20	-1.05	4.19	2.00	2.00	0.00	104.073	
3,699.59	3.15	104.07	3,694.63	-44.31	176.77	0.00	0.00	0.00	0.000	
4,751.91	60.00	280.25	4,573.91	38.28	-292.05	6.00	5.40	16.74	176.289	
4,951.91	60.00	280.25	4,673.91	69.10	-462.49	0.00	0.00	0.00	0.000	
5,279.56	92.77	280.25	4,750.00	125.00	-771.60	10.00	10.00	0.00	0.000	
6,279.56	92.77	280.25	4,701.76	302.74	-1,754.50	0.00	0.00	0.00	0.000	
6,762.07	92.76	270.59	4,678.44	348.20	-2,233.72	2.00	0.00	-2.00	-89.787	
10,465.84	92.76	270.59	4,500.00	386.20	-5,933.00	0.00	0.00	0.00	0.000	WAUKEE 90H BHL



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well 90H
Company:	Spur Energy Partners, LLC	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Project:	Eddy County, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Site:	WAUKEE 36 STATE 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
WAUKEE 90H SHL: 755' FSL, 670' FWL									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	2.00	104.07	399.98	-0.42	1.69	-1.70	2.00	2.00	0.00
457.28	3.15	104.07	457.20	-1.05	4.19	-4.20	2.00	2.00	0.00
500.00	3.15	104.07	499.86	-1.62	6.46	-6.48	0.00	0.00	0.00
600.00	3.15	104.07	599.71	-2.95	11.78	-11.81	0.00	0.00	0.00
700.00	3.15	104.07	699.56	-4.29	17.11	-17.15	0.00	0.00	0.00
800.00	3.15	104.07	799.40	-5.62	22.43	-22.49	0.00	0.00	0.00
900.00	3.15	104.07	899.25	-6.96	27.75	-27.82	0.00	0.00	0.00
1,000.00	3.15	104.07	999.10	-8.29	33.07	-33.16	0.00	0.00	0.00
1,100.00	3.15	104.07	1,098.95	-9.63	38.40	-38.49	0.00	0.00	0.00
1,200.00	3.15	104.07	1,198.80	-10.96	43.72	-43.83	0.00	0.00	0.00
1,300.00	3.15	104.07	1,298.65	-12.29	49.04	-49.17	0.00	0.00	0.00
1,400.00	3.15	104.07	1,398.50	-13.63	54.36	-54.50	0.00	0.00	0.00
1,500.00	3.15	104.07	1,498.35	-14.96	59.69	-59.84	0.00	0.00	0.00
1,600.00	3.15	104.07	1,598.20	-16.30	65.01	-65.17	0.00	0.00	0.00
1,700.00	3.15	104.07	1,698.05	-17.63	70.33	-70.51	0.00	0.00	0.00
1,800.00	3.15	104.07	1,797.90	-18.97	75.66	-75.85	0.00	0.00	0.00
1,900.00	3.15	104.07	1,897.75	-20.30	80.98	-81.18	0.00	0.00	0.00
2,000.00	3.15	104.07	1,997.60	-21.63	86.30	-86.52	0.00	0.00	0.00
2,100.00	3.15	104.07	2,097.45	-22.97	91.62	-91.86	0.00	0.00	0.00
2,200.00	3.15	104.07	2,197.30	-24.30	96.95	-97.19	0.00	0.00	0.00
2,300.00	3.15	104.07	2,297.14	-25.64	102.27	-102.53	0.00	0.00	0.00
2,400.00	3.15	104.07	2,396.99	-26.97	107.59	-107.86	0.00	0.00	0.00
2,500.00	3.15	104.07	2,496.84	-28.31	112.91	-113.20	0.00	0.00	0.00
2,600.00	3.15	104.07	2,596.69	-29.64	118.24	-118.54	0.00	0.00	0.00
2,700.00	3.15	104.07	2,696.54	-30.97	123.56	-123.87	0.00	0.00	0.00
2,800.00	3.15	104.07	2,796.39	-32.31	128.88	-129.21	0.00	0.00	0.00
2,900.00	3.15	104.07	2,896.24	-33.64	134.21	-134.54	0.00	0.00	0.00
3,000.00	3.15	104.07	2,996.09	-34.98	139.53	-139.88	0.00	0.00	0.00
3,100.00	3.15	104.07	3,095.94	-36.31	144.85	-145.22	0.00	0.00	0.00
3,200.00	3.15	104.07	3,195.79	-37.64	150.17	-150.55	0.00	0.00	0.00
3,300.00	3.15	104.07	3,295.64	-38.98	155.50	-155.89	0.00	0.00	0.00
3,400.00	3.15	104.07	3,395.49	-40.31	160.82	-161.23	0.00	0.00	0.00
3,500.00	3.15	104.07	3,495.34	-41.65	166.14	-166.56	0.00	0.00	0.00
3,600.00	3.15	104.07	3,595.19	-42.98	171.46	-171.90	0.00	0.00	0.00
3,699.59	3.15	104.07	3,694.63	-44.31	176.77	-177.21	0.00	0.00	0.00
WAUKEE 90H KOP @ 3699.59' MD									
3,750.00	0.23	160.98	3,745.01	-44.74	178.14	-178.59	6.00	-5.78	112.90
3,800.00	2.89	276.34	3,794.99	-44.70	176.92	-177.37	6.00	5.32	230.70
3,850.00	5.89	278.39	3,844.84	-44.19	173.13	-173.57	6.00	5.99	4.11
3,900.00	8.89	279.07	3,894.42	-43.20	166.77	-167.21	6.00	6.00	1.34
3,950.00	11.89	279.40	3,943.59	-41.75	157.88	-158.30	6.00	6.00	0.67
4,000.00	14.89	279.60	3,992.23	-39.84	146.46	-146.86	6.00	6.00	0.40
4,050.00	17.89	279.74	4,040.19	-37.47	132.56	-132.94	6.00	6.00	0.27
4,100.00	20.89	279.83	4,087.35	-34.65	116.20	-116.56	6.00	6.00	0.19
4,150.00	23.89	279.91	4,133.58	-31.38	97.45	-97.76	6.00	6.00	0.15
4,200.00	26.89	279.97	4,178.74	-27.69	76.33	-76.62	6.00	6.00	0.12
4,250.00	29.89	280.01	4,222.73	-23.56	52.93	-53.17	6.00	6.00	0.09
4,300.00	32.89	280.05	4,265.41	-19.03	27.29	-27.48	6.00	6.00	0.08
4,350.00	35.89	280.09	4,306.66	-14.09	-0.51	0.37	6.00	6.00	0.07



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well 90H
Company:	Spur Energy Partners, LLC	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Project:	Eddy County, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Site:	WAUKEE 36 STATE 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)
4,400.00	38.89	280.12	4,346.39	-8.76	-30.40	30.31	6.00	6.00	0.06
4,450.00	41.89	280.14	4,384.47	-3.07	-62.29	62.25	6.00	6.00	0.05
4,500.00	44.89	280.16	4,420.80	2.99	-96.09	96.11	6.00	6.00	0.05
4,550.00	47.89	280.18	4,455.29	9.38	-131.72	131.81	6.00	6.00	0.04
4,600.00	50.89	280.20	4,487.83	16.09	-169.07	169.22	6.00	6.00	0.04
4,650.00	53.89	280.22	4,518.34	23.11	-208.04	208.27	6.00	6.00	0.03
4,700.00	56.89	280.23	4,546.74	30.42	-248.53	248.83	6.00	6.00	0.03
4,751.91	60.00	280.25	4,573.91	38.28	-292.05	292.43	6.00	6.00	0.03
4,800.00	60.00	280.25	4,597.95	45.70	-333.04	333.49	0.00	0.00	0.00
4,900.00	60.00	280.25	4,647.95	61.11	-418.26	418.87	0.00	0.00	0.00
4,951.91	60.00	280.25	4,673.91	69.10	-462.49	463.18	0.00	0.00	0.00
5,000.00	64.81	280.25	4,696.18	76.69	-504.43	505.19	10.00	10.00	0.00
5,050.00	69.81	280.25	4,715.46	84.89	-549.80	550.65	10.00	10.00	0.00
5,100.00	74.81	280.25	4,730.65	93.37	-596.67	597.59	10.00	10.00	0.00
5,150.00	79.81	280.25	4,741.63	102.04	-644.65	645.67	10.00	10.00	0.00
5,200.00	84.81	280.25	4,748.32	110.86	-693.39	694.50	10.00	10.00	0.00
5,250.00	89.81	280.25	4,750.66	119.74	-742.53	743.72	10.00	10.00	0.00
5,279.56	92.77	280.25	4,750.00	125.00	-771.60	772.85	10.00	10.00	0.00
WAUKEE 90H FTP: 893' FSL, 100' FEL									
5,300.00	92.77	280.25	4,749.01	128.63	-791.69	792.98	0.00	0.00	0.00
5,400.00	92.77	280.25	4,744.19	146.41	-889.98	891.44	0.00	0.00	0.00
5,500.00	92.77	280.25	4,739.37	164.18	-988.27	989.91	0.00	0.00	0.00
5,600.00	92.77	280.25	4,734.54	181.95	-1,086.56	1,088.38	0.00	0.00	0.00
5,700.00	92.77	280.25	4,729.72	199.73	-1,184.85	1,186.85	0.00	0.00	0.00
5,800.00	92.77	280.25	4,724.89	217.50	-1,283.14	1,285.31	0.00	0.00	0.00
5,900.00	92.77	280.25	4,720.07	235.28	-1,381.43	1,383.78	0.00	0.00	0.00
6,000.00	92.77	280.25	4,715.25	253.05	-1,479.72	1,482.25	0.00	0.00	0.00
6,100.00	92.77	280.25	4,710.42	270.82	-1,578.01	1,580.72	0.00	0.00	0.00
6,200.00	92.77	280.25	4,705.60	288.60	-1,676.30	1,679.18	0.00	0.00	0.00
6,279.56	92.77	280.25	4,701.76	302.74	-1,754.50	1,757.52	0.00	0.00	0.00
6,300.00	92.77	279.84	4,700.77	306.30	-1,774.60	1,777.66	2.00	0.01	-2.00
6,400.00	92.77	277.84	4,695.94	321.65	-1,873.29	1,876.51	2.00	0.01	-2.00
6,500.00	92.77	275.84	4,691.11	333.54	-1,972.46	1,975.79	2.00	0.00	-2.00
6,600.00	92.77	273.83	4,686.27	341.95	-2,071.98	2,075.40	2.00	0.00	-2.00
6,700.00	92.77	271.83	4,681.44	346.89	-2,171.74	2,175.20	2.00	-0.01	-2.00
6,762.07	92.76	270.59	4,678.44	348.20	-2,233.72	2,237.19	2.00	-0.01	-2.00
6,800.00	92.76	270.59	4,676.62	348.59	-2,271.61	2,275.08	0.00	0.00	0.00
6,900.00	92.76	270.59	4,671.80	349.61	-2,371.49	2,374.96	0.00	0.00	0.00
7,000.00	92.76	270.59	4,666.98	350.64	-2,471.36	2,474.84	0.00	0.00	0.00
7,100.00	92.76	270.59	4,662.16	351.67	-2,571.24	2,574.73	0.00	0.00	0.00
7,200.00	92.76	270.59	4,657.34	352.69	-2,671.12	2,674.61	0.00	0.00	0.00
7,300.00	92.76	270.59	4,652.53	353.72	-2,771.00	2,774.50	0.00	0.00	0.00
7,400.00	92.76	270.59	4,647.71	354.74	-2,870.88	2,874.38	0.00	0.00	0.00
7,500.00	92.76	270.59	4,642.89	355.77	-2,970.76	2,974.26	0.00	0.00	0.00
7,600.00	92.76	270.59	4,638.07	356.80	-3,070.64	3,074.15	0.00	0.00	0.00
7,700.00	92.76	270.59	4,633.26	357.82	-3,170.51	3,174.03	0.00	0.00	0.00
7,800.00	92.76	270.59	4,628.44	358.85	-3,270.39	3,273.91	0.00	0.00	0.00
7,900.00	92.76	270.59	4,623.62	359.87	-3,370.27	3,373.80	0.00	0.00	0.00
8,000.00	92.76	270.59	4,618.80	360.90	-3,470.15	3,473.68	0.00	0.00	0.00
8,100.00	92.76	270.59	4,613.98	361.93	-3,570.03	3,573.57	0.00	0.00	0.00
8,200.00	92.76	270.59	4,609.17	362.95	-3,669.91	3,673.45	0.00	0.00	0.00
8,300.00	92.76	270.59	4,604.35	363.98	-3,769.79	3,773.33	0.00	0.00	0.00
8,400.00	92.76	270.59	4,599.53	365.00	-3,869.66	3,873.22	0.00	0.00	0.00
8,500.00	92.76	270.59	4,594.71	366.03	-3,969.54	3,973.10	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well 90H
Company:	Spur Energy Partners, LLC	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Project:	Eddy County, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Site:	WAUKEE 36 STATE 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)
8,600.00	92.76	270.59	4,589.89	367.06	-4,069.42	4,072.99	0.00	0.00	0.00
8,700.00	92.76	270.59	4,585.08	368.08	-4,169.30	4,172.87	0.00	0.00	0.00
8,800.00	92.76	270.59	4,580.26	369.11	-4,269.18	4,272.75	0.00	0.00	0.00
8,900.00	92.76	270.59	4,575.44	370.13	-4,369.06	4,372.64	0.00	0.00	0.00
9,000.00	92.76	270.59	4,570.62	371.16	-4,468.94	4,472.52	0.00	0.00	0.00
9,100.00	92.76	270.59	4,565.80	372.19	-4,568.81	4,572.41	0.00	0.00	0.00
9,200.00	92.76	270.59	4,560.99	373.21	-4,668.69	4,672.29	0.00	0.00	0.00
9,300.00	92.76	270.59	4,556.17	374.24	-4,768.57	4,772.17	0.00	0.00	0.00
9,400.00	92.76	270.59	4,551.35	375.26	-4,868.45	4,872.06	0.00	0.00	0.00
9,500.00	92.76	270.59	4,546.53	376.29	-4,968.33	4,971.94	0.00	0.00	0.00
9,600.00	92.76	270.59	4,541.72	377.32	-5,068.21	5,071.82	0.00	0.00	0.00
9,700.00	92.76	270.59	4,536.90	378.34	-5,168.09	5,171.71	0.00	0.00	0.00
9,800.00	92.76	270.59	4,532.08	379.37	-5,267.97	5,271.59	0.00	0.00	0.00
9,900.00	92.76	270.59	4,527.26	380.39	-5,367.84	5,371.48	0.00	0.00	0.00
10,000.00	92.76	270.59	4,522.44	381.42	-5,467.72	5,471.36	0.00	0.00	0.00
10,100.00	92.76	270.59	4,517.63	382.45	-5,567.60	5,571.24	0.00	0.00	0.00
10,200.00	92.76	270.59	4,512.81	383.47	-5,667.48	5,671.13	0.00	0.00	0.00
10,300.00	92.76	270.59	4,507.99	384.50	-5,767.36	5,771.01	0.00	0.00	0.00
10,400.00	92.76	270.59	4,503.17	385.52	-5,867.24	5,870.90	0.00	0.00	0.00
WAUKEE 90H LTP: 1100' FSL, 100' FWL									
10,465.84	92.76	270.59	4,500.00	386.20	-5,933.00	5,936.66	0.00	0.00	0.00
WAUKEE 90H BHL: 1100' FSL, 50' FWL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
WUKEE 90H SHL: 7 - hit/miss target - Shape - Point	0.00	0.00	0.00	0.00	0.00	649,468.10	575,755.00	32.7853701	-104.2213397
WUKEE 90H KOP @ - plan hits target center - Point	0.00	0.00	3,694.63	-44.31	176.77	649,423.79	575,931.77	32.7852478	-104.2207647
WUKEE 90H BHL: 1 - plan hits target center - Point	0.00	0.00	4,500.00	386.20	-5,933.00	649,854.30	569,822.00	32.7864474	-104.2406444
WUKEE 90H LTP: 1' - plan misses target center by 15.88usft at 10400.00usft MD (4503.17 TVD, 385.52 N, -5867.24 E) - Point	0.00	0.00	4,502.41	385.70	-5,883.10	649,853.80	569,871.90	32.7864459	-104.2404821
WUKEE 90H FTP: 8 - plan hits target center - Point	0.00	0.00	4,750.00	125.00	-771.60	649,593.10	574,983.40	32.7857159	-104.2238501



