

Form 3160-3
(June 2015)FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☐ DRILL ☐ REENTER		5. Lease Serial No.
1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator		8. Lease Name and Well No.
3a. Address		9. API Well No. 30-025-52664
3b. Phone No. (include area code)		10. Field and Pool, or Exploratory
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish
		13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

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

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

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

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

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

(Continued on page 2)

*(Instructions on page 2)



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 Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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 30-025-52664		² Pool Code 44500	³ Pool Name MALJAMAR; YESO, WEST
⁴ Property Code 335617	⁵ Property Name MILLER 14 FEDERAL COM		⁶ Well Number 21H
⁷ OGRID NO. 328947	⁸ Operator Name SPUR ENERGY PARTNERS LLC.		⁹ Elevation 4090

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
L	13	17S	32E		1882	SOUTH	455	WEST	LEA

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	14	17S	32E		1660	SOUTH	50	WEST	LEA

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
320			

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.

[illegible]

State of New Mexico
Energy, Minerals and Natural Resources DepartmentSubmit Electronically
Via E-permittingOil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505**NATURAL GAS MANAGEMENT PLAN**

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

Section 1 – Plan Description
Effective May 25, 2021**I. Operator:** SPUR ENERGY PARTNERS LLC **OGRID:** 328947 **Date:** 07 / 06 / 2023**II. Type:** ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
MILLER 14 FEDERAL 21H	30-025-	L-13-17S-32E	1882' FSL 455' FWL	370 BBL/D	466 MCF/D	1481 BBL/D
MILLER 14 FEDERAL 71H	30-025-	L-13-17S-32E	1898' FSL 443' FWL	325 BBL/D	385 MCF/D	1300 BBL/D

IV. Central Delivery Point Name: MILLER 14 FEDERAL 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
MILLER 14 FEDERAL 21H	30-025-	12/23/2024	01/01/2025	02/19/2025	03/11/2025	03/26/2025
MILLER 14 FEDERAL 71H	30-025-	01/01/2025	01/11/2025	02/19/2025	03/11/2025	03/26/2025

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:	JULY 6, 2023
Phone:	832-930-8613
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)	
Approved By:	
Title:	
Approval Date:	
Conditions of Approval:	

Spur Energy Partners LLC – Miller 14 Federal Com 21H

1. Geologic Formations

TVD of Target	5,890'
MD at TD	11,708'

Formation	Depth	Lithology	Expected Fluids
Quaternary	0'	Dolomite, other: Caliche	Useable Water
Rustler	1065'	Dolomite, Shale, Anhydrite	Other: Brackish Water
Top Salt	1235'	Anhydrite	Other: Salt
Tansill	2315'	Sandstone, Dolomite	None
Yates	2425'	Dolomite, Limestone, Shale, Siltstone	None
Seven Rivers	2775'	Dolomite, Limestone	Natural Gas, Oil
Queen	3400'	Anhydrite, Dolomite, Sandstone	Natural Gas, Oil
Grayburg	3850'	Anhydrite	Natural Gas, Oil
San Andres	4135'	Dolomite	Natural Gas, Oil
Glorieta	5685'	Dolomite, Siltstone	Natural Gas, Oil
Paddock	5780'	Dolomite, Limestone	Natural Gas, Oil
Blinberry	6180'	Dolomite, Limestone	Natural Gas, Oil
Tubb	7130'	Dolomite, Limestone	Natural Gas, Oil

*H₂S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Casing Formation Set Interval	Hole Size (in)	Casing Interval		Csg. Size (in)	Weight (lbs)	Grade	Conn.	SF	SF Burst	Body SF	Joint SF
		From (ft)	To (ft)					Collapse		Tension	Tension
Rustler	17.5	0	1145	13.375	54.5	J-55	BTC	1.125	1.2	1.4	1.4
Seven Rivers	12.25	0	3000	9.625	36	J-55	BTC	1.125	1.2	1.4	1.4
N/A	8.75	0	6300	7	32	L-80	BK-HT	1.125	1.2	1.4	1.4
Yeso	8.75	6300	11708	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 – Miller 14 Federal Com 21H

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

3. Cementing Program

Casing String	Top (ft)	Bottom (ft)	% Excess
Surface Tail	0	1145	165%
Intermediate (Lead)	0	1145	100%
Intermediate (Tail)	1145	3000	100%
Production (Lead)	0	5300	100%
Production (Tail)	5300	11708	25%

Casing String	# Sks	Wt. (lb/gal)	Yld (ft3/sack)	H2O (gal/sk)	500# Comp. Strength (hours)	Slurry Description
Surface Tail	1113	13.2	1.87	9.92	6:59	Clas C Premium Plus Cement
Intermediate (Lead)	174	12	2.4	13.48	8:12	Clas C Premium Plus Cement
Intermediate (Tail)	632	13.2	1.87	9.92	6:59	Clas C Premium Plus Cement
Production (Lead)	1031	11.4	2.42	15.29	N/A	Clas C Premium Plus Cement
Production (Tail)	1221	13.2	1.56	9.81	N/A	Clas C Premium Plus Cement

Spur Energy Partners LLC – Miller 14 Federal Com 21H

4. Pressure Control Equipment

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	2796 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	129°F

*Specify if additional ram is utilized.

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

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

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

Spur Energy Partners LLC – Miller 14 Federal Com 21H

	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.
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5. BOP Break Testing Request

Spur Energy Partners LLC requests permission to adjust the BOP break testing requirements as per the verbal agreement reached over the phone between SPUR/BLM on September 7, 2020. A separate sundry will be sent prior to spud that reflects the pad-based break testing plan.

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	1145	Water-Based Mud	8.6-8.9	32-36	N/C
1145	3000	Brine	10.0-10.5	32-36	N/C
3000	11708	Brine	10.0-10.5	32-36	N/C

What will be used to monitor the loss or gain of fluid?	PVT/PASON/Visual Monitoring
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Spur Energy Partners LLC – Miller 14 Federal Com 21H

7. Logging and Testing Procedures

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

8. Drilling Conditions

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

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

Total estimated cuttings volume: 1133.2 bbls.

Spur Energy Partners LLC – Miller 14 Federal Com 21H**9. Other facets of operation**

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

Attachments

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

10. Company Personnel

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



SPUR ENERGY PARTNERS, LLC

**LEA COUNTY, NM (NAD 83 - NME)
MILLER 14 FEDERAL COM
21H**

**Wellbore #1
PERMIT**

Anticollision Report

30 June, 2023



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	LEA COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Reference Site:	MILLER 14 FEDERAL COM	MD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Reference	PERMIT
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	MD + Stations Interval 50.00usft
Depth Range:	Unlimited
Results Limited by:	Maximum separation factor of 55.00
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic
Casing Method:	Not applied

Survey Tool Program		Date	06/28/23		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	11,707.56	PERMIT (Wellbore #1)	MWD+IGRF	OWSG MWD + IGRF or WMM	

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						
MILLER 14 FEDERAL COM						
71H - Wellbore #1 - PERMIT	300.00	300.00	20.05	18.33	11.654	CC
71H - Wellbore #1 - PERMIT	350.00	350.10	20.33	18.25	9.787	ES
71H - Wellbore #1 - PERMIT	11,707.56	12,133.00	644.80	468.10	3.649	SF
OFFSET: MALMAR UNIT TR-2 #12 - Wellbore #1 - Wellt	1,867.66	1,849.09	177.76	98.86	2.253	CC
OFFSET: MALMAR UNIT TR-2 #12 - Wellbore #1 - Wellt	2,750.00	2,727.23	197.45	80.14	1.683	ES
OFFSET: MALMAR UNIT TR-2 #12 - Wellbore #1 - Wellt	3,650.00	3,622.95	248.49	92.37	1.592	SF

Offset Design												Offset Site Error:		0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
150.00	150.00	150.00	150.00	0.32	0.32	-38.928	15.60	-12.60	20.05	19.41	0.65	31.078		
200.00	200.00	200.00	200.00	0.50	0.50	-38.928	15.60	-12.60	20.05	19.05	1.00	19.979		
250.00	250.00	250.00	250.00	0.68	0.68	-38.928	15.60	-12.60	20.05	18.69	1.36	14.721		
300.00	300.00	300.00	300.00	0.86	0.86	-38.928	15.60	-12.60	20.05	18.33	1.72	11.654	CC	
350.00	350.00	350.10	350.09	1.03	1.04	-154.417	15.77	-12.20	20.33	18.25	2.08	9.787	ES	
400.00	399.98	400.17	400.15	1.21	1.22	-152.516	16.28	-10.98	21.17	18.73	2.44	8.684		
450.00	449.93	450.22	450.15	1.38	1.39	-149.669	17.12	-8.97	22.62	19.82	2.80	8.078		
500.00	499.84	500.22	500.06	1.56	1.57	-146.254	18.30	-6.15	24.72	21.56	3.16	7.825		
550.00	549.68	550.16	549.85	1.74	1.75	-142.646	19.81	-2.53	27.53	24.00	3.52	7.812		
579.52	579.07	579.60	579.17	1.85	1.86	-140.839	20.81	-0.16	29.54	25.80	3.74	7.902		
600.00	599.46	600.02	599.51	1.92	1.93	-139.865	21.49	1.48	31.03	27.14	3.88	7.994		
650.00	649.22	649.87	649.17	2.11	2.11	-137.841	23.17	5.50	34.69	30.46	4.24	8.189		
700.00	698.98	699.72	698.84	2.30	2.29	-136.205	24.85	9.51	38.39	33.80	4.59	8.360		
750.00	748.75	749.58	748.50	2.50	2.46	-134.857	26.53	13.52	42.12	37.17	4.95	8.503		
800.00	798.51	799.43	798.16	2.69	2.64	-133.729	28.21	17.53	45.87	40.55	5.32	8.629		
850.00	848.27	849.28	847.82	2.88	2.82	-132.772	29.89	21.55	49.63	43.95	5.68	8.737		
900.00	898.03	899.13	897.48	3.08	3.00	-131.949	31.57	25.56	53.40	47.36	6.05	8.832		
950.00	947.79	948.98	947.15	3.28	3.18	-131.236	33.25	29.57	57.18	50.77	6.41	8.915		
1,000.00	997.56	998.84	996.81	3.47	3.36	-130.611	34.93	33.59	60.97	54.19	6.78	8.990		
1,050.00	1,047.32	1,048.69	1,046.47	3.67	3.54	-130.059	36.61	37.60	64.77	57.62	7.15	9.056		
1,100.00	1,097.08	1,098.54	1,096.13	3.87	3.72	-129.568	38.28	41.61	68.57	61.05	7.52	9.116		