Spur Energy Partners, LLC

Eddy County, NM (NAD 83 - NME)

WAUKEE 36 STATE COM

90H

OH

PERMIT

Anticollision Report

13 May, 2024



Anticollision Report

Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 90H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Reference Site:	WAUKEE 36 STATE COM	MD Reference:	RKB = 20' @ 3686.00usft (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:	WBDS_SQL_3
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:	Max. Cent. Dist. of 700.00usft or Max. SF of 4
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	05/13/24
From (usft)	To (usft)	Survey (Wellbore)
0.00	10,465.84	PERMIT (OH)
		Tool Name
		MWD+IFR1+SAG+FDIR
		Description
		OWSG MWD + IFR1 + Sag + FDIR Correction

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
WAUKEE 36 STATE COM						
10H - Wellbore #1 - Wellbore #1	0.00	0.00	75.08			
10H - Wellbore #1 - Wellbore #1	645.09	639.18	59.40	55.09	13.764	CC
10H - Wellbore #1 - Wellbore #1	650.00	643.99	59.41	55.06	13.651	ES
OFFSET: EDDY-STATE NCT-I 1 - Wellbore #1 - Wellbore #1	7,204.90	4,634.38	448.36	325.81	3.659	CC, ES, SF
WAUKEE 36 STATE COM						
2H - Wellbore #1 - Wellbore #1	0.00	0.00	77.95			
2H - Wellbore #1 - Wellbore #1	150.00	147.48	78.44	77.69	104.420	ES
OFFSET: BIG BOY STATE 1 - Wellbore #1 - Wellbore #1	9,650.00	4,492.45	112.24	-42.44	0.726	SF = 1.20, ES, SF
OFFSET: BIG BOY STATE 1 - Wellbore #1 - Wellbore #1	9,652.25	4,492.34	112.22	-42.42	0.726	SF = 1.20, CC
OFFSET: BIG BOY STATE 2 - Wellbore #1 - Wellbore #1						Out of range
OFFSET: BIG BOY STATE 3 - Wellbore #1 - Wellbore #1	10,083.97	4,486.97	264.85	105.36	1.661	CC, ES, SF
OFFSET: BIG BOY STATE 4 - Wellbore #1 - Wellbore #1						Out of range
OFFSET: BIG BOY STATE 5 - Wellbore #1 - Wellbore #1	6,755.20	4,653.59	235.32	107.89	1.847	CC, ES, SF
OFFSET: BIG BOY STATE 6 - Wellbore #1 - Wellbore #1						Out of range
OFFSET: BIG BOY STATE 7 - Wellbore #1 - Wellbore #1	7,408.95	4,610.86	115.67	-13.76	0.894	SF = 1.20, CC, ES, SF
OFFSET: BIG BOY STATE 8 - Wellbore #1 - Wellbore #1						Out of range
OFFSET: CHALK BLUFF '36' STATE 1 - Wellbore #1 - V	9,515.85	4,511.82	446.04	273.20	2.581	CC, ES, SF
OFFSET: DOOLEY ABO STATE 2 - Wellbore #1 - Wellbore #1	6,890.15	4,640.94	540.62	412.36	4.215	CC
OFFSET: DOOLEY ABO STATE 2 - Wellbore #1 - Wellbore #1	6,900.00	4,640.47	540.71	412.31	4.211	ES, SF
OFFSET: DOOLEY-STATE #3 - Wellbore #1 - Wellbore #1						Out of range
OFFSET: EMPIRE ABO UNIT 417 - Wellbore #1 - Wellbore #1	5,840.13	4,720.81	120.46	4.42	1.038	SF = 1.20, CC, ES, SF
OFFSET: RAMAPO-STATE #5 - Wellbore #1 - Wellbore #1	5,673.70	4,721.66	689.46	569.13	5.730	CC, ES
OFFSET: RAMAPO-STATE #5 - Wellbore #1 - Wellbore #1	5,700.00	4,720.39	689.96	569.49	5.727	SF
OFFSET: STATE BE #1 - Wellbore #1 - Wellbore #1	211.57	210.45	114.85	111.62	35.512	CC
OFFSET: STATE BE #1 - Wellbore #1 - Wellbore #1	1,150.00	1,147.83	127.00	102.04	5.088	ES
OFFSET: STATE BE #1 - Wellbore #1 - Wellbore #1	1,500.00	1,497.48	136.82	102.46	3.982	SF
OFFSET: STATE CM 1 - Wellbore #1 - Wellbore #1	9,562.50	4,479.19	546.89	395.18	3.605	CC, ES
OFFSET: STATE CM 1 - Wellbore #1 - Wellbore #1	9,600.00	4,477.39	548.19	396.00	3.602	SF

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



Anticollision Report

Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 90H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Reference Site:	WAUKEE 36 STATE COM	MD Reference:	RKB = 20' @ 3686.00usft (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:	WBDS_SQL_3
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: WAUKEE 36 STATE COM - 10H - Wellbore #1 - Wellbore #1														Offset Site Error:	0.00 usft
Survey Program: 119-GYRO-NS, 1799-MWD+IFR1+SAG+FDIR														Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+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	88.778	1.60	75.00	75.08						
50.00	50.00	47.31	50.31	0.11	0.07	88.799	1.57	74.90	74.92	74.74	0.18	423.414			
100.00	100.00	97.64	100.64	0.29	0.14	88.867	1.47	74.59	74.60	74.17	0.43	173.452			
150.00	150.00	147.89	150.89	0.47	0.28	88.975	1.32	74.06	74.08	73.34	0.74	99.810			
200.00	200.00	198.09	201.08	0.65	0.45	89.082	1.18	73.39	73.41	72.31	1.10	66.892			
250.00	250.00	248.20	251.19	0.82	0.63	89.169	1.05	72.61	72.63	71.18	1.45	50.008			
300.00	300.00	298.28	301.25	1.00	0.81	89.214	0.98	71.76	71.78	69.97	1.81	39.719			
350.00	350.00	348.14	351.11	1.18	0.98	-14.623	0.56	70.93	70.52	68.36	2.16	32.684			
400.00	399.98	397.87	400.82	1.35	1.16	-14.013	-0.51	70.21	68.52	66.01	2.51	27.285			
450.00	449.93	447.35	450.26	1.53	1.34	-12.827	-2.41	69.76	65.96	63.09	2.87	22.980			
500.00	499.86	496.70	499.53	1.70	1.53	-10.867	-5.17	69.62	63.26	60.03	3.23	19.561			
550.00	549.78	545.90	548.60	1.88	1.73	-8.043	-8.71	69.93	61.16	57.55	3.61	16.964			
600.00	599.71	594.99	597.50	2.05	1.94	-4.407	-12.99	70.71	59.81	55.83	3.98	15.032			
645.09	644.73	639.18	641.47	2.21	2.13	-0.660	-17.31	71.88	59.40	55.09	4.32	13.764 CC			
650.00	649.63	643.99	646.25	2.23	2.15	-0.232	-17.81	72.03	59.41	55.06	4.35	13.651 ES			
700.00	699.56	693.34	695.27	2.40	2.37	4.284	-23.13	73.85	59.95	55.23	4.72	12.709			
750.00	749.48	742.96	744.55	2.58	2.59	8.817	-28.64	75.80	61.03	55.95	5.08	12.021			
800.00	799.40	792.79	794.02	2.76	2.80	13.275	-34.29	77.76	62.55	57.12	5.43	11.518			
850.00	849.33	842.72	843.59	2.94	3.01	17.652	-40.02	79.52	64.29	58.51	5.78	11.125			
900.00	899.25	892.37	892.87	3.12	3.22	21.899	-45.82	81.13	66.34	60.21	6.12	10.836			
950.00	949.18	941.90	942.01	3.30	3.42	25.979	-51.79	82.74	68.85	62.39	6.46	10.657			
1,000.00	999.10	991.39	991.10	3.48	3.63	29.804	-57.89	84.41	71.83	65.03	6.80	10.563			
1,050.00	1,049.03	1,040.87	1,040.16	3.65	3.83	33.274	-64.05	86.20	75.24	68.10	7.14	10.541			
1,100.00	1,098.95	1,090.36	1,089.21	3.83	4.04	36.505	-70.38	88.00	79.03	71.55	7.48	10.568			
1,150.00	1,148.88	1,139.80	1,138.18	4.01	4.24	39.615	-76.95	89.66	83.18	75.36	7.82	10.639			
1,200.00	1,198.80	1,189.45	1,187.35	4.19	4.44	42.532	-83.68	91.23	87.61	79.45	8.16	10.733			
1,250.00	1,248.73	1,239.09	1,236.51	4.37	4.64	45.194	-90.42	92.75	92.24	83.73	8.51	10.839			
1,300.00	1,298.65	1,288.75	1,285.68	4.55	4.84	47.642	-97.17	94.20	97.02	88.16	8.86	10.952			
1,350.00	1,348.58	1,338.37	1,334.82	4.73	5.04	49.907	-103.95	95.56	101.94	92.73	9.21	11.070			
1,400.00	1,398.50	1,387.87	1,383.83	4.91	5.23	52.064	-110.81	96.74	107.03	97.47	9.56	11.196			
1,450.00	1,448.43	1,437.42	1,432.88	5.09	5.43	54.143	-117.79	97.73	112.30	102.39	9.91	11.330			
1,500.00	1,498.35	1,487.15	1,482.10	5.27	5.62	56.087	-124.80	98.62	117.66	107.39	10.27	11.460			
1,550.00	1,548.27	1,536.85	1,531.30	5.45	5.82	57.888	-131.76	99.42	123.08	112.45	10.62	11.585			
1,600.00	1,598.20	1,586.48	1,580.44	5.63	6.01	59.591	-138.71	100.10	128.57	117.59	10.98	11.709			
1,650.00	1,648.12	1,636.13	1,629.60	5.81	6.20	61.210	-145.67	100.64	134.14	122.81	11.34	11.831			
1,700.00	1,698.05	1,685.83	1,678.81	5.99	6.39	62.730	-152.60	101.11	139.77	128.07	11.70	11.949			
1,750.00	1,747.97	1,735.37	1,727.86	6.17	6.57	64.150	-159.50	101.51	145.45	133.39	12.06	12.065			
1,800.00	1,797.90	1,784.79	1,776.80	6.35	6.76	65.466	-166.41	101.89	151.24	138.83	12.41	12.184			
1,850.00	1,847.82	1,834.76	1,826.28	6.53	6.88	66.710	-173.38	102.25	157.09	144.37	12.71	12.358			
1,900.00	1,897.75	1,884.97	1,876.02	6.71	6.96	67.906	-180.21	102.48	162.81	149.82	12.99	12.537			
1,950.00	1,947.67	1,933.45	1,924.04	6.89	6.99	68.940	-186.81	102.83	168.62	155.43	13.19	12.788			
2,000.00	1,997.60	1,981.55	1,971.64	7.07	7.00	69.714	-193.69	103.77	174.88	161.51	13.37	13.082			
2,050.00	2,047.52	2,029.73	2,019.26	7.25	7.01	70.256	-200.92	105.32	181.58	168.02	13.55	13.397			
2,100.00	2,097.45	2,078.35	2,067.24	7.43	7.04	70.614	-208.44	107.39	188.57	174.82	13.75	13.713			
2,150.00	2,147.37	2,126.92	2,115.13	7.61	7.06	70.811	-216.14	109.93	195.81	181.86	13.95	14.037			
2,200.00	2,197.30	2,175.43	2,162.90	7.79	7.09	70.864	-224.01	112.94	203.28	189.13	14.15	14.370			
2,250.00	2,247.22	2,223.94	2,210.60	7.97	7.13	70.740	-232.04	116.60	210.97	196.61	14.36	14.696			
2,300.00	2,297.14	2,272.35	2,258.12	8.15	7.17	70.420	-240.19	121.03	218.87	204.31	14.56	15.029			
2,350.00	2,347.07	2,322.36	2,307.11	8.33	7.21	69.932	-248.66	126.32	226.93	212.14	14.79	15.345			
2,400.00	2,396.99	2,374.57	2,358.36	8.51	7.27	69.453	-257.01	131.81	234.52	219.48	15.04	15.597			
2,450.00	2,446.92	2,426.97	2,409.91	8.69	7.33	69.031	-264.78	137.14	241.52	226.24	15.28	15.803			
2,500.00	2,496.84	2,477.32	2,459.50	8.87	7.39	68.677	-271.88	142.10	248.14	232.62	15.53	15.981			