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



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	LEA COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Reference Site:	MILLER 14 FEDERAL COM	MD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MILLER 14 FEDERAL COM - 71H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
1,150.00	1,146.84	1,148.39	1,145.79	4.07	3.90	-129.129	39.96	45.63	72.38	64.49	7.89	9.170	
1,200.00	1,196.61	1,198.24	1,195.45	4.27	4.08	-128.734	41.64	49.64	76.19	67.93	8.26	9.219	
1,250.00	1,246.37	1,248.10	1,245.12	4.47	4.26	-128.376	43.32	53.65	80.00	71.37	8.64	9.264	
1,300.00	1,296.13	1,297.95	1,294.78	4.67	4.44	-128.051	45.00	57.66	83.82	74.81	9.01	9.305	
1,350.00	1,345.89	1,347.80	1,344.44	4.86	4.62	-127.754	46.68	61.68	87.64	78.26	9.38	9.342	
1,400.00	1,395.65	1,397.65	1,394.10	5.06	4.80	-127.483	48.36	65.69	91.46	81.71	9.75	9.377	
1,450.00	1,445.42	1,447.50	1,443.76	5.26	4.98	-127.232	50.04	69.70	95.28	85.16	10.13	9.409	
1,500.00	1,495.18	1,497.36	1,493.43	5.46	5.16	-127.002	51.72	73.72	99.11	88.61	10.50	9.439	
1,550.00	1,544.94	1,547.21	1,543.09	5.66	5.34	-126.788	53.40	77.73	102.94	92.06	10.87	9.466	
1,600.00	1,594.70	1,597.06	1,592.75	5.86	5.52	-126.590	55.08	81.74	106.76	95.52	11.25	9.492	
1,650.00	1,644.47	1,646.91	1,642.41	6.06	5.70	-126.405	56.76	85.75	110.59	98.97	11.62	9.516	
1,700.00	1,694.23	1,696.76	1,692.07	6.26	5.88	-126.233	58.43	89.77	114.42	102.43	12.00	9.539	
1,750.00	1,743.99	1,746.62	1,741.73	6.46	6.07	-126.072	60.11	93.78	118.25	105.88	12.37	9.560	
1,800.00	1,793.75	1,796.47	1,791.40	6.67	6.25	-125.921	61.79	97.79	122.08	109.34	12.74	9.580	
1,850.00	1,843.51	1,846.32	1,841.06	6.87	6.43	-125.779	63.47	101.81	125.92	112.80	13.12	9.598	
1,900.00	1,893.28	1,896.17	1,890.72	7.07	6.61	-125.645	65.15	105.82	129.75	116.26	13.49	9.616	
1,950.00	1,943.04	1,946.02	1,940.38	7.27	6.79	-125.520	66.83	109.83	133.58	119.71	13.87	9.632	
2,000.00	1,992.80	1,995.88	1,990.04	7.47	6.97	-125.401	68.51	113.84	137.42	123.17	14.24	9.648	
2,050.00	2,042.56	2,045.73	2,039.71	7.67	7.15	-125.289	70.19	117.86	141.25	126.63	14.62	9.663	
2,100.00	2,092.33	2,095.58	2,089.37	7.87	7.33	-125.182	71.87	121.87	145.09	130.10	14.99	9.677	
2,150.00	2,142.09	2,145.43	2,139.03	8.07	7.51	-125.081	73.55	125.88	148.92	133.56	15.37	9.691	
2,200.00	2,191.85	2,195.28	2,188.69	8.27	7.69	-124.986	75.23	129.90	152.76	137.02	15.74	9.704	
2,250.00	2,241.61	2,245.14	2,238.35	8.47	7.87	-124.894	76.91	133.91	156.60	140.48	16.12	9.716	
2,300.00	2,291.37	2,294.99	2,288.01	8.67	8.05	-124.808	78.58	137.92	160.43	143.94	16.49	9.727	
2,350.00	2,341.14	2,344.84	2,337.68	8.87	8.23	-124.725	80.26	141.94	164.27	147.40	16.87	9.738	
2,400.00	2,390.90	2,394.69	2,387.34	9.07	8.41	-124.646	81.94	145.95	168.11	150.87	17.24	9.749	
2,450.00	2,440.66	2,444.54	2,437.00	9.28	8.59	-124.571	83.62	149.96	171.95	154.33	17.62	9.759	
2,500.00	2,490.42	2,494.40	2,486.66	9.48	8.77	-124.499	85.30	153.97	175.79	157.79	17.99	9.769	
2,550.00	2,540.18	2,544.25	2,536.32	9.68	8.96	-124.429	86.98	157.99	179.62	161.25	18.37	9.778	
2,600.00	2,589.95	2,594.10	2,585.99	9.88	9.14	-124.363	88.66	162.00	183.46	164.72	18.75	9.787	
2,650.00	2,639.71	2,643.95	2,635.65	10.08	9.32	-124.300	90.34	166.01	187.30	168.18	19.12	9.796	
2,700.00	2,689.47	2,693.80	2,685.31	10.28	9.50	-124.239	92.02	170.03	191.14	171.64	19.50	9.804	
2,750.00	2,739.23	2,743.66	2,734.97	10.48	9.68	-124.181	93.70	174.04	194.98	175.11	19.87	9.812	
2,800.00	2,789.00	2,793.51	2,784.63	10.68	9.86	-124.124	95.38	178.05	198.82	178.57	20.25	9.820	
2,850.00	2,838.76	2,843.36	2,834.29	10.88	10.04	-124.070	97.06	182.06	202.66	182.04	20.62	9.827	
2,900.00	2,888.52	2,893.21	2,883.96	11.09	10.22	-124.018	98.73	186.08	206.50	185.50	21.00	9.834	
2,950.00	2,938.28	2,943.06	2,933.62	11.29	10.40	-123.968	100.41	190.09	210.34	188.97	21.37	9.841	
3,000.00	2,988.04	2,992.92	2,983.28	11.49	10.58	-123.920	102.09	194.10	214.18	192.43	21.75	9.847	
3,050.00	3,037.81	3,042.77	3,032.94	11.69	10.76	-123.873	103.77	198.12	218.02	195.90	22.13	9.854	
3,100.00	3,087.57	3,092.62	3,082.60	11.89	10.94	-123.828	105.45	202.13	221.86	199.36	22.50	9.860	
3,150.00	3,137.33	3,142.47	3,132.27	12.09	11.12	-123.784	107.13	206.14	225.70	202.83	22.88	9.866	
3,200.00	3,187.09	3,192.32	3,181.93	12.29	11.30	-123.742	108.81	210.16	229.54	206.29	23.25	9.871	
3,250.00	3,236.86	3,242.18	3,231.59	12.49	11.48	-123.702	110.49	214.17	233.39	209.76	23.63	9.877	
3,300.00	3,286.62	3,292.03	3,281.25	12.70	11.67	-123.662	112.17	218.18	237.23	213.22	24.00	9.882	
3,350.00	3,336.38	3,341.88	3,330.91	12.90	11.85	-123.624	113.85	222.19	241.07	216.69	24.38	9.888	
3,400.00	3,386.14	3,391.73	3,380.57	13.10	12.03	-123.587	115.53	226.21	244.91	220.15	24.76	9.893	
3,450.00	3,435.90	3,441.58	3,430.24	13.30	12.21	-123.551	117.21	230.22	248.75	223.62	25.13	9.898	
3,500.00	3,485.67	3,491.44	3,479.90	13.50	12.39	-123.517	118.88	234.23	252.59	227.08	25.51	9.902	
3,550.00	3,535.43	3,541.29	3,529.56	13.70	12.57	-123.483	120.56	238.25	256.43	230.55	25.88	9.907	
3,600.00	3,585.19	3,591.14	3,579.22	13.90	12.75	-123.450	122.24	242.26	260.28	234.02	26.26	9.911	
3,650.00	3,634.95	3,640.99	3,628.88	14.11	12.93	-123.419	123.92	246.27	264.12	237.48	26.64	9.916	
3,700.00	3,684.72	3,690.84	3,678.55	14.31	13.11	-123.388	125.60	250.28	267.96	240.95	27.01	9.920	

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



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	LEA COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Reference Site:	MILLER 14 FEDERAL COM	MD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MILLER 14 FEDERAL COM - 71H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
3,750.00	3,734.48	3,740.70	3,728.21	14.51	13.29	-123.358	127.28	254.30	271.80	244.41	27.39	9.924	
3,800.00	3,784.24	3,790.55	3,777.87	14.71	13.47	-123.329	128.96	258.31	275.64	247.88	27.76	9.928	
3,850.00	3,834.00	3,840.40	3,827.53	14.91	13.65	-123.300	130.64	262.32	279.49	251.35	28.14	9.932	
3,900.00	3,883.76	3,890.25	3,877.19	15.11	13.83	-123.273	132.32	266.34	283.33	254.81	28.52	9.936	
3,950.00	3,933.53	3,940.10	3,926.85	15.31	14.01	-123.246	134.00	270.35	287.17	258.28	28.89	9.939	
4,000.00	3,983.29	3,989.96	3,976.52	15.52	14.20	-123.220	135.68	274.36	291.01	261.74	29.27	9.943	
4,050.00	4,033.05	4,039.81	4,026.18	15.72	14.38	-123.195	137.36	278.37	294.85	265.21	29.64	9.946	
4,100.00	4,082.81	4,089.66	4,075.84	15.92	14.56	-123.170	139.03	282.39	298.70	268.68	30.02	9.950	
4,150.00	4,132.57	4,139.51	4,125.50	16.12	14.74	-123.146	140.71	286.40	302.54	272.14	30.40	9.953	
4,200.00	4,182.34	4,189.36	4,175.16	16.32	14.92	-123.122	142.39	290.41	306.38	275.61	30.77	9.956	
4,250.00	4,232.10	4,239.22	4,224.83	16.52	15.10	-123.099	144.07	294.43	310.22	279.08	31.15	9.960	
4,300.00	4,281.86	4,289.07	4,274.49	16.72	15.28	-123.077	145.75	298.44	314.07	282.54	31.52	9.963	
4,350.00	4,331.62	4,338.92	4,324.15	16.93	15.46	-123.055	147.43	302.45	317.91	286.01	31.90	9.966	
4,400.00	4,381.39	4,388.77	4,373.81	17.13	15.64	-123.034	149.11	306.47	321.75	289.48	32.28	9.969	
4,450.00	4,431.15	4,438.62	4,423.47	17.33	15.82	-123.013	150.79	310.48	325.60	292.94	32.65	9.972	
4,500.00	4,480.91	4,488.47	4,473.13	17.53	16.00	-122.993	152.47	314.49	329.44	296.41	33.03	9.974	
4,550.00	4,530.67	4,538.33	4,522.80	17.73	16.18	-122.973	154.15	318.50	333.28	299.88	33.40	9.977	
4,600.00	4,580.43	4,588.18	4,572.46	17.93	16.36	-122.953	155.83	322.52	337.12	303.34	33.78	9.980	
4,650.00	4,630.20	4,638.03	4,622.12	18.13	16.54	-122.934	157.51	326.53	340.97	306.81	34.16	9.982	
4,700.00	4,679.96	4,687.88	4,671.78	18.34	16.73	-122.916	159.18	330.54	344.81	310.28	34.53	9.985	
4,750.00	4,729.72	4,737.73	4,721.44	18.54	16.91	-122.898	160.86	334.56	348.65	313.74	34.91	9.987	
4,800.00	4,779.48	4,787.59	4,771.11	18.74	17.09	-122.880	162.54	338.57	352.50	317.21	35.29	9.990	
4,850.00	4,829.25	4,837.44	4,820.77	18.94	17.27	-122.863	164.22	342.58	356.34	320.68	35.66	9.992	
4,900.00	4,879.01	4,887.29	4,870.43	19.14	17.45	-122.846	165.90	346.59	360.18	324.14	36.04	9.995	
4,950.00	4,928.77	4,937.14	4,920.09	19.34	17.63	-122.829	167.58	350.61	364.03	327.61	36.41	9.997	
4,974.53	4,953.19	4,961.60	4,944.46	19.44	17.72	-122.821	168.40	352.58	365.91	329.31	36.60	9.998	
5,000.00	4,978.56	4,986.99	4,969.75	19.54	17.81	-131.608	169.26	354.62	367.82	331.03	36.79	9.998	
5,050.00	5,028.48	5,036.79	5,019.36	19.72	17.99	-174.784	170.94	358.63	371.32	334.16	37.16	9.992	
5,100.00	5,078.42	5,086.41	5,068.79	19.88	18.17	126.949	172.61	362.62	374.52	337.00	37.51	9.983	
5,150.00	5,128.26	5,135.70	5,117.89	20.01	18.35	107.519	174.27	366.59	377.52	339.66	37.85	9.973	
5,200.00	5,177.84	5,184.54	5,166.54	20.13	18.53	101.080	175.91	370.52	380.47	342.29	38.18	9.964	
5,250.00	5,227.04	5,232.79	5,214.61	20.24	18.70	98.802	177.54	374.41	383.56	345.06	38.50	9.963	
5,300.00	5,275.72	5,280.31	5,261.95	20.33	18.87	98.388	179.14	378.23	387.02	348.23	38.80	9.976	
5,350.00	5,323.74	5,326.99	5,308.45	20.41	19.04	98.999	180.71	381.99	391.13	352.06	39.07	10.011	
5,400.00	5,370.98	5,372.69	5,353.97	20.49	19.21	100.235	182.25	385.67	396.17	356.86	39.31	10.078	
5,450.00	5,417.31	5,417.63	5,398.74	20.55	19.37	101.886	183.76	389.28	402.45	362.94	39.52	10.185	
5,500.00	5,462.59	5,466.25	5,447.27	20.62	19.54	103.944	185.37	391.73	409.96	370.28	39.68	10.332	
5,550.00	5,506.71	5,516.22	5,497.21	20.68	19.72	106.069	186.97	391.68	418.49	378.71	39.79	10.518	
5,600.00	5,549.55	5,567.65	5,548.54	20.74	19.89	108.217	188.56	388.90	427.97	388.14	39.84	10.743	
5,650.00	5,590.98	5,620.68	5,601.22	20.81	20.05	110.360	190.12	383.14	438.29	398.47	39.82	11.006	
5,700.00	5,630.89	5,675.43	5,655.19	20.90	20.22	112.477	191.65	374.14	449.33	409.58	39.75	11.303	
5,750.00	5,669.18	5,732.05	5,710.38	21.00	20.40	114.553	193.14	361.59	460.97	421.34	39.63	11.632	
5,800.00	5,705.73	5,790.69	5,766.64	21.13	20.57	116.578	194.58	345.17	473.08	433.63	39.45	11.991	
5,850.00	5,740.46	5,851.51	5,823.82	21.31	20.75	118.544	195.96	324.52	485.50	446.27	39.23	12.376	
5,900.00	5,773.25	5,914.66	5,881.69	21.55	20.93	120.446	197.26	299.28	498.10	459.13	38.97	12.781	
5,950.00	5,804.03	5,980.31	5,939.93	21.86	21.11	122.277	198.46	269.05	510.70	472.02	38.68	13.202	
6,000.00	5,832.71	6,048.60	5,998.18	22.24	21.30	124.033	199.54	233.43	523.16	484.77	38.38	13.630	
6,050.00	5,859.21	6,119.67	6,055.92	22.71	21.50	125.709	200.48	192.04	535.28	497.21	38.08	14.057	
6,058.49	5,863.48	6,132.02	6,065.63	22.79	21.53	125.985	200.63	184.42	537.30	499.27	38.03	14.129	
6,100.00	5,884.24	6,194.08	6,112.91	23.24	21.71	127.743	201.26	144.24	546.41	508.48	37.93	14.406	
6,150.00	5,909.24	6,272.37	6,168.67	23.86	21.92	129.414	201.84	89.32	555.28	517.30	37.99	14.618	
6,200.00	5,934.24	6,353.75	6,221.67	24.48	22.16	130.568	202.18	27.59	561.55	523.33	38.22	14.694	