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



Anticollision Report

Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 90H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Reference Site:	WAUKEE 36 STATE COM	MD Reference:	RKB = 20' @ 3686.00usft (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:	WBDS_SQL_3
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: WAUKEE 36 STATE COM - 10H - Wellbore #1 - Wellbore #1													Offset Site Error:
Survey Program: 119-GYRO-NS, 1799-MWD+IFR1+SAG+FDIR													Offset Well Error:
Reference	Offset	Semi Major Axis		Rule Assigned:		Distance		Minimum		Separation		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)		
2,550.00	2,546.77	2,527.75	2,509.22	9.05	7.45	68.370	-278.84	146.92	254.61	238.84	15.77	16.143	
2,600.00	2,596.69	2,577.81	2,558.60	9.24	7.52	68.103	-285.61	151.59	260.92	244.91	16.02	16.289	
2,650.00	2,646.62	2,628.01	2,608.13	9.42	7.59	67.850	-292.34	156.25	267.20	250.93	16.27	16.422	
2,700.00	2,696.54	2,679.78	2,659.29	9.60	7.67	67.730	-299.10	160.42	273.20	256.66	16.54	16.521	
2,750.00	2,746.47	2,734.21	2,713.24	9.78	7.76	67.964	-305.76	163.00	278.57	261.75	16.82	16.562	
2,800.00	2,796.39	2,786.07	2,764.75	9.96	7.84	68.643	-311.75	163.12	283.31	266.22	17.09	16.575	
2,850.00	2,846.32	2,839.26	2,817.55	10.14	7.93	69.785	-317.71	160.83	287.68	270.31	17.37	16.560	
2,900.00	2,896.24	2,893.94	2,871.72	10.32	8.02	71.427	-323.21	155.85	291.41	273.75	17.66	16.502	
2,950.00	2,946.17	2,947.16	2,924.23	10.50	8.11	73.455	-327.70	148.50	294.44	276.50	17.94	16.411	
3,000.00	2,996.09	2,996.04	2,972.16	10.68	8.20	75.658	-331.57	139.75	297.56	279.35	18.21	16.336	
3,050.00	3,046.01	3,041.21	3,016.08	10.86	8.28	77.984	-335.32	129.91	301.42	282.94	18.48	16.314	
3,100.00	3,095.94	3,084.84	3,058.05	11.04	8.36	80.493	-339.29	118.67	306.46	287.74	18.73	16.366	
3,150.00	3,145.86	3,127.33	3,098.39	11.22	8.44	83.165	-343.53	106.02	312.97	294.01	18.96	16.508	
3,200.00	3,195.79	3,169.29	3,137.56	11.40	8.52	86.037	-347.88	91.65	321.03	301.85	19.18	16.741	
3,250.00	3,245.71	3,212.32	3,177.13	11.58	8.60	89.123	-352.40	75.33	330.70	311.30	19.39	17.052	
3,300.00	3,295.64	3,255.69	3,216.76	11.76	8.68	92.172	-356.93	58.32	341.70	322.09	19.61	17.429	
3,350.00	3,345.56	3,297.75	3,254.68	11.94	8.76	95.181	-361.01	40.59	354.06	334.27	19.79	17.887	
3,400.00	3,395.49	3,337.10	3,289.48	12.12	8.83	98.076	-364.45	22.58	367.98	348.04	19.94	18.455	
3,450.00	3,445.41	3,369.00	3,317.11	12.30	8.89	100.484	-366.94	6.82	383.74	363.77	19.96	19.222	
3,500.00	3,495.34	3,407.62	3,349.74	12.48	8.96	103.442	-369.69	-13.65	401.41	381.34	20.07	20.004	
3,550.00	3,545.26	3,439.43	3,375.89	12.66	9.02	105.888	-371.79	-31.63	421.20	401.15	20.05	21.004	
3,600.00	3,595.19	3,469.61	3,400.08	12.84	9.08	108.194	-373.67	-49.57	443.03	423.02	20.00	22.148	
3,650.00	3,645.11	3,495.00	3,419.96	13.02	9.13	110.111	-375.16	-65.31	466.82	446.95	19.87	23.499	
3,700.00	3,695.04	3,527.05	3,444.52	13.20	9.18	112.444	-377.03	-85.81	492.36	472.52	19.84	24.816	
3,750.00	3,745.01	3,558.00	3,467.79	13.38	9.24	59.274	-378.93	-106.13	518.98	499.17	19.80	26.207	
3,800.00	3,794.99	3,580.84	3,484.54	13.55	9.28	-53.117	-380.27	-121.59	545.98	526.36	19.61	27.835	
3,850.00	3,844.84	3,605.52	3,502.06	13.71	9.32	-52.288	-381.52	-138.92	573.29	553.86	19.44	29.497	
3,900.00	3,894.42	3,632.05	3,520.20	13.87	9.37	-50.187	-382.62	-158.24	600.73	581.43	19.29	31.136	
3,950.00	3,943.59	3,662.22	3,540.14	14.02	9.42	-47.813	-383.30	-180.88	627.84	608.63	19.21	32.676	
4,000.00	3,992.23	3,683.00	3,553.45	14.18	9.47	-45.846	-383.39	-196.84	654.53	635.55	18.98	34.492	
4,050.00	4,040.19	3,715.13	3,573.19	14.33	9.55	-43.609	-383.06	-222.18	680.71	661.78	18.93	35.964	

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



Anticollision Report

Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 90H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Reference Site:	WAUKEE 36 STATE COM	MD Reference:	RKB = 20' @ 3686.00usft (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:	WBDS_SQL_3
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: WAUKEE 36 STATE COM - OFFSET: EDDY-STATE NCT-I 1 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft	
Survey Program: 140-INC-ONLY				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)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
6,700.00	4,681.44	4,658.71	4,681.44	30.10	88.41	-92.980	-95.59	-2,680.63	674.36	560.48	113.87	5.922			
6,750.00	4,679.03	4,656.29	4,679.03	30.56	88.36	-92.773	-95.59	-2,680.63	638.33	523.56	114.77	5.562			
6,800.00	4,676.62	4,653.88	4,676.62	31.02	88.31	-92.488	-95.59	-2,680.63	603.82	488.09	115.72	5.218			
6,850.00	4,674.21	4,651.48	4,674.21	31.49	88.26	-92.182	-95.59	-2,680.63	571.57	454.82	116.75	4.896			
6,900.00	4,671.80	4,649.07	4,671.80	31.95	88.21	-91.874	-95.59	-2,680.63	542.01	424.19	117.82	4.600			
6,950.00	4,669.39	4,646.66	4,669.39	32.42	88.16	-91.567	-95.59	-2,680.63	515.61	396.69	118.92	4.336			
7,000.00	4,666.98	4,644.25	4,666.98	32.90	88.11	-91.260	-95.59	-2,680.63	492.86	372.89	119.98	4.108			
7,050.00	4,664.57	4,641.84	4,664.57	33.37	88.05	-90.953	-95.59	-2,680.63	474.30	353.36	120.94	3.922			
7,100.00	4,662.16	4,639.43	4,662.16	33.85	88.00	-90.645	-95.59	-2,680.63	460.44	338.70	121.73	3.782			
7,150.00	4,659.75	4,637.02	4,659.75	34.34	87.95	-90.338	-95.59	-2,680.63	451.70	329.41	122.29	3.694			
7,200.00	4,657.34	4,634.61	4,657.34	34.82	87.90	-90.030	-95.59	-2,680.63	448.38	325.85	122.53	3.659			
7,204.90	4,657.11	4,634.38	4,657.11	34.87	87.89	-90.000	-95.59	-2,680.63	448.36	325.81	122.54	3.659	CC, ES, SF		
7,250.00	4,654.94	4,632.20	4,654.94	35.31	87.85	-89.723	-95.59	-2,680.63	450.61	328.15	122.46	3.680			
7,300.00	4,652.53	4,629.80	4,652.53	35.79	87.80	-89.415	-95.59	-2,680.63	458.31	336.24	122.06	3.755			
7,350.00	4,650.12	4,627.39	4,650.12	36.28	87.75	-89.108	-95.59	-2,680.63	471.20	349.80	121.40	3.881			
7,400.00	4,647.71	4,624.98	4,647.71	36.78	87.69	-88.800	-95.59	-2,680.63	488.87	368.34	120.53	4.056			
7,450.00	4,645.30	4,622.57	4,645.30	37.27	87.64	-88.493	-95.59	-2,680.63	510.84	391.31	119.53	4.274			
7,500.00	4,642.89	4,620.16	4,642.89	37.77	87.59	-88.186	-95.59	-2,680.63	536.56	418.10	118.46	4.529			
7,550.00	4,640.48	4,617.75	4,640.48	38.27	87.54	-87.879	-95.59	-2,680.63	565.54	448.16	117.38	4.818			
7,600.00	4,638.07	4,615.34	4,638.07	38.77	87.49	-87.572	-95.59	-2,680.63	597.29	480.97	116.33	5.135			
7,650.00	4,635.66	4,612.93	4,635.66	39.27	87.44	-87.265	-95.59	-2,680.63	631.40	516.08	115.32	5.475			
7,700.00	4,633.26	4,610.52	4,633.26	39.77	87.39	-86.958	-95.59	-2,680.63	667.51	553.13	114.38	5.836			

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



Anticollision Report

Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 90H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Reference Site:	WAUKEE 36 STATE COM	MD Reference:	RKB = 20' @ 3686.00usft (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:	WBDS_SQL_3
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: WAUKEE 36 STATE COM_ - 2H - Wellbore #1 - Wellbore #1													Offset Site Error:
Survey Program: 113-GYRO-NS, 1800-MWD+HFR1+SAG+FDIR													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)	Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned: Distance Between Centres (usft)		Minimum Separation (usft)	Separation Factor	Warning
							+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.00	0.00	0.00	2.00	0.00	0.00	73.984	21.50	74.90	77.95				
50.00	50.00	47.82	49.82	0.11	0.07	73.986	21.51	74.95	77.98	77.80	0.18	441.482	
100.00	100.00	97.64	99.64	0.29	0.14	73.992	21.55	75.12	78.15	77.73	0.43	182.658	
150.00	150.00	147.48	149.48	0.47	0.28	73.914	21.73	75.37	78.44	77.69	0.75	104.420	ES
200.00	200.00	197.34	199.34	0.65	0.46	73.490	22.40	75.56	78.81	77.71	1.11	71.243	
250.00	250.00	246.80	248.78	0.82	0.65	72.669	23.65	75.79	79.40	77.93	1.47	54.081	
300.00	300.00	296.24	298.18	1.00	0.83	71.412	25.61	76.15	80.36	78.53	1.83	43.864	
350.00	350.00	345.86	347.72	1.18	1.03	-34.514	28.28	76.53	81.26	79.06	2.20	36.917	
400.00	399.98	395.44	397.18	1.35	1.24	-37.141	31.63	76.86	81.76	79.20	2.57	31.832	
450.00	449.93	445.11	446.71	1.53	1.44	-40.438	35.44	77.11	81.90	78.96	2.94	27.887	
454.25	454.18	449.33	450.92	1.54	1.46	-40.746	35.78	77.12	81.90	78.93	2.97	27.594	
500.00	499.86	494.45	495.88	1.70	1.65	-44.209	39.59	77.27	82.02	78.72	3.30	24.849	
550.00	549.78	543.31	544.52	1.88	1.86	-48.142	44.20	77.59	82.92	79.26	3.66	22.646	
600.00	599.71	591.98	592.91	2.05	2.07	-52.160	49.33	78.12	84.74	80.72	4.02	21.090	
650.00	649.63	640.35	640.93	2.23	2.29	-56.233	55.15	78.85	87.63	83.26	4.37	20.049	
700.00	699.56	688.81	688.93	2.40	2.52	-60.281	61.71	79.76	91.62	86.90	4.72	19.414	
750.00	749.48	737.41	737.00	2.58	2.75	-64.209	68.84	80.66	96.49	91.42	5.07	19.049	
800.00	799.40	786.02	785.00	2.76	2.99	-67.956	76.49	81.50	102.17	96.76	5.41	18.890	
850.00	849.33	834.62	832.90	2.94	3.23	-71.530	84.59	82.13	108.55	102.80	5.75	18.874	
900.00	899.25	882.51	880.04	3.12	3.47	-74.835	93.04	82.61	115.67	109.58	6.09	19.006	
950.00	949.18	929.82	926.51	3.30	3.70	-77.729	101.94	83.35	123.77	117.36	6.42	19.293	
1,000.00	999.10	977.53	973.24	3.48	3.95	-80.298	111.43	84.32	132.77	126.02	6.75	19.666	
1,050.00	1,049.03	1,025.44	1,020.11	3.65	4.20	-82.678	121.36	85.13	142.34	135.25	7.08	20.092	
1,100.00	1,098.95	1,072.80	1,066.35	3.83	4.45	-84.832	131.56	85.81	152.46	145.05	7.42	20.556	
1,150.00	1,148.88	1,119.73	1,112.08	4.01	4.70	-86.681	142.09	86.68	163.26	155.52	7.75	21.073	
1,200.00	1,198.80	1,166.80	1,157.84	4.19	4.95	-88.264	153.02	87.82	174.68	166.60	8.08	21.617	
1,250.00	1,248.73	1,213.94	1,203.61	4.37	5.21	-89.573	164.23	89.30	186.56	178.14	8.42	22.165	
1,300.00	1,298.65	1,260.68	1,248.91	4.55	5.53	-90.647	175.61	91.08	198.87	190.12	8.75	22.720	
1,350.00	1,348.58	1,307.03	1,293.73	4.73	5.89	-91.567	187.26	93.02	211.67	202.58	9.09	23.293	
1,400.00	1,398.50	1,353.17	1,338.24	4.91	6.25	-92.361	199.24	95.10	224.96	215.54	9.42	23.881	
1,450.00	1,448.43	1,399.08	1,382.41	5.09	6.62	-93.047	211.54	97.32	238.71	228.96	9.75	24.481	
1,500.00	1,498.35	1,445.30	1,426.78	5.27	6.93	-93.636	224.27	99.74	252.90	242.82	10.09	25.069	
1,550.00	1,548.27	1,491.94	1,471.48	5.45	7.18	-94.100	237.29	102.52	267.36	256.93	10.43	25.626	
1,600.00	1,598.20	1,537.72	1,515.28	5.63	7.44	-94.446	250.24	105.58	282.07	271.30	10.77	26.188	
1,650.00	1,648.12	1,582.37	1,557.88	5.81	7.69	-94.743	263.27	108.67	297.24	286.14	11.10	26.781	
1,700.00	1,698.05	1,626.18	1,599.53	5.99	7.95	-95.007	276.48	111.76	312.92	301.50	11.42	27.402	
1,750.00	1,747.97	1,668.58	1,639.66	6.17	8.21	-95.249	289.83	114.78	329.27	317.55	11.73	28.079	
1,800.00	1,797.90	1,705.00	1,673.97	6.35	8.44	-95.448	301.78	117.40	346.39	334.42	11.97	28.949	
1,850.00	1,847.82	1,751.44	1,717.46	6.53	8.75	-95.698	317.72	120.72	364.14	351.82	12.32	29.550	
1,900.00	1,897.75	1,791.89	1,755.10	6.71	9.03	-95.918	332.25	123.56	382.69	370.08	12.61	30.346	
1,950.00	1,947.67	1,841.88	1,801.51	6.89	9.20	-96.177	350.49	127.03	401.53	388.60	12.93	31.060	
2,000.00	1,997.60	1,894.95	1,851.08	7.07	9.35	-96.412	369.11	130.72	419.66	406.41	13.26	31.659	
2,050.00	2,047.52	1,955.65	1,908.24	7.25	9.37	-96.602	389.01	135.16	436.70	423.17	13.54	32.263	
2,100.00	2,097.45	2,018.03	1,967.62	7.43	9.39	-96.686	407.44	140.20	452.18	438.38	13.81	32.751	
2,150.00	2,147.37	2,081.05	2,028.17	7.61	9.41	-96.663	423.99	145.86	466.08	452.00	14.08	33.098	
2,200.00	2,197.30	2,145.14	2,090.22	7.79	9.44	-96.526	438.66	152.31	478.40	464.05	14.35	33.341	
2,250.00	2,247.22	2,213.82	2,157.23	7.97	9.48	-96.332	451.87	159.38	488.93	474.29	14.63	33.411	
2,300.00	2,297.14	2,283.85	2,226.12	8.15	9.52	-96.170	462.53	166.03	497.41	482.51	14.90	33.376	
2,350.00	2,347.07	2,353.87	2,295.40	8.33	9.57	-95.986	470.31	172.56	503.85	488.68	15.17	33.212	
2,400.00	2,396.99	2,424.60	2,365.63	8.51	9.62	-95.745	475.21	179.29	508.24	492.83	15.42	32.968	
2,450.00	2,446.92	2,486.59	2,427.32	8.69	9.67	-95.545	477.67	184.86	511.17	495.51	15.66	32.638	
2,500.00	2,496.84	2,545.00	2,485.52	8.87	9.72	-95.385	478.55	189.66	512.76	496.86	15.90	32.251	

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



Anticollision Report

Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 90H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Reference Site:	WAUKEE 36 STATE COM	MD Reference:	RKB = 20' @ 3686.00usft (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:	WBDS_SQL_3
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: WAUKEE 36 STATE COM_ - 2H - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program:	113-GYRO-NS, 1800-MWD+HFR1+SAG+FDIR							Rule Assigned:				Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Minimum		Separation		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
2,550.00	2,546.77	2,593.11	2,533.58	9.05	9.76	-95.471	479.40	191.67	514.20	498.06	16.14	31.856	
2,600.00	2,596.69	2,638.28	2,578.72	9.24	9.81	-95.793	480.81	191.45	515.98	499.60	16.39	31.487	
2,650.00	2,646.62	2,683.46	2,623.78	9.42	9.85	-96.355	482.93	189.11	518.25	501.62	16.63	31.156	
2,700.00	2,696.54	2,730.55	2,670.54	9.60	9.90	-97.201	485.82	184.31	521.00	504.11	16.88	30.856	
2,750.00	2,746.47	2,782.97	2,722.25	9.78	9.96	-98.408	489.15	176.44	523.77	506.62	17.15	30.546	
2,800.00	2,796.39	2,833.98	2,772.09	9.96	10.03	-99.860	492.31	166.07	526.50	509.08	17.42	30.230	
2,850.00	2,846.32	2,883.60	2,819.86	10.14	10.09	-101.570	495.32	153.06	529.39	511.70	17.69	29.919	
2,900.00	2,896.24	2,936.17	2,869.48	10.32	10.16	-103.707	498.26	135.98	532.58	514.59	17.99	29.602	
2,950.00	2,946.17	2,992.55	2,921.68	10.50	10.23	-106.276	500.38	114.78	535.71	517.40	18.31	29.252	
3,000.00	2,996.09	3,048.36	2,972.10	10.68	10.30	-109.100	501.05	90.87	538.77	520.11	18.66	28.878	
3,050.00	3,046.01	3,099.52	3,017.21	10.86	10.37	-111.896	500.41	66.77	542.09	523.09	19.01	28.522	
3,100.00	3,095.94	3,140.22	3,052.29	11.04	10.42	-114.248	499.41	46.17	546.48	527.15	19.33	28.268	
3,150.00	3,145.86	3,178.96	3,084.95	11.22	10.47	-116.580	498.29	25.37	552.40	532.76	19.64	28.129	
3,200.00	3,195.79	3,214.33	3,114.11	11.40	10.51	-118.779	497.16	5.37	560.05	540.14	19.92	28.120	
3,250.00	3,245.71	3,248.00	3,141.22	11.58	10.56	-120.924	496.06	-14.55	569.64	549.48	20.16	28.255	
3,300.00	3,295.64	3,278.95	3,165.63	11.76	10.60	-122.922	495.08	-33.57	581.26	560.90	20.36	28.543	
3,350.00	3,345.56	3,311.00	3,190.41	11.94	10.64	-124.999	494.13	-53.87	594.94	574.39	20.55	28.955	
3,400.00	3,395.49	3,333.41	3,207.37	12.12	10.67	-126.456	493.58	-68.50	610.75	590.14	20.61	29.633	
3,450.00	3,445.41	3,356.30	3,224.30	12.30	10.70	-127.948	493.19	-83.90	628.83	608.18	20.64	30.462	
3,500.00	3,495.34	3,374.00	3,237.11	12.48	10.72	-129.100	493.00	-96.11	649.08	628.50	20.58	31.536	
3,550.00	3,545.26	3,397.54	3,253.72	12.66	10.75	-130.629	492.90	-112.79	671.38	650.80	20.58	32.631	
3,600.00	3,595.19	3,416.09	3,266.43	12.84	10.78	-131.829	492.94	-126.30	695.67	675.19	20.48	33.963	

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

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Page 7

COMPASS 5000.17 Build



Anticollision Report

Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 90H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Reference Site:	WAUKEE 36 STATE COM	MD Reference:	RKB = 20' @ 3686.00usft (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:	WBDS_SQL_3
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: WAUKEE 36 STATE COM_ - OFFSET: BIG BOY STATE 1 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft	
Survey Program:		115-INC-ONLY		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)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
9,000.00	4,570.62	4,522.45	4,568.61	53.29	95.47	-104.622	265.26	-5,121.39	660.99	544.40	116.59	5.669			
9,050.00	4,568.21	4,520.13	4,566.30	53.82	95.40	-103.521	265.31	-5,121.39	611.83	494.84	117.00	5.229			
9,100.00	4,565.80	4,517.82	4,563.99	54.36	95.32	-102.409	265.35	-5,121.39	562.81	445.31	117.50	4.790			
9,150.00	4,563.40	4,515.51	4,561.68	54.89	95.25	-101.287	265.39	-5,121.39	513.97	395.82	118.14	4.350			
9,200.00	4,560.99	4,513.20	4,559.37	55.42	95.17	-100.155	265.42	-5,121.39	465.36	346.40	118.96	3.912			
9,250.00	4,558.58	4,510.89	4,557.06	55.96	95.10	-99.015	265.46	-5,121.39	417.06	297.04	120.02	3.475			
9,300.00	4,556.17	4,508.58	4,554.75	56.49	95.02	-97.868	265.49	-5,121.39	369.20	247.78	121.42	3.041			
9,350.00	4,553.76	4,506.27	4,552.45	57.03	94.95	-96.714	265.52	-5,121.39	321.98	198.66	123.32	2.611			
9,400.00	4,551.35	4,503.96	4,550.14	57.56	94.87	-95.554	265.54	-5,121.39	275.71	149.78	125.94	2.189			
9,450.00	4,548.94	4,501.66	4,547.84	58.10	94.80	-94.390	265.57	-5,121.39	230.99	101.35	129.64	1.782			
9,500.00	4,546.53	4,499.35	4,545.53	58.64	94.72	-93.222	265.59	-5,121.39	188.90	53.97	134.93	1.400 SF = 1.50			
9,550.00	4,544.12	4,497.05	4,543.23	59.17	94.65	-92.051	265.61	-5,121.39	151.65	9.39	142.26	1.066 SF = 1.20			
9,600.00	4,541.72	4,494.75	4,540.93	59.71	94.57	-90.879	265.63	-5,121.39	123.71	-26.93	150.64	0.821 SF = 1.20			
9,650.00	4,539.31	4,492.45	4,538.63	60.25	94.50	-89.706	265.64	-5,121.39	112.24	-42.44	154.68	0.726 SF = 1.20, ES, SF			
9,652.25	4,539.20	4,492.34	4,538.53	60.27	94.49	-89.653	265.64	-5,121.39	112.22	-42.42	154.64	0.726 SF = 1.20, CC			
9,700.00	4,536.90	4,490.15	4,536.33	60.79	94.42	-88.533	265.66	-5,121.39	121.98	-27.25	149.23	0.817 SF = 1.20			
9,750.00	4,534.49	4,487.85	4,534.03	61.33	94.35	-87.363	265.67	-5,121.39	148.83	9.24	139.59	1.066 SF = 1.20			
9,800.00	4,532.08	4,485.55	4,531.74	61.87	94.27	-86.195	265.67	-5,121.39	185.50	54.05	131.45	1.411 SF = 1.50			
9,850.00	4,529.67	4,483.26	4,529.44	62.41	94.20	-85.030	265.68	-5,121.39	227.29	101.56	125.73	1.808			
9,900.00	4,527.26	4,480.96	4,527.15	62.95	94.13	-83.871	265.68	-5,121.39	271.84	150.00	121.85	2.231			
9,950.00	4,524.85	4,478.65	4,524.85	63.49	94.05	-82.757	265.06	-5,121.39	318.23	198.98	119.25	2.669			
10,000.00	4,522.44	4,476.24	4,522.44	64.03	93.97	-81.557	265.06	-5,121.39	365.36	248.00	117.35	3.113			
10,050.00	4,520.03	4,473.84	4,520.03	64.57	93.89	-80.365	265.06	-5,121.39	413.15	297.16	115.99	3.562			
10,100.00	4,517.63	4,471.43	4,517.63	65.11	93.82	-79.181	265.06	-5,121.39	461.39	346.42	114.97	4.013			
10,150.00	4,515.22	4,469.02	4,515.22	65.65	93.74	-78.007	265.06	-5,121.39	509.97	395.76	114.20	4.465			
10,200.00	4,512.81	4,466.61	4,512.81	66.20	93.66	-76.843	265.06	-5,121.39	558.78	445.17	113.61	4.918			
10,250.00	4,510.40	4,464.20	4,510.40	66.74	93.58	-75.690	265.06	-5,121.39	607.78	494.63	113.14	5.372			
10,300.00	4,507.99	4,461.79	4,507.99	67.28	93.50	-74.548	265.06	-5,121.39	656.92	544.15	112.77	5.825			