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



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	LEA COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Reference Site:	MILLER 14 FEDERAL COM	MD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MILLER 14 FEDERAL COM - 71H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
6,250.00	5,959.24	6,437.19	6,270.35	25.18	22.40	131.187	202.25	-40.14	564.96	526.26	38.70	14.599	
6,258.49	5,963.48	6,451.47	6,278.08	25.30	22.45	131.238	202.23	-52.15	565.24	526.44	38.80	14.568	
6,300.00	5,982.92	6,508.87	6,307.47	25.93	22.62	131.337	202.09	-101.45	566.56	527.77	38.79	14.604	
6,350.00	6,002.73	6,558.52	6,332.29	26.77	22.79	131.483	201.94	-144.45	570.40	531.54	38.87	14.675	
6,400.00	6,018.46	6,607.47	6,356.77	27.68	22.95	131.716	201.79	-186.84	577.19	538.12	39.07	14.775	
6,450.00	6,030.00	6,655.36	6,380.71	28.66	23.13	131.997	201.65	-228.32	586.98	547.56	39.42	14.892	
6,500.00	6,037.26	6,733.42	6,418.34	29.69	23.42	133.113	201.41	-296.68	599.55	560.01	39.54	15.163	
6,550.00	6,040.18	6,927.85	6,471.67	30.77	24.15	135.484	200.76	-482.68	607.44	568.11	39.33	15.443	
6,575.24	6,040.00	7,009.16	6,474.86	31.33	24.45	135.667	200.47	-563.86	608.04	568.19	39.86	15.255	
6,600.00	6,039.28	7,033.92	6,474.37	31.89	24.54	135.683	200.39	-588.62	608.22	567.89	40.33	15.082	
6,650.00	6,037.82	7,083.92	6,473.40	33.05	24.73	135.715	200.21	-638.60	608.57	567.26	41.30	14.734	
6,700.00	6,036.35	7,133.91	6,472.43	34.22	24.94	135.747	200.04	-688.59	608.91	566.62	42.29	14.398	
6,750.00	6,034.89	7,183.91	6,471.45	35.45	25.16	135.779	199.86	-738.58	609.26	565.94	43.33	14.062	
6,800.00	6,033.43	7,233.91	6,470.48	36.68	25.38	135.811	199.69	-788.57	609.61	565.24	44.37	13.738	
6,850.00	6,031.97	7,283.91	6,469.50	37.96	25.62	135.843	199.52	-838.56	609.96	564.50	45.46	13.418	
6,900.00	6,030.51	7,333.90	6,468.53	39.24	25.87	135.875	199.34	-888.54	610.31	563.76	46.55	13.110	
6,950.00	6,029.05	7,383.90	6,467.55	40.56	26.13	135.906	199.17	-938.53	610.66	562.98	47.68	12.808	
7,000.00	6,027.59	7,433.90	6,466.58	41.88	26.39	135.938	198.99	-988.52	611.01	562.19	48.82	12.517	
7,050.00	6,026.12	7,483.90	6,465.60	43.23	26.67	135.970	198.82	-1,038.51	611.36	561.38	49.98	12.232	
7,100.00	6,024.66	7,533.89	6,464.63	44.58	26.95	136.002	198.64	-1,088.49	611.71	560.56	51.15	11.959	
7,150.00	6,023.20	7,583.89	6,463.66	45.97	27.25	136.033	198.47	-1,138.48	612.06	559.72	52.34	11.693	
7,200.00	6,021.74	7,633.89	6,462.68	47.35	27.55	136.065	198.29	-1,188.47	612.41	558.87	53.55	11.437	
7,250.00	6,020.28	7,683.89	6,461.71	48.75	27.86	136.097	198.12	-1,238.46	612.76	558.00	54.77	11.188	
7,300.00	6,018.82	7,733.89	6,460.73	50.15	28.18	136.128	197.95	-1,288.45	613.11	557.12	56.00	10.949	
7,350.00	6,017.36	7,783.88	6,459.76	51.58	28.50	136.160	197.77	-1,338.43	613.47	556.23	57.24	10.718	
7,400.00	6,015.90	7,833.88	6,458.78	53.00	28.84	136.191	197.60	-1,388.42	613.82	555.33	58.49	10.494	
7,450.00	6,014.43	7,883.88	6,457.81	54.44	29.18	136.223	197.42	-1,438.41	614.17	554.41	59.75	10.278	
7,500.00	6,012.97	7,933.88	6,456.84	55.88	29.52	136.254	197.25	-1,488.40	614.52	553.50	61.02	10.070	
7,550.00	6,011.51	7,983.87	6,455.86	57.33	29.88	136.285	197.07	-1,538.38	614.87	552.57	62.31	9.869	
7,600.00	6,010.05	8,033.87	6,454.89	58.79	30.24	136.317	196.90	-1,588.37	615.22	551.63	63.59	9.674	
7,650.00	6,008.59	8,083.87	6,453.91	60.25	30.60	136.348	196.73	-1,638.36	615.58	550.69	64.89	9.486	
7,700.00	6,007.13	8,133.87	6,452.94	61.72	30.98	136.379	196.55	-1,688.35	615.93	549.74	66.19	9.305	
7,750.00	6,005.67	8,183.86	6,451.96	63.20	31.35	136.411	196.38	-1,738.34	616.28	548.78	67.50	9.130	
7,800.00	6,004.20	8,233.86	6,450.99	64.67	31.74	136.442	196.20	-1,788.32	616.63	547.82	68.82	8.960	
7,850.00	6,002.74	8,283.86	6,450.01	66.16	32.12	136.473	196.03	-1,838.31	616.99	546.85	70.14	8.796	
7,900.00	6,001.28	8,333.86	6,449.04	67.64	32.52	136.504	195.85	-1,888.30	617.34	545.87	71.47	8.638	
7,950.00	5,999.82	8,383.85	6,448.07	69.14	32.92	136.535	195.68	-1,938.29	617.69	544.89	72.80	8.485	
8,000.00	5,998.36	8,433.85	6,447.09	70.63	33.32	136.566	195.50	-1,988.28	618.05	543.91	74.14	8.337	
8,050.00	5,996.90	8,483.85	6,446.12	72.13	33.73	136.597	195.33	-2,038.26	618.40	542.92	75.48	8.193	
8,100.00	5,995.44	8,533.85	6,445.14	73.63	34.14	136.628	195.16	-2,088.25	618.76	541.93	76.82	8.054	
8,150.00	5,993.98	8,583.85	6,444.17	75.14	34.56	136.659	194.98	-2,138.24	619.11	540.93	78.17	7.920	
8,200.00	5,992.51	8,633.84	6,443.19	76.64	34.98	136.690	194.81	-2,188.23	619.46	539.94	79.53	7.789	
8,250.00	5,991.05	8,683.84	6,442.22	78.16	35.40	136.721	194.63	-2,238.21	619.82	538.93	80.88	7.663	
8,300.00	5,989.59	8,733.84	6,441.25	79.67	35.83	136.752	194.46	-2,288.20	620.17	537.93	82.24	7.541	
8,350.00	5,988.13	8,783.84	6,440.27	81.18	36.26	136.783	194.28	-2,338.19	620.53	536.92	83.61	7.422	
8,400.00	5,986.67	8,833.83	6,439.30	82.70	36.70	136.813	194.11	-2,388.18	620.88	535.91	84.97	7.307	
8,450.00	5,985.21	8,883.83	6,438.32	84.22	37.14	136.844	193.93	-2,438.17	621.24	534.90	86.34	7.195	
8,500.00	5,983.75	8,933.83	6,437.35	85.74	37.58	136.875	193.76	-2,488.15	621.59	533.88	87.71	7.087	
8,550.00	5,982.28	8,983.83	6,436.37	87.27	38.03	136.906	193.59	-2,538.14	621.95	532.86	89.09	6.982	
8,600.00	5,980.82	9,033.82	6,435.40	88.79	38.48	136.936	193.41	-2,588.13	622.30	531.84	90.46	6.879	
8,650.00	5,979.36	9,083.82	6,434.42	90.32	38.93	136.967	193.24	-2,638.12	622.66	530.82	91.84	6.780	
8,700.00	5,977.90	9,133.82	6,433.45	91.85	39.38	136.997	193.06	-2,688.10	623.02	529.80	93.22	6.684	

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



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	LEA COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Reference Site:	MILLER 14 FEDERAL COM	MD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MILLER 14 FEDERAL COM - 71H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
8,750.00	5,976.44	9,183.82	6,432.48	93.38	39.84	137.028	192.89	-2,738.09	623.37	528.78	94.60	6.590	
8,800.00	5,974.98	9,233.81	6,431.50	94.92	40.30	137.058	192.71	-2,788.08	623.73	527.75	95.98	6.499	
8,850.00	5,973.52	9,283.81	6,430.53	96.45	40.77	137.089	192.54	-2,838.07	624.09	526.72	97.36	6.410	
8,900.00	5,972.06	9,333.81	6,429.55	97.99	41.23	137.119	192.36	-2,888.06	624.44	525.69	98.75	6.324	
8,950.00	5,970.59	9,383.81	6,428.58	99.52	41.70	137.150	192.19	-2,938.04	624.80	524.66	100.13	6.240	
9,000.00	5,969.13	9,433.80	6,427.60	101.06	42.17	137.180	192.02	-2,988.03	625.16	523.63	101.52	6.158	
9,050.00	5,967.67	9,483.80	6,426.63	102.60	42.64	137.210	191.84	-3,038.02	625.51	522.60	102.91	6.078	
9,100.00	5,966.21	9,533.80	6,425.65	104.14	43.12	137.241	191.67	-3,088.01	625.87	521.57	104.30	6.001	
9,150.00	5,964.75	9,583.80	6,424.68	105.68	43.59	137.271	191.49	-3,138.00	626.23	520.54	105.69	5.925	
9,200.00	5,963.29	9,633.80	6,423.71	107.22	44.07	137.301	191.32	-3,187.98	626.59	519.51	107.08	5.851	
9,250.00	5,961.83	9,683.79	6,422.73	108.77	44.55	137.331	191.14	-3,237.97	626.95	518.47	108.47	5.780	
9,300.00	5,960.36	9,733.79	6,421.76	110.31	45.04	137.361	190.97	-3,287.96	627.30	517.44	109.87	5.710	
9,350.00	5,958.90	9,783.79	6,420.78	111.86	45.52	137.392	190.80	-3,337.95	627.66	516.40	111.26	5.641	
9,400.00	5,957.44	9,833.79	6,419.81	113.40	46.01	137.422	190.62	-3,387.93	628.02	515.37	112.65	5.575	
9,450.00	5,955.98	9,883.78	6,418.83	114.95	46.49	137.452	190.45	-3,437.92	628.38	514.33	114.05	5.510	
9,500.00	5,954.52	9,933.78	6,417.86	116.50	46.98	137.482	190.27	-3,487.91	628.74	513.30	115.44	5.446	
9,550.00	5,953.06	9,983.78	6,416.89	118.05	47.48	137.512	190.10	-3,537.90	629.10	512.26	116.84	5.384	
9,600.00	5,951.60	10,033.78	6,415.91	119.60	47.97	137.542	189.92	-3,587.89	629.46	511.23	118.23	5.324	
9,650.00	5,950.14	10,083.77	6,414.94	121.15	48.46	137.571	189.75	-3,637.87	629.82	510.19	119.63	5.265	
9,700.00	5,948.67	10,133.77	6,413.96	122.70	48.96	137.601	189.57	-3,687.86	630.18	509.16	121.02	5.207	
9,750.00	5,947.21	10,183.77	6,412.99	124.25	49.46	137.631	189.40	-3,737.85	630.54	508.12	122.42	5.151	
9,800.00	5,945.75	10,233.77	6,412.01	125.80	49.96	137.661	189.23	-3,787.84	630.90	507.08	123.81	5.096	
9,850.00	5,944.29	10,283.76	6,411.04	127.35	50.46	137.691	189.05	-3,837.82	631.26	506.05	125.21	5.042	
9,900.00	5,942.83	10,333.76	6,410.06	128.91	50.96	137.721	188.88	-3,887.81	631.62	505.01	126.60	4.989	
9,950.00	5,941.37	10,383.76	6,409.09	130.46	51.46	137.750	188.70	-3,937.80	631.98	503.98	128.00	4.937	
10,000.00	5,939.91	10,433.76	6,408.12	132.01	51.97	137.780	188.53	-3,987.79	632.34	502.95	129.39	4.887	
10,050.00	5,938.44	10,483.75	6,407.14	133.57	52.47	137.810	188.35	-4,037.78	632.70	501.91	130.79	4.838	
10,100.00	5,936.98	10,533.75	6,406.17	135.12	52.98	137.839	188.18	-4,087.76	633.06	500.88	132.18	4.789	
10,150.00	5,935.52	10,583.75	6,405.19	136.68	53.48	137.869	188.00	-4,137.75	633.42	499.84	133.57	4.742	
10,200.00	5,934.06	10,633.75	6,404.22	138.24	53.99	137.898	187.83	-4,187.74	633.78	498.81	134.97	4.696	
10,250.00	5,932.60	10,683.75	6,403.24	139.79	54.50	137.928	187.66	-4,237.73	634.14	497.78	136.36	4.650	
10,300.00	5,931.14	10,733.74	6,402.27	141.35	55.01	137.957	187.48	-4,287.72	634.50	496.75	137.76	4.606	
10,350.00	5,929.68	10,783.74	6,401.30	142.91	55.53	137.987	187.31	-4,337.70	634.87	495.72	139.15	4.562	
10,400.00	5,928.22	10,833.74	6,400.32	144.47	56.04	138.016	187.13	-4,387.69	635.23	494.69	140.54	4.520	
10,450.00	5,926.75	10,883.74	6,399.35	146.03	56.55	138.045	186.96	-4,437.68	635.59	493.66	141.93	4.478	
10,500.00	5,925.29	10,933.73	6,398.37	147.59	57.07	138.075	186.78	-4,487.67	635.95	492.63	143.33	4.437	
10,550.00	5,923.83	10,983.73	6,397.40	149.14	57.58	138.104	186.61	-4,537.65	636.31	491.60	144.72	4.397	
10,600.00	5,922.37	11,033.73	6,396.42	150.70	58.10	138.133	186.43	-4,587.64	636.68	490.57	146.11	4.358	
10,650.00	5,920.91	11,083.73	6,395.45	152.26	58.62	138.163	186.26	-4,637.63	637.04	489.54	147.50	4.319	
10,700.00	5,919.45	11,133.72	6,394.47	153.83	59.14	138.192	186.09	-4,687.62	637.40	488.51	148.89	4.281	
10,750.00	5,917.99	11,183.72	6,393.50	155.39	59.66	138.221	185.91	-4,737.61	637.77	487.49	150.28	4.244	
10,800.00	5,916.52	11,233.72	6,392.53	156.95	60.18	138.250	185.74	-4,787.59	638.13	486.46	151.67	4.207	
10,850.00	5,915.06	11,283.72	6,391.55	158.51	60.70	138.279	185.56	-4,837.58	638.49	485.44	153.05	4.172	
10,900.00	5,913.60	11,333.71	6,390.58	160.07	61.22	138.308	185.39	-4,887.57	638.86	484.41	154.44	4.137	
10,950.00	5,912.14	11,383.71	6,389.60	161.63	61.74	138.337	185.21	-4,937.56	639.22	483.39	155.83	4.102	
11,000.00	5,910.68	11,433.71	6,388.63	163.19	62.26	138.366	185.04	-4,987.54	639.58	482.37	157.21	4.068	
11,050.00	5,909.22	11,483.71	6,387.65	164.76	62.79	138.395	184.87	-5,037.53	639.95	481.35	158.60	4.035	
11,100.00	5,907.76	11,533.71	6,386.68	166.32	63.31	138.424	184.69	-5,087.52	640.31	480.33	159.98	4.002	
11,150.00	5,906.30	11,583.70	6,385.71	167.88	63.84	138.453	184.52	-5,137.51	640.68	479.31	161.37	3.970	
11,200.00	5,904.83	11,633.70	6,384.73	169.45	64.36	138.482	184.34	-5,187.50	641.04	478.29	162.75	3.939	
11,250.00	5,903.37	11,683.70	6,383.76	171.01	64.89	138.511	184.17	-5,237.48	641.41	477.27	164.13	3.908	
11,300.00	5,901.91	11,733.70	6,382.78	172.58	65.42	138.540	183.99	-5,287.47	641.77	476.25	165.52	3.877	

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



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	LEA COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Reference Site:	MILLER 14 FEDERAL COM	MD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MILLER 14 FEDERAL COM - 71H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
11,350.00	5,900.45	11,783.69	6,381.81	174.14	65.94	138.568	183.82	-5,337.46	642.14	475.24	166.90	3.847	
11,400.00	5,898.99	11,833.69	6,380.83	175.70	66.47	138.597	183.64	-5,387.45	642.50	474.22	168.28	3.818	
11,450.00	5,897.53	11,883.69	6,379.86	177.27	67.00	138.626	183.47	-5,437.44	642.87	473.21	169.66	3.789	
11,500.00	5,896.07	11,933.69	6,378.88	178.83	67.53	138.654	183.30	-5,487.42	643.23	472.20	171.04	3.761	
11,550.00	5,894.61	11,983.68	6,377.91	180.40	68.06	138.683	183.12	-5,537.41	643.60	471.18	172.41	3.733	
11,600.00	5,893.14	12,033.68	6,376.94	181.96	68.59	138.712	182.95	-5,587.40	643.96	470.17	173.79	3.705	
11,650.00	5,891.68	12,083.68	6,375.96	183.53	69.12	138.740	182.77	-5,637.39	644.33	469.16	175.17	3.678	
11,657.64	5,891.46	12,091.32	6,375.81	183.77	69.20	138.745	182.75	-5,645.02	644.39	469.01	175.38	3.674	
11,700.00	5,890.22	12,133.00	6,375.00	185.10	69.64	138.768	182.60	-5,686.70	644.70	468.16	176.54	3.652	
11,707.56	5,890.00	12,133.00	6,375.00	185.33	69.64	138.768	182.60	-5,686.70	644.80	468.10	176.70	3.649 SF	

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



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	LEA COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Reference Site:	MILLER 14 FEDERAL COM	MD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MILLER 14 FEDERAL COM - OFFSET: MALMAR UNIT TR-2 #12 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 100-UNKNOWN												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis					Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
200.00	200.00	188.00	200.00	0.50	5.52	64.203	98.23	203.23	225.72	219.70	6.02	37.484	
250.00	250.00	238.00	250.00	0.68	7.52	64.203	98.23	203.23	225.72	217.52	8.20	27.524	
300.00	300.00	288.00	300.00	0.86	9.52	64.203	98.23	203.23	225.72	215.34	10.38	21.745	
350.00	350.00	338.00	350.00	1.03	11.52	-52.046	98.23	203.23	225.46	212.90	12.55	17.958	
400.00	399.98	387.98	399.98	1.21	13.52	-52.322	98.23	203.23	224.65	209.93	14.73	15.254	
450.00	449.93	437.93	449.93	1.38	15.52	-52.786	98.23	203.23	223.33	206.43	16.90	13.216	
500.00	499.84	487.84	499.84	1.56	17.51	-53.443	98.23	203.23	221.49	202.43	19.06	11.618	
550.00	549.68	537.68	549.68	1.74	19.51	-54.303	98.23	203.23	219.17	197.94	21.23	10.324	
579.52	579.07	567.07	579.07	1.85	20.68	-54.910	98.23	203.23	217.59	195.09	22.51	9.668	
600.00	599.46	587.46	599.46	1.92	21.50	-55.341	98.23	203.23	216.45	193.05	23.40	9.251	
650.00	649.22	637.22	649.22	2.11	23.49	-56.411	98.23	203.23	213.71	188.14	25.57	8.358	
700.00	698.98	686.98	698.98	2.30	25.48	-57.509	98.23	203.23	211.04	183.30	27.75	7.606	
750.00	748.75	736.75	748.75	2.50	27.47	-58.635	98.23	203.23	208.46	178.53	29.92	6.966	
800.00	798.51	786.51	798.51	2.69	29.46	-59.788	98.23	203.23	205.95	173.85	32.10	6.415	
850.00	848.27	836.27	848.27	2.88	31.45	-60.968	98.23	203.23	203.54	169.25	34.29	5.936	
900.00	898.03	886.03	898.03	3.08	33.44	-62.176	98.23	203.23	201.21	164.74	36.47	5.517	
950.00	947.79	935.79	947.79	3.28	35.43	-63.412	98.23	203.23	198.98	160.32	38.66	5.147	
1,000.00	997.56	985.56	997.56	3.47	37.42	-64.675	98.23	203.23	196.84	155.99	40.85	4.819	
1,050.00	1,047.32	1,035.32	1,047.32	3.67	39.41	-65.965	98.23	203.23	194.79	151.76	43.04	4.526	
1,100.00	1,097.08	1,085.08	1,097.08	3.87	41.40	-67.282	98.23	203.23	192.85	147.63	45.22	4.264	
1,150.00	1,146.84	1,134.84	1,146.84	4.07	43.39	-68.624	98.23	203.23	191.02	143.60	47.42	4.029	
1,200.00	1,196.61	1,184.61	1,196.61	4.27	45.38	-69.991	98.23	203.23	189.29	139.68	49.61	3.816	
1,250.00	1,246.37	1,234.37	1,246.37	4.47	47.37	-71.383	98.23	203.23	187.67	135.87	51.80	3.623	
1,300.00	1,296.13	1,284.13	1,296.13	4.67	49.37	-72.797	98.23	203.23	186.17	132.17	53.99	3.448	
1,350.00	1,345.89	1,333.89	1,345.89	4.86	51.36	-74.234	98.23	203.23	184.78	128.59	56.19	3.289	
1,400.00	1,395.65	1,383.65	1,395.65	5.06	53.35	-75.691	98.23	203.23	183.51	125.13	58.38	3.143	
1,450.00	1,445.42	1,433.42	1,445.42	5.26	55.34	-77.167	98.23	203.23	182.36	121.78	60.58	3.010	
1,500.00	1,495.18	1,483.18	1,495.18	5.46	57.33	-78.661	98.23	203.23	181.34	118.56	62.77	2.889	
1,550.00	1,544.94	1,532.94	1,544.94	5.66	59.32	-80.171	98.23	203.23	180.44	115.47	64.97	2.777	
1,600.00	1,594.70	1,582.70	1,594.70	5.86	61.31	-81.694	98.23	203.23	179.67	112.50	67.16	2.675	
1,650.00	1,644.47	1,632.47	1,644.47	6.06	63.30	-83.230	98.23	203.23	179.02	109.67	69.36	2.581	
1,700.00	1,694.23	1,682.23	1,694.23	6.26	65.29	-84.775	98.23	203.23	178.51	106.96	71.55	2.495	
1,750.00	1,743.99	1,731.99	1,743.99	6.46	67.28	-86.328	98.23	203.23	178.13	104.39	73.74	2.416	
1,800.00	1,793.75	1,781.75	1,793.75	6.67	69.27	-87.887	98.23	203.23	177.89	101.95	75.93	2.343	
1,850.00	1,843.51	1,831.51	1,843.51	6.87	71.26	-89.448	98.23	203.23	177.77	99.65	78.13	2.275	
1,867.66	1,861.09	1,849.09	1,861.09	6.94	71.96	-90.000	98.23	203.23	177.76	98.86	78.90	2.253 CC	
1,900.00	1,893.28	1,881.28	1,893.28	7.07	73.25	-91.010	98.23	203.23	177.79	97.47	80.32	2.214	
1,950.00	1,943.04	1,931.04	1,943.04	7.27	75.24	-92.571	98.23	203.23	177.94	95.44	82.50	2.157	
2,000.00	1,992.80	1,980.80	1,992.80	7.47	77.23	-94.128	98.23	203.23	178.23	93.54	84.69	2.104	
2,050.00	2,042.56	2,030.56	2,042.56	7.67	79.22	-95.679	98.23	203.23	178.65	91.77	86.88	2.056	
2,100.00	2,092.33	2,080.33	2,092.33	7.87	81.21	-97.222	98.23	203.23	179.20	90.14	89.06	2.012	
2,150.00	2,142.09	2,130.09	2,142.09	8.07	83.20	-98.754	98.23	203.23	179.88	88.63	91.25	1.971	
2,200.00	2,191.85	2,179.85	2,191.85	8.27	85.19	-100.274	98.23	203.23	180.69	87.26	93.43	1.934	
2,250.00	2,241.61	2,229.61	2,241.61	8.47	87.18	-101.779	98.23	203.23	181.62	86.02	95.61	1.900	
2,300.00	2,291.37	2,279.37	2,291.37	8.67	89.17	-103.268	98.23	203.23	182.68	84.90	97.78	1.868	
2,350.00	2,341.14	2,329.14	2,341.14	8.87	91.17	-104.739	98.23	203.23	183.87	83.91	99.96	1.839	
2,400.00	2,390.90	2,378.90	2,390.90	9.07	93.16	-106.190	98.23	203.23	185.17	83.04	102.14	1.813	
2,450.00	2,440.66	2,428.66	2,440.66	9.28	95.15	-107.620	98.23	203.23	186.60	82.29	104.31	1.789	
2,500.00	2,490.42	2,478.42	2,490.42	9.48	97.14	-109.028	98.23	203.23	188.13	81.65	106.48	1.767	
2,550.00	2,540.18	2,528.18	2,540.18	9.68	99.13	-110.413	98.23	203.23	189.78	81.13	108.65	1.747	
2,600.00	2,589.95	2,577.95	2,589.95	9.88	101.12	-111.773	98.23	203.23	191.54	80.73	110.82	1.728	
2,650.00	2,639.71	2,627.71	2,639.71	10.08	103.11	-113.107	98.23	203.23	193.41	80.43	112.98	1.712	