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



Anticollision Report

Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 90H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Reference Site:	WAUKEE 36 STATE COM	MD Reference:	RKB = 20' @ 3686.00usft (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:	WBDS_SQL_3
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: WAUKEE 36 STATE COM_ - OFFSET: BIG BOY STATE 3 - Wellbore #1 - Wellbore #1													Offset Site Error: 0.00 usft
Survey Program: 138-INC-ONLY													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre		Rule Assigned:		Distance		Minimum	Separation	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)		
9,450.00	4,548.94	4,516.38	4,547.63	58.10	95.54	-96.290	117.36	-5,554.30	686.41	560.56	125.85	5.454	
9,500.00	4,546.53	4,514.05	4,545.31	58.64	95.47	-95.794	117.37	-5,554.30	640.63	513.41	127.21	5.036	
9,550.00	4,544.12	4,511.73	4,542.99	59.17	95.40	-95.298	117.38	-5,554.30	595.51	466.71	128.80	4.624	
9,600.00	4,541.72	4,509.41	4,540.67	59.71	95.33	-94.800	117.39	-5,554.30	551.22	420.58	130.65	4.219	
9,650.00	4,539.31	4,507.09	4,538.35	60.25	95.26	-94.302	117.40	-5,554.30	507.99	375.18	132.81	3.825	
9,700.00	4,536.90	4,504.77	4,536.03	60.79	95.19	-93.804	117.41	-5,554.30	466.10	330.76	135.34	3.444	
9,750.00	4,534.49	4,502.45	4,533.71	61.33	95.13	-93.305	117.42	-5,554.30	425.95	287.67	138.28	3.080	
9,800.00	4,532.08	4,500.13	4,531.39	61.87	95.06	-92.805	117.42	-5,554.30	388.08	246.41	141.67	2.739	
9,850.00	4,529.67	4,497.81	4,529.08	62.41	94.99	-92.306	117.43	-5,554.30	353.22	207.75	145.47	2.428	
9,900.00	4,527.26	4,495.50	4,526.76	62.95	94.92	-91.805	117.43	-5,554.30	322.36	172.81	149.55	2.155	
9,950.00	4,524.85	4,493.18	4,524.44	63.49	94.85	-91.305	117.44	-5,554.30	296.74	143.14	153.60	1.932	
10,000.00	4,522.44	4,490.86	4,522.12	64.03	94.78	-90.805	117.44	-5,554.30	277.82	120.77	157.05	1.769	
10,050.00	4,520.03	4,488.54	4,519.81	64.57	94.72	-90.304	117.44	-5,554.30	267.02	107.86	159.15	1.678	
10,083.97	4,518.40	4,486.97	4,518.23	64.94	94.67	-89.964	117.44	-5,554.30	264.85	105.36	159.50	1.661	CC, ES, SF
10,100.00	4,517.63	4,486.23	4,517.49	65.11	94.65	-89.804	117.44	-5,554.30	265.34	106.02	159.32	1.665	
10,150.00	4,515.22	4,483.91	4,515.17	65.65	94.58	-89.303	117.44	-5,554.30	272.94	115.50	157.45	1.734	
10,200.00	4,512.81	4,481.52	4,512.81	66.20	94.51	-88.797	116.24	-5,554.30	290.21	136.15	154.06	1.884	
10,250.00	4,510.40	4,479.11	4,510.40	66.74	94.44	-88.280	116.24	-5,554.30	313.52	163.66	149.86	2.092	
10,300.00	4,507.99	4,476.70	4,507.99	67.28	94.37	-87.762	116.24	-5,554.30	342.57	197.09	145.49	2.355	
10,350.00	4,505.58	4,474.29	4,505.58	67.83	94.30	-87.245	116.24	-5,554.30	376.04	234.69	141.35	2.660	
10,400.00	4,503.17	4,471.88	4,503.17	68.37	94.23	-86.728	116.24	-5,554.30	412.85	275.22	137.63	3.000	
10,450.00	4,500.76	4,469.48	4,500.76	68.91	94.15	-86.212	116.24	-5,554.30	452.18	317.80	134.38	3.365	
10,466.49	4,499.97	4,468.68	4,499.97	69.10	94.13	-86.042	116.24	-5,554.30	465.60	331.24	134.36	3.465	

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



Anticollision Report

Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 90H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Reference Site:	WAUKEE 36 STATE COM	MD Reference:	RKB = 20' @ 3686.00usft (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:	WBDS_SQL_3
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: WAUKEE 36 STATE COM_ - OFFSET: BIG BOY STATE 5 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program:	140-INC-ONLY											Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre	Rule Assigned:								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,100.00	4,710.42	4,685.41	4,709.74	24.83	97.87	-96.076	112.70	-2,230.11	671.00	555.17	115.83	5.793	
6,150.00	4,708.01	4,682.97	4,707.30	25.24	97.81	-95.567	112.71	-2,230.11	625.65	509.54	116.12	5.388	
6,200.00	4,705.60	4,680.53	4,704.85	25.66	97.75	-95.057	112.72	-2,230.11	581.07	464.58	116.49	4.988	
6,250.00	4,703.19	4,678.09	4,702.41	26.09	97.69	-94.547	112.73	-2,230.11	537.42	420.46	116.96	4.595	
6,300.00	4,700.77	4,675.65	4,699.98	26.52	97.63	-94.104	112.74	-2,230.11	494.93	377.37	117.56	4.210	
6,350.00	4,698.36	4,673.21	4,697.54	26.96	97.57	-93.734	112.75	-2,230.11	453.53	335.23	118.30	3.834	
6,400.00	4,695.94	4,670.78	4,695.10	27.39	97.50	-93.331	112.76	-2,230.11	413.46	294.26	119.20	3.469	
6,450.00	4,693.52	4,668.35	4,692.67	27.84	97.44	-92.897	112.77	-2,230.11	375.18	254.89	120.29	3.119	
6,500.00	4,691.11	4,665.92	4,690.24	28.28	97.38	-92.435	112.78	-2,230.11	339.29	217.71	121.58	2.791	
6,550.00	4,688.69	4,663.49	4,687.82	28.74	97.32	-91.948	112.79	-2,230.11	306.65	183.60	123.05	2.492	
6,600.00	4,686.27	4,661.07	4,685.40	29.19	97.26	-91.441	112.80	-2,230.11	278.42	153.79	124.63	2.234	
6,650.00	4,683.85	4,658.66	4,682.98	29.65	97.20	-90.918	112.81	-2,230.11	256.07	129.96	126.11	2.030	
6,700.00	4,681.44	4,656.25	4,680.57	30.10	97.14	-90.386	112.82	-2,230.11	241.24	114.07	127.17	1.897	
6,750.00	4,679.03	4,653.84	4,678.17	30.56	97.07	-89.850	112.83	-2,230.11	235.38	107.92	127.46	1.847	
6,755.20	4,678.77	4,653.59	4,677.92	30.61	97.07	-89.791	112.83	-2,230.11	235.32	107.89	127.43	1.847	CC, ES, SF
6,800.00	4,676.62	4,651.44	4,675.77	31.02	97.01	-89.279	112.84	-2,230.11	239.38	112.57	126.81	1.888	
6,850.00	4,674.21	4,649.05	4,673.37	31.49	96.95	-88.696	112.84	-2,230.11	253.33	127.94	125.40	2.020	
6,900.00	4,671.80	4,646.65	4,670.97	31.95	96.89	-88.113	112.85	-2,230.11	275.76	152.13	123.63	2.231	
6,950.00	4,669.39	4,644.25	4,668.57	32.42	96.83	-87.530	112.86	-2,230.11	304.79	182.94	121.85	2.501	
7,000.00	4,666.98	4,641.85	4,666.18	32.90	96.77	-86.948	112.87	-2,230.11	338.73	218.47	120.27	2.817	
7,050.00	4,664.57	4,639.45	4,663.78	33.37	96.71	-86.367	112.88	-2,230.11	376.26	257.32	118.93	3.164	
7,100.00	4,662.16	4,637.06	4,661.38	33.85	96.65	-85.786	112.89	-2,230.11	416.40	298.56	117.84	3.534	
7,150.00	4,659.75	4,634.66	4,658.98	34.34	96.59	-85.206	112.89	-2,230.11	458.47	341.51	116.96	3.920	
7,200.00	4,657.34	4,632.26	4,656.59	34.82	96.53	-84.628	112.90	-2,230.11	501.99	385.74	116.25	4.318	
7,250.00	4,654.94	4,629.86	4,654.19	35.31	96.47	-84.050	112.91	-2,230.11	546.60	430.93	115.67	4.726	
7,300.00	4,652.53	4,627.47	4,651.79	35.79	96.41	-83.473	112.92	-2,230.11	592.07	476.88	115.20	5.140	
7,350.00	4,650.12	4,625.07	4,649.39	36.28	96.35	-82.898	112.92	-2,230.11	638.21	523.40	114.80	5.559	
7,400.00	4,647.71	4,622.67	4,647.00	36.78	96.28	-82.324	112.93	-2,230.11	684.88	570.40	114.48	5.983	

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



Anticollision Report

Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 90H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Reference Site:	WAUKEE 36 STATE COM	MD Reference:	RKB = 20' @ 3686.00usft (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:	WBDS_SQL_3
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: WAUKEE 36 STATE COM_ - OFFSET: BIG BOY STATE 7 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft	
Survey Program:		102-INC-ONLY		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)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
6,750.00	4,679.03	4,642.60	4,679.03	30.56	93.48	-104.986	239.17	-2,881.02	668.28	556.45	111.83	5.976			
6,800.00	4,676.62	4,640.19	4,676.62	31.02	93.42	-104.217	239.17	-2,881.02	619.16	507.17	111.99	5.529			
6,850.00	4,674.21	4,637.79	4,674.21	31.49	93.37	-103.091	239.17	-2,881.02	570.17	457.98	112.19	5.082			
6,900.00	4,671.80	4,635.38	4,671.80	31.95	93.32	-101.955	239.17	-2,881.02	521.37	408.91	112.46	4.636			
6,950.00	4,669.39	4,632.97	4,669.39	32.42	93.26	-100.810	239.17	-2,881.02	472.80	360.00	112.80	4.192			
7,000.00	4,666.98	4,630.56	4,666.98	32.90	93.21	-99.656	239.17	-2,881.02	424.55	311.30	113.25	3.749			
7,050.00	4,664.57	4,628.15	4,664.57	33.37	93.16	-98.494	239.17	-2,881.02	376.74	262.89	113.85	3.309			
7,100.00	4,662.16	4,625.74	4,662.16	33.85	93.10	-97.325	239.17	-2,881.02	329.57	214.89	114.68	2.874			
7,150.00	4,659.75	4,623.33	4,659.75	34.34	93.05	-96.149	239.17	-2,881.02	283.35	167.50	115.85	2.446			
7,200.00	4,657.34	4,620.92	4,657.34	34.82	93.00	-94.969	239.17	-2,881.02	238.63	121.11	117.52	2.030			
7,250.00	4,654.94	4,618.51	4,654.94	35.31	92.94	-93.784	239.17	-2,881.02	196.45	76.49	119.96	1.638			
7,300.00	4,652.53	4,616.10	4,652.53	35.79	92.89	-92.596	239.17	-2,881.02	158.83	35.45	123.37	1.287 SF = 1.50			
7,350.00	4,650.12	4,613.70	4,650.12	36.28	92.83	-91.405	239.17	-2,881.02	129.80	2.42	127.39	1.019 SF = 1.20			
7,400.00	4,647.71	4,611.29	4,647.71	36.78	92.78	-90.214	239.17	-2,881.02	116.02	-13.51	129.53	0.896 SF = 1.20			
7,408.95	4,647.28	4,610.86	4,647.28	36.87	92.77	-90.000	239.17	-2,881.02	115.67	-13.76	129.43	0.894 SF = 1.20, CC, ES, SF			
7,450.00	4,645.30	4,608.88	4,645.30	37.27	92.73	-89.022	239.17	-2,881.02	122.72	-4.24	126.96	0.967 SF = 1.20			
7,500.00	4,642.89	4,606.47	4,642.89	37.77	92.67	-87.831	239.17	-2,881.02	147.13	25.20	121.93	1.207 SF = 1.50			
7,550.00	4,640.48	4,604.06	4,640.48	38.27	92.62	-86.642	239.17	-2,881.02	182.28	64.62	117.66	1.549			
7,600.00	4,638.07	4,601.65	4,638.07	38.77	92.57	-85.456	239.17	-2,881.02	223.14	108.36	114.77	1.944			
7,650.00	4,635.66	4,599.24	4,635.66	39.27	92.51	-84.274	239.17	-2,881.02	267.10	154.18	112.92	2.365			
7,700.00	4,633.26	4,596.83	4,633.26	39.77	92.46	-83.096	239.17	-2,881.02	312.87	201.15	111.72	2.800			
7,750.00	4,630.85	4,594.42	4,630.85	40.28	92.41	-81.925	239.17	-2,881.02	359.74	248.82	110.92	3.243			
7,800.00	4,628.44	4,592.02	4,628.44	40.79	92.35	-80.760	239.17	-2,881.02	407.35	296.98	110.37	3.691			
7,850.00	4,626.03	4,589.61	4,626.03	41.29	92.30	-79.603	239.17	-2,881.02	455.46	345.48	109.98	4.141			
7,900.00	4,623.62	4,587.20	4,623.62	41.80	92.25	-78.454	239.17	-2,881.02	503.92	394.23	109.69	4.594			
7,950.00	4,621.21	4,584.79	4,621.21	42.32	92.19	-77.315	239.17	-2,881.02	552.65	443.17	109.48	5.048			
8,000.00	4,618.80	4,582.38	4,618.80	42.83	92.14	-76.186	239.17	-2,881.02	601.57	492.27	109.31	5.503			
8,050.00	4,616.39	4,579.97	4,616.39	43.34	92.09	-75.067	239.17	-2,881.02	650.66	541.48	109.17	5.960			
8,100.00	4,613.98	4,577.56	4,613.98	43.86	92.03	-73.961	239.17	-2,881.02	699.86	590.79	109.06	6.417			