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



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	LEA COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Reference Site:	MILLER 14 FEDERAL COM	MD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MILLER 14 FEDERAL COM - OFFSET: MALMAR UNIT TR-2 #12 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 100-UNKNOWN												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
2,700.00	2,689.47	2,677.47	2,689.47	10.28	105.10	-114.416	98.23	203.23	195.38	80.23	115.15	1.697	
2,750.00	2,739.23	2,727.23	2,739.23	10.48	107.09	-115.698	98.23	203.23	197.45	80.14	117.31	1.683	ES
2,800.00	2,789.00	2,777.00	2,789.00	10.68	109.08	-116.953	98.23	203.23	199.62	80.15	119.48	1.671	
2,850.00	2,838.76	2,826.76	2,838.76	10.88	111.07	-118.181	98.23	203.23	201.88	80.25	121.64	1.660	
2,900.00	2,888.52	2,876.52	2,888.52	11.09	113.06	-119.381	98.23	203.23	204.24	80.44	123.80	1.650	
2,950.00	2,938.28	2,926.28	2,938.28	11.29	115.05	-120.554	98.23	203.23	206.68	80.72	125.96	1.641	
3,000.00	2,988.04	2,976.04	2,988.04	11.49	117.04	-121.699	98.23	203.23	209.21	81.09	128.11	1.633	
3,050.00	3,037.81	3,025.81	3,037.81	11.69	119.03	-122.816	98.23	203.23	211.82	81.54	130.27	1.626	
3,100.00	3,087.57	3,075.57	3,087.57	11.89	121.02	-123.906	98.23	203.23	214.50	82.07	132.43	1.620	
3,150.00	3,137.33	3,125.33	3,137.33	12.09	123.01	-124.968	98.23	203.23	217.27	82.68	134.59	1.614	
3,200.00	3,187.09	3,175.09	3,187.09	12.29	125.00	-126.004	98.23	203.23	220.10	83.36	136.74	1.610	
3,250.00	3,236.86	3,224.86	3,236.86	12.49	126.99	-127.014	98.23	203.23	223.01	84.11	138.90	1.606	
3,300.00	3,286.62	3,274.62	3,286.62	12.70	128.98	-127.997	98.23	203.23	225.98	84.93	141.05	1.602	
3,350.00	3,336.38	3,324.38	3,336.38	12.90	130.98	-128.954	98.23	203.23	229.02	85.82	143.20	1.599	
3,400.00	3,386.14	3,374.14	3,386.14	13.10	132.97	-129.887	98.23	203.23	232.13	86.77	145.36	1.597	
3,450.00	3,435.90	3,423.90	3,435.90	13.30	134.96	-130.794	98.23	203.23	235.29	87.78	147.51	1.595	
3,500.00	3,485.67	3,473.67	3,485.67	13.50	136.95	-131.678	98.23	203.23	238.51	88.84	149.66	1.594	
3,550.00	3,535.43	3,523.43	3,535.43	13.70	138.94	-132.538	98.23	203.23	241.78	89.97	151.82	1.593	
3,600.00	3,585.19	3,573.19	3,585.19	13.90	140.93	-133.375	98.23	203.23	245.11	91.14	153.97	1.592	
3,650.00	3,634.95	3,622.95	3,634.95	14.11	142.92	-134.189	98.23	203.23	248.49	92.37	156.12	1.592	SF
3,700.00	3,684.72	3,672.72	3,684.72	14.31	144.91	-134.982	98.23	203.23	251.92	93.64	158.27	1.592	
3,750.00	3,734.48	3,722.48	3,734.48	14.51	146.90	-135.753	98.23	203.23	255.39	94.96	160.43	1.592	
3,800.00	3,784.24	3,772.24	3,784.24	14.71	148.89	-136.503	98.23	203.23	258.91	96.33	162.58	1.593	
3,850.00	3,834.00	3,822.00	3,834.00	14.91	150.88	-137.233	98.23	203.23	262.47	97.74	164.73	1.593	
3,900.00	3,883.76	3,871.76	3,883.76	15.11	152.87	-137.944	98.23	203.23	266.08	99.19	166.88	1.594	
3,950.00	3,933.53	3,921.53	3,933.53	15.31	154.86	-138.636	98.23	203.23	269.72	100.69	169.03	1.596	
4,000.00	3,983.29	3,971.29	3,983.29	15.52	156.85	-139.309	98.23	203.23	273.40	102.22	171.19	1.597	
4,050.00	4,033.05	4,021.05	4,033.05	15.72	158.84	-139.964	98.23	203.23	277.12	103.78	173.34	1.599	
4,100.00	4,082.81	4,070.81	4,082.81	15.92	160.83	-140.602	98.23	203.23	280.87	105.38	175.49	1.601	
4,150.00	4,132.57	4,120.57	4,132.57	16.12	162.82	-141.223	98.23	203.23	284.66	107.02	177.64	1.602	
4,200.00	4,182.34	4,170.34	4,182.34	16.32	164.81	-141.828	98.23	203.23	288.48	108.69	179.79	1.605	
4,250.00	4,232.10	4,220.10	4,232.10	16.52	166.80	-142.417	98.23	203.23	292.33	110.39	181.95	1.607	
4,300.00	4,281.86	4,269.86	4,281.86	16.72	168.79	-142.991	98.23	203.23	296.22	112.12	184.10	1.609	
4,350.00	4,331.62	4,319.62	4,331.62	16.93	170.78	-143.550	98.23	203.23	300.13	113.87	186.25	1.611	
4,400.00	4,381.39	4,369.39	4,381.39	17.13	172.78	-144.094	98.23	203.23	304.06	115.66	188.41	1.614	
4,450.00	4,431.15	4,370.00	4,382.00	17.33	172.80	-144.101	98.23	203.23	311.93	123.31	188.62	1.654	
4,500.00	4,480.91	4,370.00	4,382.00	17.53	172.80	-144.101	98.23	203.23	327.32	138.51	188.81	1.734	
4,550.00	4,530.67	4,370.00	4,382.00	17.73	172.80	-144.101	98.23	203.23	349.26	160.26	189.00	1.848	
4,600.00	4,580.43	4,370.00	4,382.00	17.93	172.80	-144.101	98.23	203.23	376.59	187.41	189.18	1.991	
4,650.00	4,630.20	4,370.00	4,382.00	18.13	172.80	-144.101	98.23	203.23	408.25	218.87	189.37	2.156	
4,700.00	4,679.96	4,370.00	4,382.00	18.34	172.80	-144.101	98.23	203.23	443.29	253.73	189.56	2.339	
4,750.00	4,729.72	4,370.00	4,382.00	18.54	172.80	-144.101	98.23	203.23	480.99	291.24	189.75	2.535	
4,800.00	4,779.48	4,370.00	4,382.00	18.74	172.80	-144.101	98.23	203.23	520.76	330.82	189.94	2.742	
4,850.00	4,829.25	4,370.00	4,382.00	18.94	172.80	-144.101	98.23	203.23	562.17	372.04	190.13	2.957	
4,900.00	4,879.01	4,370.00	4,382.00	19.14	172.80	-144.101	98.23	203.23	604.88	414.56	190.31	3.178	
4,950.00	4,928.77	4,370.00	4,382.00	19.34	172.80	-144.101	98.23	203.23	648.63	458.12	190.50	3.405	
4,974.53	4,953.19	4,370.00	4,382.00	19.44	172.80	-144.101	98.23	203.23	670.41	479.82	190.60	3.517	
5,000.00	4,978.56	4,370.00	4,382.00	19.54	172.80	-155.447	98.23	203.23	693.15	502.38	190.77	3.633	
5,050.00	5,028.48	4,370.00	4,382.00	19.72	172.80	156.209	98.23	203.23	737.85	546.78	191.07	3.862	
5,100.00	5,078.42	4,370.00	4,382.00	19.88	172.80	92.680	98.23	203.23	782.54	591.32	191.22	4.092	
5,150.00	5,128.26	4,370.00	4,382.00	20.01	172.80	67.974	98.23	203.23	827.10	636.01	191.09	4.328	
5,200.00	5,177.84	4,370.00	4,382.00	20.13	172.80	56.299	98.23	203.23	871.44	680.88	190.56	4.573	