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



Anticollision Report

Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 90H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Reference Site:	WAUKEE 36 STATE COM	MD Reference:	RKB = 20' @ 3686.00usft (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:	WBDS_SQL_3
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: WAUKEE 36 STATE COM_ - OFFSET: CHALK BLUFF '36' STATE 1 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 424-INC-ONLY		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned: Distance				Offset Well Error:	0.00 usft
Measured Reference Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
9,000.00	4,570.62	4,534.46	4,568.39	53.29	114.95	-92.903	-69.02	-4,988.72	681.13	526.48	154.64	4.405		
9,050.00	4,568.21	4,532.49	4,566.42	53.82	114.88	-92.650	-69.01	-4,988.72	644.17	487.65	156.52	4.116		
9,100.00	4,565.80	4,530.51	4,564.44	54.36	114.81	-92.398	-69.00	-4,988.72	609.07	450.52	158.55	3.842		
9,150.00	4,563.40	4,528.54	4,562.47	54.89	114.74	-92.145	-69.00	-4,988.72	576.17	415.47	160.70	3.585		
9,200.00	4,560.99	4,526.57	4,560.50	55.42	114.67	-91.892	-68.99	-4,988.72	545.86	382.93	162.93	3.350		
9,250.00	4,558.58	4,524.60	4,558.53	55.96	114.60	-91.639	-68.99	-4,988.72	518.60	353.40	165.19	3.139		
9,300.00	4,556.17	4,522.22	4,556.17	56.49	114.52	-91.334	-69.56	-4,988.72	495.40	328.02	167.38	2.960		
9,350.00	4,553.76	4,519.81	4,553.76	57.03	114.43	-91.025	-69.56	-4,988.72	475.80	306.43	169.37	2.809		
9,400.00	4,551.35	4,517.40	4,551.35	57.56	114.35	-90.716	-69.56	-4,988.72	460.80	289.77	171.02	2.694		
9,450.00	4,548.94	4,515.00	4,548.94	58.10	114.26	-90.407	-69.56	-4,988.72	450.86	278.66	172.20	2.618		
9,500.00	4,546.53	4,512.59	4,546.53	58.64	114.18	-90.098	-69.56	-4,988.72	446.32	273.53	172.78	2.583		
9,515.85	4,545.77	4,511.82	4,545.77	58.81	114.15	-90.000	-69.56	-4,988.72	446.04	273.20	172.83	2.581	CC, ES, SF	
9,550.00	4,544.12	4,510.18	4,544.12	59.17	114.09	-89.789	-69.56	-4,988.72	447.34	274.63	172.71	2.590		
9,600.00	4,541.72	4,507.77	4,541.72	59.71	114.00	-89.480	-69.56	-4,988.72	453.89	281.91	171.98	2.639		
9,650.00	4,539.31	4,505.36	4,539.31	60.25	113.92	-89.171	-69.56	-4,988.72	465.73	295.05	170.68	2.729		
9,700.00	4,536.90	4,502.95	4,536.90	60.79	113.83	-88.862	-69.56	-4,988.72	482.48	313.54	168.94	2.856		
9,750.00	4,534.49	4,500.54	4,534.49	61.33	113.75	-88.553	-69.56	-4,988.72	503.64	336.75	166.89	3.018		
9,800.00	4,532.08	4,498.13	4,532.08	61.87	113.66	-88.244	-69.56	-4,988.72	528.69	364.01	164.68	3.210		
9,850.00	4,529.67	4,495.72	4,529.67	62.41	113.58	-87.935	-69.56	-4,988.72	557.10	394.68	162.42	3.430		
9,900.00	4,527.26	4,493.31	4,527.26	62.95	113.49	-87.627	-69.56	-4,988.72	588.38	428.20	160.18	3.673		
9,950.00	4,524.85	4,490.91	4,524.85	63.49	113.40	-87.318	-69.56	-4,988.72	622.11	464.08	158.03	3.937		
10,000.00	4,522.44	4,488.50	4,522.44	64.03	113.32	-87.010	-69.56	-4,988.72	657.90	501.90	155.99	4.217		
10,050.00	4,520.03	4,486.09	4,520.03	64.57	113.23	-86.702	-69.56	-4,988.72	695.43	541.34	154.10	4.513		

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



Anticollision Report

Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 90H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Reference Site:	WAUKEE 36 STATE COM	MD Reference:	RKB = 20' @ 3686.00usft (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:	WBDS_SQL_3
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: WAUKEE 36 STATE COM_ - OFFSET: DOOLEY ABO STATE 2 - Wellbore #1 - Wellbore #1													Offset Site Error: 0.00 usft
Survey Program: 140-INC-ONLY													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre	Rule Assigned:								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
6,500.00	4,691.11	4,659.78	4,691.11	28.28	97.12	92.359	890.10	-2,356.09	675.97	555.69	120.28	5.620	
6,550.00	4,688.69	4,657.36	4,688.69	28.74	97.05	92.013	890.10	-2,356.09	645.06	523.84	121.22	5.321	
6,600.00	4,686.27	4,654.94	4,686.27	29.19	96.99	91.679	890.10	-2,356.09	617.40	495.15	122.25	5.050	
6,650.00	4,683.85	4,652.52	4,683.85	29.65	96.93	91.355	890.10	-2,356.09	593.43	470.07	123.36	4.811	
6,700.00	4,681.44	4,650.11	4,681.44	30.10	96.87	91.038	890.10	-2,356.09	573.64	449.15	124.49	4.608	
6,750.00	4,679.03	4,647.69	4,679.03	30.56	96.81	90.727	890.10	-2,356.09	558.47	432.85	125.62	4.446	
6,800.00	4,676.62	4,645.29	4,676.62	31.02	96.75	90.460	890.10	-2,356.09	548.06	421.38	126.68	4.326	
6,850.00	4,674.21	4,642.88	4,674.21	31.49	96.69	90.205	890.10	-2,356.09	542.10	414.48	127.62	4.248	
6,890.15	4,672.27	4,640.94	4,672.27	31.86	96.64	90.000	890.10	-2,356.09	540.62	412.36	128.26	4.215 CC	
6,900.00	4,671.80	4,640.47	4,671.80	31.95	96.63	89.950	890.10	-2,356.09	540.71	412.31	128.39	4.211 ES, SF	
6,950.00	4,669.39	4,638.06	4,669.39	32.42	96.57	89.695	890.10	-2,356.09	543.91	414.93	128.98	4.217	
7,000.00	4,666.98	4,635.65	4,666.98	32.90	96.50	89.440	890.10	-2,356.09	551.64	422.29	129.35	4.265	
7,050.00	4,664.57	4,633.24	4,664.57	33.37	96.44	89.185	890.10	-2,356.09	563.70	434.17	129.53	4.352	
7,100.00	4,662.16	4,630.83	4,662.16	33.85	96.38	88.930	890.10	-2,356.09	579.83	450.32	129.51	4.477	
7,150.00	4,659.75	4,628.42	4,659.75	34.34	96.32	88.675	890.10	-2,356.09	599.69	470.35	129.34	4.636	
7,200.00	4,657.34	4,626.01	4,657.34	34.82	96.26	88.420	890.10	-2,356.09	622.94	493.89	129.04	4.827	
7,250.00	4,654.94	4,623.61	4,654.94	35.31	96.20	88.165	890.10	-2,356.09	649.20	520.55	128.65	5.046	
7,300.00	4,652.53	4,621.20	4,652.53	35.79	96.14	87.911	890.10	-2,356.09	678.13	549.93	128.20	5.290	

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



Anticollision Report

Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 90H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Reference Site:	WAUKEE 36 STATE COM	MD Reference:	RKB = 20' @ 3686.00usft (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:	WBDS_SQL_3
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: WAUKEE 36 STATE COM_ - OFFSET: EMPIRE ABO UNIT 417 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft	
Survey Program: 986-INC-ONLY				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)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
5,150.00	4,741.63	4,739.48	4,741.63	18.47	93.86	44.661	343.17	-1,301.16	699.39	589.34	110.05	6.355			
5,200.00	4,748.32	4,746.17	4,748.32	18.72	94.07	64.348	343.17	-1,301.16	650.65	540.35	110.30	5.899			
5,250.00	4,750.66	4,748.52	4,750.66	18.98	94.15	89.067	343.17	-1,301.16	601.66	491.25	110.41	5.449			
5,300.00	4,749.01	4,746.87	4,749.01	19.23	94.10	102.192	343.17	-1,301.16	552.79	442.39	110.40	5.007			
5,350.00	4,746.60	4,744.46	4,746.60	19.52	94.02	101.093	343.17	-1,301.16	504.17	393.79	110.38	4.568			
5,400.00	4,744.19	4,742.04	4,744.19	19.80	93.94	99.985	343.17	-1,301.16	455.83	345.46	110.37	4.130			
5,450.00	4,741.78	4,739.63	4,741.78	20.10	93.87	98.870	343.17	-1,301.16	407.88	297.48	110.40	3.695			
5,500.00	4,739.37	4,737.22	4,739.37	20.40	93.79	97.748	343.17	-1,301.16	360.47	249.99	110.47	3.263			
5,550.00	4,736.95	4,734.81	4,736.95	20.73	93.71	96.620	343.17	-1,301.16	313.84	203.22	110.62	2.837			
5,600.00	4,734.54	4,732.40	4,734.54	21.06	93.64	95.487	343.17	-1,301.16	268.41	157.52	110.89	2.420			
5,650.00	4,732.13	4,729.98	4,732.13	21.40	93.56	94.349	343.17	-1,301.16	224.90	113.52	111.38	2.019			
5,700.00	4,729.72	4,727.57	4,729.72	21.75	93.48	93.208	343.17	-1,301.16	184.67	72.45	112.22	1.646			
5,750.00	4,727.31	4,725.16	4,727.31	22.11	93.41	92.065	343.17	-1,301.16	150.39	36.81	113.58	1.324 SF = 1.50			
5,800.00	4,724.89	4,722.75	4,724.89	22.47	93.33	90.920	343.17	-1,301.16	126.95	11.71	115.24	1.102 SF = 1.20			
5,840.13	4,722.96	4,720.81	4,722.96	22.77	93.27	90.000	343.17	-1,301.16	120.46	4.42	116.04	1.038 SF = 1.20, CC, ES, SF			
5,850.00	4,722.48	4,720.34	4,722.48	22.85	93.25	89.774	343.17	-1,301.16	120.86	4.79	116.07	1.041 SF = 1.20			
5,900.00	4,720.07	4,717.92	4,720.07	23.23	93.18	88.628	343.17	-1,301.16	134.48	19.27	115.21	1.167 SF = 1.20			
5,950.00	4,717.66	4,715.51	4,717.66	23.62	93.10	87.484	343.17	-1,301.16	162.94	49.23	113.71	1.433 SF = 1.50			
6,000.00	4,715.25	4,713.10	4,715.25	24.01	93.02	86.341	343.17	-1,301.16	200.01	87.56	112.46	1.779			
6,050.00	4,712.83	4,710.69	4,712.83	24.42	92.94	85.202	343.17	-1,301.16	241.76	130.19	111.57	2.167			
6,100.00	4,710.42	4,708.28	4,710.42	24.83	92.87	84.066	343.17	-1,301.16	286.15	175.20	110.95	2.579			
6,150.00	4,708.01	4,705.86	4,708.01	25.24	92.79	82.934	343.17	-1,301.16	332.11	221.61	110.50	3.005			
6,200.00	4,705.60	4,703.45	4,705.60	25.66	92.71	81.809	343.17	-1,301.16	379.09	268.92	110.17	3.441			
6,250.00	4,703.19	4,701.04	4,703.19	26.09	92.64	80.689	343.17	-1,301.16	426.74	316.83	109.91	3.883			
6,300.00	4,700.77	4,698.63	4,700.77	26.52	92.56	79.273	343.17	-1,301.16	474.88	365.18	109.69	4.329			
6,350.00	4,698.36	4,696.21	4,698.36	26.96	92.48	77.182	343.17	-1,301.16	523.51	413.99	109.52	4.780			
6,400.00	4,695.94	4,693.80	4,695.94	27.39	92.41	74.654	343.17	-1,301.16	572.54	463.16	109.38	5.234			
6,450.00	4,693.52	4,691.38	4,693.52	27.84	92.33	71.513	343.17	-1,301.16	621.85	512.59	109.26	5.692			
6,500.00	4,691.11	4,689.08	4,691.31	28.28	92.26	67.618	343.18	-1,301.16	671.37	562.21	109.16	6.151			