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



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	LEA COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Reference Site:	MILLER 14 FEDERAL COM	MD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MILLER 14 FEDERAL COM - OFFSET: MALMAR UNIT TR-2 #12 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 100-UNKNOWN												Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,250.00	5,227.04	4,370.00	4,382.00	20.24	172.80	48.861	98.23	203.23	915.47	725.91	189.57	4.829	
5,300.00	5,275.72	4,370.00	4,382.00	20.33	172.80	43.383	98.23	203.23	959.14	771.08	188.06	5.100	
5,350.00	5,323.74	4,370.00	4,382.00	20.41	172.80	39.048	98.23	203.23	1,002.37	816.37	186.00	5.389	
5,400.00	5,370.98	4,370.00	4,382.00	20.49	172.80	35.481	98.23	203.23	1,045.10	861.71	183.40	5.699	
5,450.00	5,417.31	4,370.00	4,382.00	20.55	172.80	32.477	98.23	203.23	1,087.30	907.05	180.25	6.032	
5,500.00	5,462.59	4,370.00	4,382.00	20.62	172.80	29.908	98.23	203.23	1,128.89	952.32	176.57	6.393	
5,550.00	5,506.71	4,370.00	4,382.00	20.68	172.80	27.687	98.23	203.23	1,169.85	997.48	172.38	6.787	
5,600.00	5,549.55	4,370.00	4,382.00	20.74	172.80	25.751	98.23	203.23	1,210.14	1,042.44	167.70	7.216	
5,650.00	5,590.98	4,370.00	4,382.00	20.81	172.80	24.053	98.23	203.23	1,249.70	1,087.15	162.55	7.688	
5,700.00	5,630.89	4,370.00	4,382.00	20.90	172.80	22.556	98.23	203.23	1,288.50	1,131.54	156.96	8.209	
5,750.00	5,669.18	4,370.00	4,382.00	21.00	172.80	21.229	98.23	203.23	1,326.52	1,175.55	150.96	8.787	
5,800.00	5,705.73	4,370.00	4,382.00	21.13	172.80	20.049	98.23	203.23	1,363.70	1,219.13	144.58	9.432	
5,850.00	5,740.46	4,370.00	4,382.00	21.31	172.80	18.996	98.23	203.23	1,400.04	1,262.19	137.84	10.157	
5,900.00	5,773.25	4,370.00	4,382.00	21.55	172.80	18.053	98.23	203.23	1,435.48	1,304.69	130.79	10.975	
5,950.00	5,804.03	4,370.00	4,382.00	21.86	172.80	17.207	98.23	203.23	1,470.00	1,346.54	123.46	11.907	
6,000.00	5,832.71	4,370.00	4,382.00	22.24	172.80	16.447	98.23	203.23	1,503.58	1,387.69	115.89	12.974	
6,050.00	5,859.21	4,370.00	4,382.00	22.71	172.80	15.761	98.23	203.23	1,536.19	1,428.05	108.13	14.207	
6,058.49	5,863.48	4,370.00	4,382.00	22.79	172.80	15.652	98.23	203.23	1,541.62	1,434.82	106.80	14.435	
6,100.00	5,884.24	4,370.00	4,382.00	23.24	172.80	15.652	98.23	203.23	1,568.47	1,461.48	106.99	14.660	
6,150.00	5,909.24	4,370.00	4,382.00	23.86	172.80	15.652	98.23	203.23	1,601.63	1,494.39	107.24	14.934	
6,200.00	5,934.24	4,370.00	4,382.00	24.48	172.80	15.652	98.23	203.23	1,635.65	1,528.17	107.48	15.218	
6,250.00	5,959.24	4,370.00	4,382.00	25.18	172.80	15.652	98.23	203.23	1,670.47	1,562.72	107.75	15.503	
6,258.49	5,963.48	4,370.00	4,382.00	25.30	172.80	15.652	98.23	203.23	1,676.46	1,568.67	107.80	15.552	
6,300.00	5,982.92	4,370.00	4,382.00	25.93	172.80	14.624	98.23	203.23	1,705.02	1,608.55	96.47	17.674	
6,350.00	6,002.73	4,370.00	4,382.00	26.77	172.80	13.594	98.23	203.23	1,737.28	1,654.54	82.75	20.995	
6,400.00	6,018.46	4,370.00	4,382.00	27.68	172.80	12.747	98.23	203.23	1,767.11	1,697.77	69.34	25.486	
6,450.00	6,030.00	4,370.00	4,382.00	28.66	172.80	12.048	98.23	203.23	1,794.39	1,737.44	56.95	31.509	
6,500.00	6,037.26	4,370.00	4,382.00	29.69	172.80	11.470	98.23	203.23	1,819.05	1,772.16	46.89	38.797	
6,550.00	6,040.18	4,370.00	4,382.00	30.77	172.80	10.994	98.23	203.23	1,841.00	1,799.60	41.40	44.468	
6,575.24	6,040.00	4,370.00	4,382.00	31.33	172.80	10.787	98.23	203.23	1,851.03	1,809.86	41.16	44.968	
6,600.00	6,039.28	4,370.00	4,382.00	31.89	172.80	10.787	98.23	203.23	1,860.66	1,819.29	41.37	44.981	
6,650.00	6,037.82	4,370.00	4,382.00	33.05	172.80	10.787	98.23	203.23	1,880.95	1,839.17	41.78	45.018	
6,700.00	6,036.35	4,370.00	4,382.00	34.22	172.80	10.787	98.23	203.23	1,902.34	1,860.14	42.20	45.080	
6,750.00	6,034.89	4,370.00	4,382.00	35.45	172.80	10.787	98.23	203.23	1,924.79	1,882.16	42.63	45.153	
6,800.00	6,033.43	4,370.00	4,382.00	36.68	172.80	10.787	98.23	203.23	1,948.27	1,905.21	43.06	45.249	
6,850.00	6,031.97	4,370.00	4,382.00	37.96	172.80	10.787	98.23	203.23	1,972.73	1,929.24	43.50	45.354	
6,900.00	6,030.51	4,370.00	4,382.00	39.24	172.80	10.787	98.23	203.23	1,998.15	1,954.21	43.93	45.481	
6,950.00	6,029.05	4,370.00	4,382.00	40.56	172.80	10.787	98.23	203.23	2,024.48	1,980.10	44.38	45.617	
7,000.00	6,027.59	4,370.00	4,382.00	41.88	172.80	10.787	98.23	203.23	2,051.69	2,006.87	44.83	45.770	
7,050.00	6,026.12	4,370.00	4,382.00	43.23	172.80	10.787	98.23	203.23	2,079.75	2,034.47	45.28	45.933	
7,100.00	6,024.66	4,370.00	4,382.00	44.58	172.80	10.787	98.23	203.23	2,108.62	2,062.89	45.73	46.111	
7,150.00	6,023.20	4,370.00	4,382.00	45.97	172.80	10.787	98.23	203.23	2,138.27	2,092.09	46.19	46.297	
7,200.00	6,021.74	4,370.00	4,382.00	47.35	172.80	10.787	98.23	203.23	2,168.67	2,122.03	46.64	46.496	
7,250.00	6,020.28	4,370.00	4,382.00	48.75	172.80	10.787	98.23	203.23	2,199.78	2,152.68	47.10	46.701	
7,300.00	6,018.82	4,370.00	4,382.00	50.15	172.80	10.787	98.23	203.23	2,231.59	2,184.02	47.56	46.918	
7,350.00	6,017.36	4,370.00	4,382.00	51.58	172.80	10.787	98.23	203.23	2,264.05	2,216.02	48.03	47.141	
7,400.00	6,015.90	4,370.00	4,382.00	53.00	172.80	10.787	98.23	203.23	2,297.13	2,248.64	48.49	47.373	
7,450.00	6,014.43	4,370.00	4,382.00	54.44	172.80	10.787	98.23	203.23	2,330.83	2,281.87	48.96	47.610	
7,500.00	6,012.97	4,370.00	4,382.00	55.88	172.80	10.787	98.23	203.23	2,365.09	2,315.67	49.42	47.855	
7,550.00	6,011.51	4,370.00	4,382.00	57.33	172.80	10.787	98.23	203.23	2,399.92	2,350.02	49.89	48.103	
7,600.00	6,010.05	4,370.00	4,382.00	58.79	172.80	10.787	98.23	203.23	2,435.27	2,384.91	50.36	48.358	
7,650.00	6,008.59	4,370.00	4,382.00	60.25	172.80	10.787	98.23	203.23	2,471.12	2,420.29	50.83	48.616	

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



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	LEA COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Reference Site:	MILLER 14 FEDERAL COM	MD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 100-UNKNOWN												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,700.00	6,007.13	4,370.00	4,382.00	61.72	172.80	10.787	98.23	203.23	2,507.46	2,456.16	51.30	48.879	
7,750.00	6,005.67	4,370.00	4,382.00	63.20	172.80	10.787	98.23	203.23	2,544.27	2,492.49	51.77	49.144	
7,800.00	6,004.20	4,370.00	4,382.00	64.67	172.80	10.787	98.23	203.23	2,581.51	2,529.27	52.24	49.413	
7,850.00	6,002.74	4,370.00	4,382.00	66.16	172.80	10.787	98.23	203.23	2,619.19	2,566.47	52.72	49.684	
7,900.00	6,001.28	4,370.00	4,382.00	67.64	172.80	10.787	98.23	203.23	2,657.26	2,604.08	53.19	49.958	
7,950.00	5,999.82	4,370.00	4,382.00	69.14	172.80	10.787	98.23	203.23	2,695.73	2,642.07	53.66	50.233	
8,000.00	5,998.36	4,370.00	4,382.00	70.63	172.80	10.787	98.23	203.23	2,734.58	2,680.44	54.14	50.511	
8,050.00	5,996.90	4,370.00	4,382.00	72.13	172.80	10.787	98.23	203.23	2,773.77	2,719.16	54.61	50.789	
8,100.00	5,995.44	4,370.00	4,382.00	73.63	172.80	10.787	98.23	203.23	2,813.32	2,758.23	55.09	51.068	
8,150.00	5,993.98	4,370.00	4,382.00	75.14	172.80	10.787	98.23	203.23	2,853.19	2,797.62	55.57	51.348	
8,200.00	5,992.51	4,370.00	4,382.00	76.64	172.80	10.787	98.23	203.23	2,893.37	2,837.33	56.04	51.629	
8,250.00	5,991.05	4,370.00	4,382.00	78.16	172.80	10.787	98.23	203.23	2,933.86	2,877.34	56.52	51.909	
8,300.00	5,989.59	4,370.00	4,382.00	79.67	172.80	10.787	98.23	203.23	2,974.63	2,917.64	57.00	52.190	
8,350.00	5,988.13	4,370.00	4,382.00	81.18	172.80	10.787	98.23	203.23	3,015.69	2,958.21	57.47	52.470	
8,400.00	5,986.67	4,370.00	4,382.00	82.70	172.80	10.787	98.23	203.23	3,057.01	2,999.05	57.95	52.750	
8,450.00	5,985.21	4,370.00	4,382.00	84.22	172.80	10.787	98.23	203.23	3,098.58	3,040.15	58.43	53.030	
8,500.00	5,983.75	4,370.00	4,382.00	85.74	172.80	10.787	98.23	203.23	3,140.40	3,081.49	58.91	53.309	
8,550.00	5,982.28	4,370.00	4,382.00	87.27	172.80	10.787	98.23	203.23	3,182.46	3,123.07	59.39	53.587	
8,600.00	5,980.82	4,370.00	4,382.00	88.79	172.80	10.787	98.23	203.23	3,224.75	3,164.88	59.87	53.865	
8,650.00	5,979.36	4,370.00	4,382.00	90.32	172.80	10.787	98.23	203.23	3,267.25	3,206.90	60.35	54.141	
8,700.00	5,977.90	4,370.00	4,382.00	91.85	172.80	10.787	98.23	203.23	3,309.96	3,249.13	60.83	54.416	
8,750.00	5,976.44	4,370.00	4,382.00	93.38	172.80	10.787	98.23	203.23	3,352.87	3,291.57	61.31	54.690	
8,800.00	5,974.98	4,370.00	4,382.00	94.92	172.80	10.787	98.23	203.23	3,395.98	3,334.19	61.79	54.963	

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



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	LEA COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Reference Site:	MILLER 14 FEDERAL COM	MD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

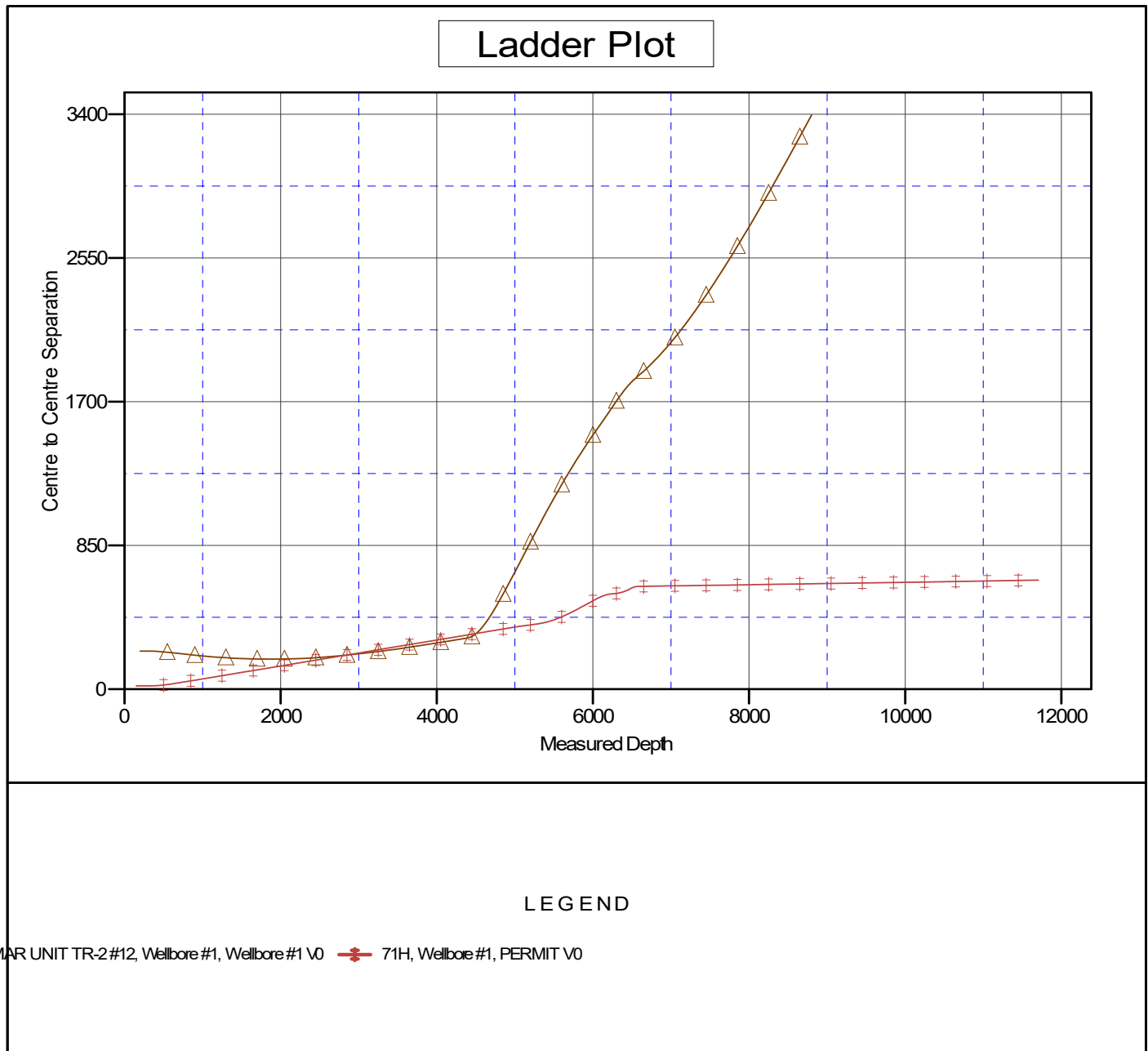
Reference Depths are relative to RKB = 20' @ 4110.00usft (AKITA 57) Coordinates are relative to: 21H

Offset Depths are relative to Offset Datum

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

Central Meridian is -104.333333

Grid Convergence at Surface is: 0.329°



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



Anticollision Report

Company:	SPUR ENERGY PARTNERS, LLC	Local Co-ordinate Reference:	Well 21H
Project:	LEA COUNTY, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Reference Site:	MILLER 14 FEDERAL COM	MD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	21H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1.13 Single User Db
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Reference Depths are relative to RKB = 20' @ 4110.00usft (AKITA 57) Coordinates are relative to: 21H

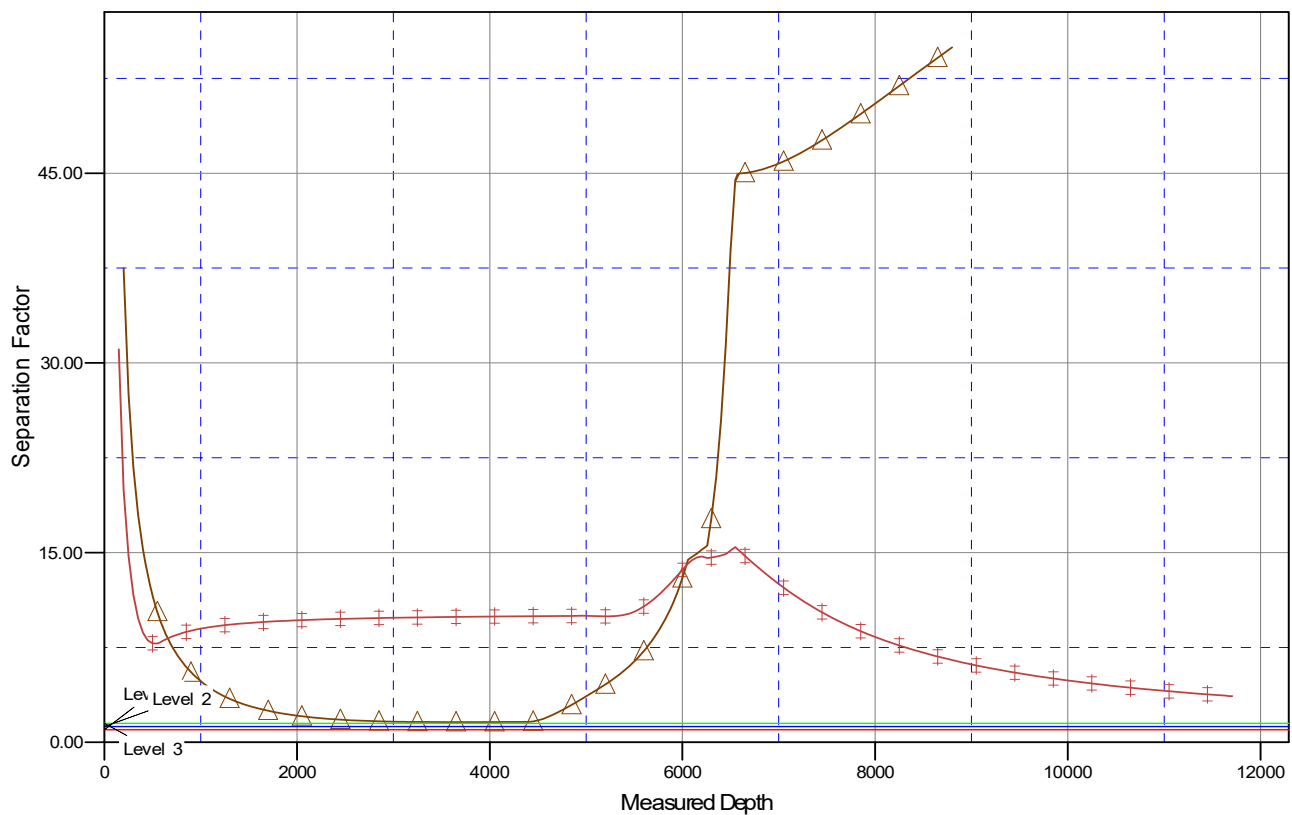
Offset Depths are relative to Offset Datum

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

Central Meridian is -104.333333

Grid Convergence at Surface is: 0.329°

Separation Factor Plot



LEGEND

MAR UNIT TR-2#12, Wellbore #1, Wellbore #1 V0 — 71H, Wellbore #1, PERMIT V0



SPUR ENERGY PARTNERS, LLC

LEA COUNTY, NM (NAD 83 - NME)

MILLER 14 FEDERAL COM

21H

Wellbore #1

Plan: PERMIT

Standard Planning Report

30 June, 2023



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well 21H
Company:	SPUR ENERGY PARTNERS, LLC	TVD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Project:	LEA COUNTY, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Site:	MILLER 14 FEDERAL COM	North Reference:	Grid
Well:	21H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Project	LEA 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		MILLER 14 FEDERAL COM			
Site Position:		Northing:	668,311.00 usft	Latitude:	32.8357389
From:	Map	Easting:	727,895.50 usft	Longitude:	-103.7259409
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.329 °

Well	21H					
Well Position	+N/-S	-1,189.00 usft	Northing:	667,122.00 usft	Latitude:	32.8324761
	+E/-W	-322.10 usft	Easting:	727,573.40 usft	Longitude:	-103.7270118
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft	Ground Level:	4,090.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	06/27/23	6.427	60.360	47,620

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	269.80	

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	
579.52	5.59	116.16	579.07	-6.01	12.23	2.00	2.00	0.00	116.158	
4,974.53	5.59	116.16	4,953.19	-194.75	396.52	0.00	0.00	0.00	0.000	
6,058.49	60.00	269.80	5,863.48	-222.74	-77.47	6.00	5.02	14.17	154.905	
6,258.49	60.00	269.80	5,963.48	-223.34	-250.68	0.00	0.00	0.00	0.000	
6,575.24	91.67	269.80	6,040.00	-224.40	-553.90	10.00	10.00	0.00	0.000	MILLER 14 FEDER
11,657.64	91.67	269.80	5,891.46	-242.13	-5,634.10	0.00	0.00	0.00	0.000	MILLER 14 FEDER
11,707.56	91.67	269.80	5,890.00	-242.30	-5,684.00	0.00	0.00	0.00	0.000	MILLER 14 FEDER



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well 21H
Company:	SPUR ENERGY PARTNERS, LLC	TVD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Project:	LEA COUNTY, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Site:	MILLER 14 FEDERAL COM	North Reference:	Grid
Well:	21H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MILLER 14 FEDERAL COM 21H SHL: 1882' FSL, 455' 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	116.16	399.98	-0.77	1.57	-1.56	2.00	2.00	0.00
500.00	4.00	116.16	499.84	-3.08	6.26	-6.25	2.00	2.00	0.00
579.52	5.59	116.16	579.07	-6.01	12.23	-12.21	2.00	2.00	0.00
600.00	5.59	116.16	599.46	-6.89	14.02	-14.00	0.00	0.00	0.00
700.00	5.59	116.16	698.98	-11.18	22.76	-22.73	0.00	0.00	0.00
800.00	5.59	116.16	798.51	-15.48	31.51	-31.45	0.00	0.00	0.00
900.00	5.59	116.16	898.03	-19.77	40.25	-40.18	0.00	0.00	0.00
1,000.00	5.59	116.16	997.56	-24.06	49.00	-48.91	0.00	0.00	0.00
1,100.00	5.59	116.16	1,097.08	-28.36	57.74	-57.64	0.00	0.00	0.00
1,200.00	5.59	116.16	1,196.61	-32.65	66.48	-66.37	0.00	0.00	0.00
1,300.00	5.59	116.16	1,296.13	-36.95	75.23	-75.10	0.00	0.00	0.00
1,400.00	5.59	116.16	1,395.65	-41.24	83.97	-83.83	0.00	0.00	0.00
1,500.00	5.59	116.16	1,495.18	-45.54	92.72	-92.56	0.00	0.00	0.00
1,600.00	5.59	116.16	1,594.70	-49.83	101.46	-101.28	0.00	0.00	0.00
1,700.00	5.59	116.16	1,694.23	-54.13	110.20	-110.01	0.00	0.00	0.00
1,800.00	5.59	116.16	1,793.75	-58.42	118.95	-118.74	0.00	0.00	0.00
1,900.00	5.59	116.16	1,893.28	-62.72	127.69	-127.47	0.00	0.00	0.00
2,000.00	5.59	116.16	1,992.80	-67.01	136.43	-136.20	0.00	0.00	0.00
2,100.00	5.59	116.16	2,092.33	-71.30	145.18	-144.93	0.00	0.00	0.00
2,200.00	5.59	116.16	2,191.85	-75.60	153.92	-153.66	0.00	0.00	0.00
2,300.00	5.59	116.16	2,291.37	-79.89	162.67	-162.39	0.00	0.00	0.00
2,400.00	5.59	116.16	2,390.90	-84.19	171.41	-171.11	0.00	0.00	0.00
2,500.00	5.59	116.16	2,490.42	-88.48	180.15	-179.84	0.00	0.00	0.00
2,600.00	5.59	116.16	2,589.95	-92.78	188.90	-188.57	0.00	0.00	0.00
2,700.00	5.59	116.16	2,689.47	-97.07	197.64	-197.30	0.00	0.00	0.00
2,800.00	5.59	116.16	2,789.00	-101.37	206.39	-206.03	0.00	0.00	0.00
2,900.00	5.59	116.16	2,888.52	-105.66	215.13	-214.76	0.00	0.00	0.00
3,000.00	5.59	116.16	2,988.04	-109.96	223.87	-223.49	0.00	0.00	0.00
3,100.00	5.59	116.16	3,087.57	-114.25	232.62	-232.22	0.00	0.00	0.00
3,200.00	5.59	116.16	3,187.09	-118.54	241.36	-240.95	0.00	0.00	0.00
3,300.00	5.59	116.16	3,286.62	-122.84	250.10	-249.67	0.00	0.00	0.00
3,400.00	5.59	116.16	3,386.14	-127.13	258.85	-258.40	0.00	0.00	0.00
3,500.00	5.59	116.16	3,485.67	-131.43	267.59	-267.13	0.00	0.00	0.00
3,600.00	5.59	116.16	3,585.19	-135.72	276.34	-275.86	0.00	0.00	0.00
3,700.00	5.59	116.16	3,684.72	-140.02	285.08	-284.59	0.00	0.00	0.00
3,800.00	5.59	116.16	3,784.24	-144.31	293.82	-293.32	0.00	0.00	0.00
3,900.00	5.59	116.16	3,883.76	-148.61	302.57	-302.05	0.00	0.00	0.00
4,000.00	5.59	116.16	3,983.29	-152.90	311.31	-310.78	0.00	0.00	0.00
4,100.00	5.59	116.16	4,082.81	-157.20	320.05	-319.50	0.00	0.00	0.00
4,200.00	5.59	116.16	4,182.34	-161.49	328.80	-328.23	0.00	0.00	0.00
4,300.00	5.59	116.16	4,281.86	-165.78	337.54	-336.96	0.00	0.00	0.00
4,400.00	5.59	116.16	4,381.39	-170.08	346.29	-345.69	0.00	0.00	0.00
4,500.00	5.59	116.16	4,480.91	-174.37	355.03	-354.42	0.00	0.00	0.00
4,600.00	5.59	116.16	4,580.43	-178.67	363.77	-363.15	0.00	0.00	0.00
4,700.00	5.59	116.16	4,679.96	-182.96	372.52	-371.88	0.00	0.00	0.00
4,800.00	5.59	116.16	4,779.48	-187.26	381.26	-380.61	0.00	0.00	0.00
4,900.00	5.59	116.16	4,879.01	-191.55	390.01	-389.33	0.00	0.00	0.00
4,974.53	5.59	116.16	4,953.19	-194.75	396.52	-395.84	0.00	0.00	0.00
5,000.00	4.26	124.92	4,978.56	-195.84	398.41	-397.72	6.00	-5.24	34.42