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



Anticollision Report

Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 90H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Reference Site:	WAUKEE 36 STATE COM	MD Reference:	RKB = 20' @ 3686.00usft (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:	WBDS_SQL_3
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: WAUKEE 36 STATE COM_ - OFFSET: RAMAPO-STATE #5 - Wellbore #1 - Wellbore #1

Offset Site Error: 0.00 usft

Survey Program: 140-INC-ONLY

Offset Well Error: 0.00 usft

Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
				Reference	Offset		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,600.00	4,734.54	4,723.00	4,732.13	21.06	98.80	90.095	873.51	-1,036.31	693.38	573.58	119.80	5.788	
5,650.00	4,732.13	4,723.00	4,732.13	21.40	98.80	90.095	873.51	-1,036.31	689.87	569.68	120.19	5.740	
5,673.70	4,730.99	4,721.66	4,730.99	21.56	98.76	90.000	873.51	-1,036.31	689.46	569.13	120.33	5.730 CC, ES	
5,700.00	4,729.72	4,720.39	4,729.72	21.75	98.73	89.895	873.51	-1,036.31	689.96	569.49	120.47	5.727 SF	
5,750.00	4,727.31	4,717.98	4,727.31	22.11	98.67	89.694	873.51	-1,036.31	693.66	572.94	120.72	5.746	

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



Anticollision Report

Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 90H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Reference Site:	WAUKEE 36 STATE COM	MD Reference:	RKB = 20' @ 3686.00usft (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:	WBDS_SQL_3
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: WAUKEE 36 STATE COM_ - OFFSET: STATE BE #1 - Wellbore #1 - Wellbore #1													Offset Site Error: 0.00 usft
Survey Program: 140-INC-ONLY													Offset Well Error: 0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Rule Assigned: Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	1.00	0.00	0.00	-159.036	-107.43	-41.16	115.05				
50.00	50.00	49.00	50.00	0.11	0.41	-159.036	-107.43	-41.16	115.04	114.52	0.52	221.046	
100.00	100.00	99.00	100.00	0.29	0.83	-159.036	-107.43	-41.16	115.04	113.92	1.12	102.624	
150.00	150.00	149.00	150.00	0.47	1.35	-159.036	-107.43	-41.16	115.04	113.22	1.82	63.192	
200.00	200.00	199.00	200.00	0.65	2.33	-159.036	-107.43	-41.16	115.04	112.07	2.97	38.730	
211.57	211.57	210.45	211.45	0.69	2.55	-159.000	-107.22	-41.16	114.85	111.62	3.23	35.512 CC	
250.00	250.00	248.42	249.41	0.82	3.28	-159.022	-107.35	-41.16	114.97	110.86	4.11	27.980	
300.00	300.00	299.01	300.00	1.00	4.26	-159.036	-107.43	-41.16	115.04	109.78	5.26	21.869	
350.00	350.00	349.01	350.00	1.18	5.21	97.105	-107.43	-41.16	115.10	108.71	6.39	18.004	
400.00	399.98	398.99	399.98	1.35	6.17	97.747	-107.43	-41.16	115.27	107.74	7.52	15.318	
409.15	409.13	408.13	409.11	1.38	6.35	97.981	-107.05	-41.16	114.96	107.23	7.73	14.870	
450.00	449.93	448.78	449.76	1.53	7.13	98.873	-107.09	-41.16	115.27	106.62	8.65	13.324	
500.00	499.86	498.52	499.50	1.70	8.08	100.177	-107.21	-41.16	115.83	106.06	9.78	11.847	
550.00	549.78	548.26	549.24	1.88	9.03	101.455	-107.43	-41.16	116.55	105.64	10.91	10.686	
600.00	599.71	598.74	599.71	2.05	9.97	102.782	-107.43	-41.16	117.13	105.10	12.02	9.741	
650.00	649.63	648.66	649.63	2.23	10.91	104.082	-107.43	-41.16	117.76	104.63	13.13	8.967	
700.00	699.56	698.59	699.56	2.40	11.84	105.368	-107.43	-41.16	118.46	104.22	14.24	8.318	
750.00	749.48	748.37	749.34	2.58	12.77	106.750	-106.96	-41.16	118.81	103.47	15.35	7.741	
800.00	799.40	798.11	799.08	2.76	13.69	107.973	-107.07	-41.16	119.73	103.28	16.45	7.277	
850.00	849.33	847.86	848.82	2.94	14.62	109.152	-107.28	-41.16	120.79	103.22	17.56	6.878	
900.00	899.25	898.30	899.25	3.12	15.63	110.344	-107.43	-41.16	121.83	103.09	18.75	6.499	
950.00	949.18	948.23	949.18	3.30	16.69	111.543	-107.43	-41.16	122.82	102.83	19.99	6.144	
1,000.00	999.10	998.15	999.10	3.48	17.76	112.722	-107.43	-41.16	123.85	102.62	21.23	5.833	
1,050.00	1,049.03	1,048.08	1,049.03	3.65	18.82	113.881	-107.43	-41.16	124.94	102.46	22.47	5.559	
1,100.00	1,098.95	1,097.99	1,098.94	3.83	19.88	115.127	-107.05	-41.16	125.78	102.07	23.72	5.303	
1,150.00	1,148.88	1,147.83	1,148.79	4.01	20.95	116.237	-107.08	-41.16	127.00	102.04	24.96	5.088 ES	
1,200.00	1,198.80	1,197.68	1,198.63	4.19	22.01	117.314	-107.15	-41.16	128.28	102.08	26.20	4.896	
1,250.00	1,248.73	1,247.53	1,248.48	4.37	23.07	118.357	-107.26	-41.16	129.65	102.20	27.44	4.724	
1,300.00	1,298.65	1,297.39	1,298.34	4.55	24.13	119.367	-107.40	-41.16	131.08	102.40	28.69	4.570	
1,350.00	1,348.58	1,347.71	1,348.58	4.73	25.36	120.399	-107.43	-41.16	132.47	102.38	30.09	4.402	
1,400.00	1,398.50	1,397.63	1,398.50	4.91	26.61	121.410	-107.43	-41.16	133.88	102.37	31.51	4.248	
1,450.00	1,448.43	1,447.55	1,448.43	5.09	27.85	122.401	-107.43	-41.16	135.33	102.39	32.94	4.109	
1,500.00	1,498.35	1,497.48	1,498.35	5.27	29.09	123.370	-107.43	-41.16	136.82	102.46	34.36	3.982 SF	
1,550.00	1,548.27	1,529.00	1,529.78	5.45	29.88	123.969	-107.43	-41.16	139.58	104.56	35.03	3.985	
1,600.00	1,598.20	1,529.00	1,529.78	5.63	29.88	123.969	-107.43	-41.16	155.75	123.63	32.12	4.849	
1,650.00	1,648.12	1,529.00	1,529.78	5.81	29.88	123.969	-107.43	-41.16	184.48	156.53	27.95	6.600	
1,700.00	1,698.05	1,529.00	1,529.78	5.99	29.88	123.969	-107.43	-41.16	220.92	196.73	24.20	9.130	
1,750.00	1,747.97	1,529.00	1,529.78	6.17	29.88	123.969	-107.43	-41.16	261.88	240.63	21.26	12.321	
1,800.00	1,797.90	1,529.00	1,529.78	6.35	29.88	123.969	-107.43	-41.16	305.54	286.52	19.03	16.057	
1,850.00	1,847.82	1,529.00	1,529.78	6.53	29.88	123.969	-107.43	-41.16	350.90	333.56	17.34	20.232	
1,900.00	1,897.75	1,529.00	1,529.78	6.71	29.88	123.969	-107.43	-41.16	397.38	381.32	16.05	24.756	
1,950.00	1,947.67	1,529.00	1,529.78	6.89	29.88	123.969	-107.43	-41.16	444.61	429.57	15.05	29.547	
2,000.00	1,997.60	1,529.00	1,529.78	7.07	29.88	123.969	-107.43	-41.16	492.40	478.14	14.26	34.541	
2,050.00	2,047.52	1,529.00	1,529.78	7.25	29.88	123.969	-107.43	-41.16	540.58	526.96	13.62	39.681	
2,100.00	2,097.45	1,529.00	1,529.78	7.43	29.88	123.969	-107.43	-41.16	589.07	575.96	13.11	44.927	
2,150.00	2,147.37	1,529.00	1,529.78	7.61	29.88	123.969	-107.43	-41.16	637.79	625.10	12.70	50.237	
2,200.00	2,197.30	1,529.00	1,529.78	7.79	29.88	123.969	-107.43	-41.16	686.70	674.35	12.35	55.589	

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



Anticollision Report

Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 90H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Reference Site:	WAUKEE 36 STATE COM	MD Reference:	RKB = 20' @ 3686.00usft (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:	WBDS_SQL_3
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design: WAUKEE 36 STATE COM_ - OFFSET: STATE CM 1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program:	140-INC-ONLY						Rule Assigned:					Offset Well Error:	0.00 usft
Reference	Measured	Vertical	Offset	Measured	Vertical	Semi Major Axis	Offset Wellbore Centre		Distance		Minimum	Separation	Warning
Depth	Depth	Depth	Depth	Depth	Depth	Reference	+N/-S	+E/-W	Between	Between	Separation	Factor	
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	Centres	Ellipses	(usft)		
									(usft)	(usft)			
9,150.00	4,563.40	4,499.07	4,563.40	54.89	93.02	92.078	923.79	-5,024.90	684.58	548.72	135.86	5.039	
9,200.00	4,560.99	4,496.66	4,560.99	55.42	92.96	91.826	923.79	-5,024.90	655.76	517.67	138.09	4.749	
9,250.00	4,558.58	4,494.25	4,558.58	55.96	92.90	91.574	923.79	-5,024.90	629.58	489.20	140.38	4.485	
9,300.00	4,556.17	4,491.84	4,556.17	56.49	92.84	91.322	923.79	-5,024.90	606.39	463.72	142.67	4.250	
9,350.00	4,553.76	4,489.43	4,553.76	57.03	92.78	91.070	923.79	-5,024.90	586.55	441.65	144.90	4.048	
9,400.00	4,551.35	4,487.02	4,551.35	57.56	92.72	90.818	923.79	-5,024.90	570.40	423.42	146.98	3.881	
9,450.00	4,548.94	4,484.61	4,548.94	58.10	92.66	90.566	923.79	-5,024.90	558.27	409.44	148.83	3.751	
9,500.00	4,546.53	4,482.20	4,546.53	58.64	92.60	90.314	923.79	-5,024.90	550.41	400.06	150.36	3.661	
9,550.00	4,544.12	4,479.79	4,544.12	59.17	92.53	90.062	923.79	-5,024.90	547.03	395.54	151.49	3.611	
9,562.50	4,543.52	4,479.19	4,543.52	59.31	92.52	89.999	923.79	-5,024.90	546.89	395.18	151.71	3.605 CC, ES	
9,600.00	4,541.72	4,477.39	4,541.72	59.71	92.47	89.810	923.79	-5,024.90	548.19	396.00	152.18	3.602 SF	
9,650.00	4,539.31	4,474.98	4,539.31	60.25	92.41	89.558	923.79	-5,024.90	553.87	401.44	152.42	3.634	
9,700.00	4,536.90	4,472.57	4,536.90	60.79	92.35	89.306	923.79	-5,024.90	563.93	411.70	152.23	3.705	
9,750.00	4,534.49	4,470.16	4,534.49	61.33	92.29	89.054	923.79	-5,024.90	578.14	426.50	151.64	3.813	
9,800.00	4,532.08	4,467.75	4,532.08	61.87	92.23	88.802	923.79	-5,024.90	596.22	445.48	150.74	3.955	
9,850.00	4,529.67	4,465.34	4,529.67	62.41	92.17	88.550	923.79	-5,024.90	617.81	468.22	149.59	4.130	
9,900.00	4,527.26	4,462.93	4,527.26	62.95	92.11	88.298	923.79	-5,024.90	642.56	494.30	148.26	4.334	
9,950.00	4,524.85	4,460.52	4,524.85	63.49	92.05	88.046	923.79	-5,024.90	670.13	523.31	146.83	4.564	

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



Anticollision Report

Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 90H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Reference Site:	WAUKEE 36 STATE COM	MD Reference:	RKB = 20' @ 3686.00usft (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:	WBDS_SQL_3
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

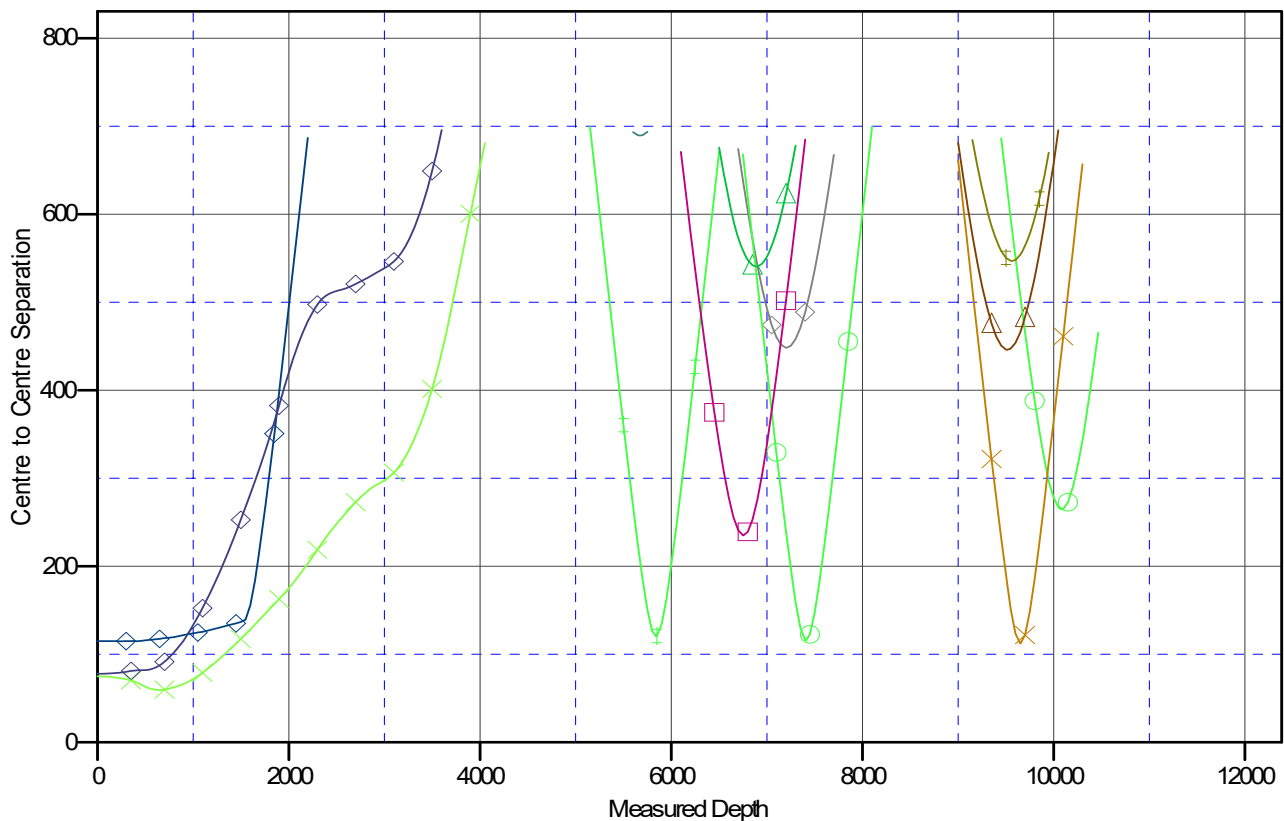
Reference Depths are relative to RKB = 20' @ 3686.00usft (AKITA 57) Coordinates are relative to: 90H

Offset Depths are relative to Offset Datum

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

Grid Convergence at Surface is: 0.061°

Ladder Plot



LEGEND

OFFSET: EDDY-STATE NCT-1 1, Wellbore #1, Wellbore #1 V0 10H, Wellbore #1, Wellbore #1 V0 OFFSET: EMPIRE ABO UNIT 417, Wellbore #1, Wellbore #1 V0 OFFSET: BIG BOY STATE 3, Wellbore #1, Wellbore #1 V0 OFFSET: STATE BE #1, Wellbore #1, Wellbore #1 V0	OFFSET: RAMPO-STATE #5, Wellbore #1, Wellbore #1 V0 2H, Wellbore #1, Wellbore #1 V0 OFFSET: BIG BOY STATE 1, Wellbore #1, Wellbore #1 V0 OFFSET: BIG BOY STATE 7, Wellbore #1, Wellbore #1 V0 OFFSET: DODLEY ABO STATE 2, Wellbore #1, Wellbore #1 V0	OFFSET: CHAK BLUFF '36' STATE 1, Wellbore #1, Wellbore #1 V0 OFFSET: STATE CM 1, Wellbore #1, Wellbore #1 V0 OFFSET: BIG BOY STATE 5, Wellbore #1, Wellbore #1 V0
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CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report

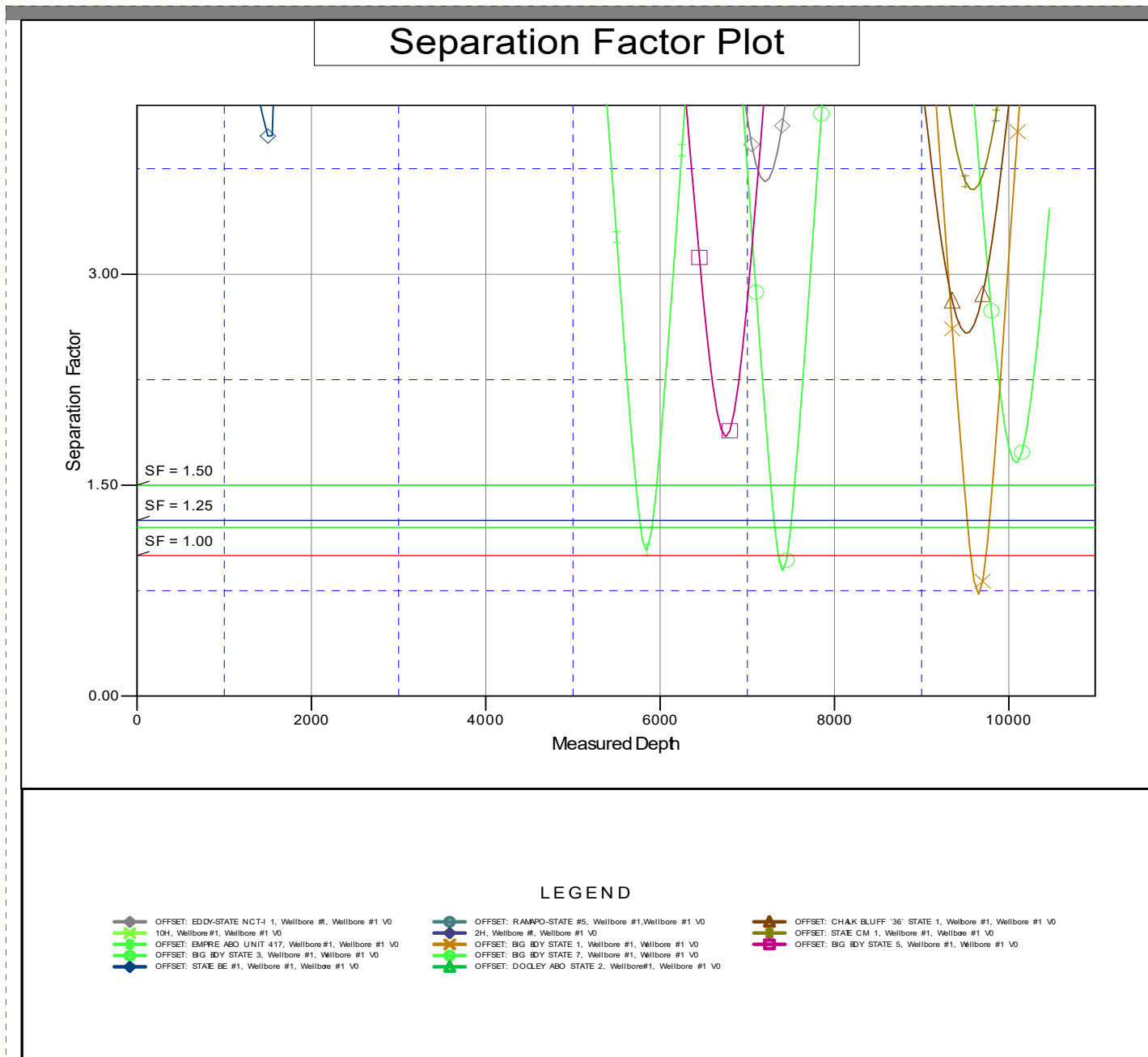
Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 90H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
Reference Site:	WAUKEE 36 STATE COM	MD Reference:	RKB = 20' @ 3686.00usft (AKITA 57)
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Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	WBDS_SQL_3
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

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05/13/24 9:10:46AM

Page 19

COMPASS 5000.17 Build

Spur Energy Partners LLC – Waukee 36 State Com 90H

1. Geologic Formations

TVD of Target	4,500'
MD at TD	10,466'

WAUKEE (SOUTH) PAD FORMATION TOPS			
FORMATION	DEPTH (KB TVD)	LITHOLOGY	EXPECTED FLUIDS
QUATERNARY	0'	DOLOMITE, OTHER: CALICHE	USEABLE WATER
TANSILL	205'	SANDSTONE, DOLOMITE	NONE
YATES	335'	DOLOMITE, LIMESTONE, SHALE, SILTSTONE	NONE
SEVEN RIVERS	575'	DOLOMITE, LIMESTONE	NATURAL GAS, OIL
QUEEN	1135'	SANDSTONE W INTERBEDDED DOLOMITE, ANHYDRITE	NATURAL GAS, OIL
PENROSE	1315'	DOLOMITE W MINOR SANDSTONE, ANHYDRITE	NATURAL GAS, OIL
GRAYBURG	1590'	DOLOMITE W MINOR SANDSTONE, ANHYDRITE	NATURAL GAS, OIL
SAN ANDRES	1930'	DOLOMITIC LIMESTONE	NATURAL GAS, OIL
GLORIETA	3410'	DOLOMITE, SILTSTONE	NATURAL GAS, OIL
YESO	3535'	DOLOMITIC LIMESTONE	NATURAL GAS, OIL
ABO	5550'	DOLOMITIC 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
Penrose	12.25	0	1375	9.625	36	J-55	BTC	1.125	1.2	1.4	1.4
N/A	8.75	0	5000	7	32	L-80	BK-HT	1.125	1.2	1.4	1.4
Yeso	8.75	5000	10466	5.5	20	L-80	BK-HT	1.125	1.2	1.4	1.4
SF Values will meet or Exceed											

Spur Energy Partners LLC – Waukee 36 State Com 90H

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

3. Cementing Program

Casing String	Top (ft)	Bottom (ft)	% Excess
Surface (Lead)	0	950	100%
Surface (Tail)	950	1375	100%
Production (Lead)	0	4000	100%
Production (Tail)	4000	10466	25%

Casing String	# Sks	Wt. (lb/gal)	Yld (ft3/sack)	H2O (gal/sk)	500# Comp. Strength (hours)	Slurry Description
Surface (Lead)	259	12	2.4	13.48	8:12	Clas C Premium Plus Cement
Surface (Tail)	153	13.2	1.87	9.92	6:59	Clas C Premium Plus Cement
Production (Lead)	421	11.4	2.42	15.29	N/A	Clas C Premium Plus Cement
Production (Tail)	1231	13.2	1.56	9.81	N/A	Clas C Premium Plus Cement

Spur Energy Partners LLC – Waukee 36 State Com 90H

4. Pressure Control Equipment

Spur Energy Partners LLC variance for flex hose

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

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12.25" Hole	13-5/8"	5M	Annular	✓	70% of working pressure
		5M	Blind Ram	✓	250 psi / 3000 psi
			Pipe Ram	✓	
			Double Ram		
			Other*		
8.75" Hole	13-5/8"	5M	Annular	✓	70% of working pressure
		5M	Blind Ram	✓	250 psi / 3000 psi
			Pipe Ram	✓	
			Double Ram		
			Other*		

Spur Energy Partners LLC will be utilizing a 5M BOP

Condition	Specify what type and where?
BH Pressure at deepest TVD	2199 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	118°F

*Specify if additional ram is utilized.

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

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

Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.

Spur Energy Partners LLC – Waukee 36 State Com 90H

Y	Are anchors required by manufacturer?
	A conventional wellhead system will be employed. The wellhead and connection to the BOPE will meet all API 6A requirements. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. See attached schematics.

5. BOP Break Testing Request

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

BOP break test under the following conditions:

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

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

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

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

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

6. Mud Program

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

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From (ft)	To (ft)				
0	1375	Water-Based Mud	8.6-8.9	32-36	N/C
1375	10466	Water-Based Mud	8.6-8.9	32-36	N/C

What will be used to monitor the loss or gain of fluid?	PVT/PASON/Visual Monitoring
---	-----------------------------

Spur Energy Partners LLC – Waukee 36 State Com 90H

7. Logging and Testing Procedures

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

8. Drilling Conditions

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

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

Total estimated cuttings volume: 978.9 bbls.

Spur Energy Partners LLC – Waukee 36 State Com 90H**9. Other facets of operation**

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

Attachments

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

10. Company Personnel

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

State of New Mexico
Energy, Minerals and Natural Resources Department

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

Submit Electronically
Via E-permitting

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description
Effective May 25, 2021

I. Operator: SPUR ENERGY PARTNERS LLC OGRID: 328947 Date: 05 / 14 / 2024

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: Adding Waukee 36 State Com 90H well to exisitng pad (new drill)

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
WAUKEE 36 STATE COM 90H	30-015-PENDING	4-31-17S-28E	755' FSL 670' FWL	290 BBL/D	400 MCF/D	1900 BBL/D

IV. Central Delivery Point Name: WAUKEE 36 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
WAUKEE 36 STATE COM 90H	30-015-PENDING	05/12/2024	05/19/2024	08/01/2024	08/06/2024	08/09/2024

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

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

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

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature:	<i>Sarah Chapman</i>
Printed Name:	SARAH CHAPMAN
Title:	REGULATORY DIRECTOR
E-mail Address:	SCHAPMAN@SPUREENERGY.COM
Date:	05/14/2024
Phone:	832-930-8613
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)	
Approved By:	
Title:	
Approval Date:	
Conditions of Approval:	



Natural Gas Management Plan – Attachment

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

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

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



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

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