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well 21H
Company:	SPUR ENERGY PARTNERS, LLC	TVD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Project:	LEA COUNTY, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Site:	MILLER 14 FEDERAL COM	North Reference:	Grid
Well:	21H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,050.00	2.43	168.37	5,028.48	-197.94	400.15	-399.45	6.00	-3.66	86.90
5,100.00	3.42	227.31	5,078.42	-199.99	399.26	-398.56	6.00	1.98	117.88
5,150.00	5.95	247.80	5,128.26	-201.98	395.77	-395.06	6.00	5.07	40.97
5,200.00	8.79	255.65	5,177.84	-203.90	389.67	-388.95	6.00	5.67	15.69
5,250.00	11.70	259.65	5,227.04	-205.76	380.98	-380.26	6.00	5.83	8.01
5,300.00	14.65	262.07	5,275.72	-207.55	369.73	-369.00	6.00	5.90	4.83
5,350.00	17.62	263.69	5,323.74	-209.25	355.94	-355.21	6.00	5.93	3.24
5,400.00	20.59	264.85	5,370.98	-210.87	339.66	-338.92	6.00	5.95	2.33
5,450.00	23.57	265.73	5,417.31	-212.41	320.92	-320.18	6.00	5.96	1.76
5,500.00	26.56	266.42	5,462.59	-213.85	299.79	-299.04	6.00	5.97	1.39
5,550.00	29.55	266.99	5,506.71	-215.20	276.32	-275.57	6.00	5.98	1.12
5,600.00	32.54	267.45	5,549.55	-216.44	250.57	-249.81	6.00	5.98	0.93
5,650.00	35.53	267.85	5,590.98	-217.59	222.61	-221.85	6.00	5.98	0.79
5,700.00	38.52	268.19	5,630.89	-218.62	192.52	-191.76	6.00	5.99	0.68
5,750.00	41.52	268.49	5,669.18	-219.55	160.38	-159.62	6.00	5.99	0.60
5,800.00	44.51	268.76	5,705.73	-220.37	126.29	-125.52	6.00	5.99	0.53
5,850.00	47.51	269.00	5,740.46	-221.07	90.33	-89.55	6.00	5.99	0.48
5,900.00	50.50	269.21	5,773.25	-221.66	52.60	-51.82	6.00	5.99	0.44
5,950.00	53.50	269.41	5,804.03	-222.13	13.20	-12.43	6.00	5.99	0.40
6,000.00	56.49	269.60	5,832.71	-222.48	-27.75	28.52	6.00	5.99	0.37
6,050.00	59.49	269.77	5,859.21	-222.71	-70.14	70.92	6.00	5.99	0.34
6,058.49	60.00	269.80	5,863.48	-222.74	-77.47	78.25	6.00	5.99	0.33
6,100.00	60.00	269.80	5,884.24	-222.86	-113.42	114.20	0.00	0.00	0.00
6,200.00	60.00	269.80	5,934.24	-223.17	-200.02	200.80	0.00	0.00	0.00
6,258.49	60.00	269.80	5,963.48	-223.34	-250.68	251.46	0.00	0.00	0.00
6,300.00	64.15	269.80	5,982.92	-223.47	-287.35	288.13	10.00	10.00	0.00
6,350.00	69.15	269.80	6,002.73	-223.63	-333.24	334.02	10.00	10.00	0.00
6,400.00	74.15	269.80	6,018.46	-223.80	-380.68	381.46	10.00	10.00	0.00
6,450.00	79.15	269.80	6,030.00	-223.97	-429.31	430.09	10.00	10.00	0.00
6,500.00	84.15	269.80	6,037.26	-224.14	-478.77	479.55	10.00	10.00	0.00
6,550.00	89.15	269.80	6,040.18	-224.31	-528.67	529.45	10.00	10.00	0.00
6,575.24	91.67	269.80	6,040.00	-224.40	-553.90	554.68	10.00	10.00	0.00
MILLER 14 FEDERAL COM 21H FTP: 100' FEL									
6,600.00	91.67	269.80	6,039.28	-224.49	-578.65	579.43	0.00	0.00	0.00
6,700.00	91.67	269.80	6,036.35	-224.84	-678.61	679.39	0.00	0.00	0.00
6,800.00	91.67	269.80	6,033.43	-225.18	-778.57	779.35	0.00	0.00	0.00
6,900.00	91.67	269.80	6,030.51	-225.53	-878.52	879.30	0.00	0.00	0.00
7,000.00	91.67	269.80	6,027.59	-225.88	-978.48	979.26	0.00	0.00	0.00
7,100.00	91.67	269.80	6,024.66	-226.23	-1,078.44	1,079.22	0.00	0.00	0.00
7,200.00	91.67	269.80	6,021.74	-226.58	-1,178.39	1,179.18	0.00	0.00	0.00
7,300.00	91.67	269.80	6,018.82	-226.93	-1,278.35	1,279.13	0.00	0.00	0.00
7,400.00	91.67	269.80	6,015.90	-227.28	-1,378.31	1,379.09	0.00	0.00	0.00
7,500.00	91.67	269.80	6,012.97	-227.63	-1,478.26	1,479.05	0.00	0.00	0.00
7,600.00	91.67	269.80	6,010.05	-227.97	-1,578.22	1,579.01	0.00	0.00	0.00
7,700.00	91.67	269.80	6,007.13	-228.32	-1,678.18	1,678.96	0.00	0.00	0.00
7,800.00	91.67	269.80	6,004.20	-228.67	-1,778.13	1,778.92	0.00	0.00	0.00
7,900.00	91.67	269.80	6,001.28	-229.02	-1,878.09	1,878.88	0.00	0.00	0.00
8,000.00	91.67	269.80	5,998.36	-229.37	-1,978.05	1,978.83	0.00	0.00	0.00
8,100.00	91.67	269.80	5,995.44	-229.72	-2,078.00	2,078.79	0.00	0.00	0.00
8,200.00	91.67	269.80	5,992.51	-230.07	-2,177.96	2,178.75	0.00	0.00	0.00
8,300.00	91.67	269.80	5,989.59	-230.42	-2,277.92	2,278.71	0.00	0.00	0.00
8,400.00	91.67	269.80	5,986.67	-230.76	-2,377.87	2,378.66	0.00	0.00	0.00
8,500.00	91.67	269.80	5,983.75	-231.11	-2,477.83	2,478.62	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well 21H
Company:	SPUR ENERGY PARTNERS, LLC	TVD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Project:	LEA COUNTY, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Site:	MILLER 14 FEDERAL COM	North Reference:	Grid
Well:	21H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,600.00	91.67	269.80	5,980.82	-231.46	-2,577.79	2,578.58	0.00	0.00	0.00
8,700.00	91.67	269.80	5,977.90	-231.81	-2,677.74	2,678.54	0.00	0.00	0.00
8,800.00	91.67	269.80	5,974.98	-232.16	-2,777.70	2,778.49	0.00	0.00	0.00
8,900.00	91.67	269.80	5,972.06	-232.51	-2,877.66	2,878.45	0.00	0.00	0.00
9,000.00	91.67	269.80	5,969.13	-232.86	-2,977.61	2,978.41	0.00	0.00	0.00
9,100.00	91.67	269.80	5,966.21	-233.21	-3,077.57	3,078.36	0.00	0.00	0.00
9,200.00	91.67	269.80	5,963.29	-233.55	-3,177.53	3,178.32	0.00	0.00	0.00
9,300.00	91.67	269.80	5,960.36	-233.90	-3,277.48	3,278.28	0.00	0.00	0.00
9,400.00	91.67	269.80	5,957.44	-234.25	-3,377.44	3,378.24	0.00	0.00	0.00
9,500.00	91.67	269.80	5,954.52	-234.60	-3,477.40	3,478.19	0.00	0.00	0.00
9,600.00	91.67	269.80	5,951.60	-234.95	-3,577.35	3,578.15	0.00	0.00	0.00
9,700.00	91.67	269.80	5,948.67	-235.30	-3,677.31	3,678.11	0.00	0.00	0.00
9,800.00	91.67	269.80	5,945.75	-235.65	-3,777.27	3,778.07	0.00	0.00	0.00
9,900.00	91.67	269.80	5,942.83	-236.00	-3,877.22	3,878.02	0.00	0.00	0.00
10,000.00	91.67	269.80	5,939.91	-236.34	-3,977.18	3,977.98	0.00	0.00	0.00
10,100.00	91.67	269.80	5,936.98	-236.69	-4,077.14	4,077.94	0.00	0.00	0.00
10,200.00	91.67	269.80	5,934.06	-237.04	-4,177.09	4,177.89	0.00	0.00	0.00
10,300.00	91.67	269.80	5,931.14	-237.39	-4,277.05	4,277.85	0.00	0.00	0.00
10,400.00	91.67	269.80	5,928.22	-237.74	-4,377.01	4,377.81	0.00	0.00	0.00
10,500.00	91.67	269.80	5,925.29	-238.09	-4,476.96	4,477.77	0.00	0.00	0.00
10,600.00	91.67	269.80	5,922.37	-238.44	-4,576.92	4,577.72	0.00	0.00	0.00
10,700.00	91.67	269.80	5,919.45	-238.79	-4,676.88	4,677.68	0.00	0.00	0.00
10,800.00	91.67	269.80	5,916.52	-239.13	-4,776.83	4,777.64	0.00	0.00	0.00
10,900.00	91.67	269.80	5,913.60	-239.48	-4,876.79	4,877.60	0.00	0.00	0.00
11,000.00	91.67	269.80	5,910.68	-239.83	-4,976.75	4,977.55	0.00	0.00	0.00
11,100.00	91.67	269.80	5,907.76	-240.18	-5,076.70	5,077.51	0.00	0.00	0.00
11,200.00	91.67	269.80	5,904.83	-240.53	-5,176.66	5,177.47	0.00	0.00	0.00
11,300.00	91.67	269.80	5,901.91	-240.88	-5,276.62	5,277.42	0.00	0.00	0.00
11,400.00	91.67	269.80	5,898.99	-241.23	-5,376.57	5,377.38	0.00	0.00	0.00
11,500.00	91.67	269.80	5,896.07	-241.58	-5,476.53	5,477.34	0.00	0.00	0.00
11,600.00	91.67	269.80	5,893.14	-241.92	-5,576.49	5,577.30	0.00	0.00	0.00
11,657.64	91.67	269.80	5,891.46	-242.13	-5,634.10	5,634.91	0.00	0.00	0.00
MILLER 14 FEDERAL COM 21H LTP: 100' FWL									
11,707.56	91.67	269.80	5,890.00	-242.30	-5,684.00	5,684.81	0.00	0.00	0.00
MILLER 14 FEDERAL COM 21H BHL: 1660' FSL, 50' FWL									



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well 21H
Company:	SPUR ENERGY PARTNERS, LLC	TVD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Project:	LEA COUNTY, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 4110.00usft (AKITA 57)
Site:	MILLER 14 FEDERAL COM	North Reference:	Grid
Well:	21H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
MILLER 14 FEDERAL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	667,122.00	727,573.40	32.8324761	-103.7270118
MILLER 14 FEDERAL - plan hits target center - Point	0.00	0.00	5,890.00	-242.30	-5,684.00	666,879.70	721,889.40	32.8318984	-103.7455205
MILLER 14 FEDERAL - plan misses target center by 0.03usft at 11657.64usft MD (5891.46 TVD, -242.13 N, -5634.10 E) - Point	0.00	0.00	5,891.46	-242.10	-5,634.10	666,879.90	721,939.30	32.8318981	-103.7453581
MILLER 14 FEDERAL - plan hits target center - Point	0.00	0.00	6,040.00	-224.40	-553.90	666,897.60	727,019.50	32.8318680	-103.7288192

Pecos District

Application for Permit to Drill

Conditions of Approval

Geology Concerns

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

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

Additional Engineering Requirements

Surface casing must be set at: 1,145 feet

Intermediate casing must be set at: 3,000 feet

General Requirements

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

Eddy County

620 East Greene Street, Carlsbad, NM 88220

(575) 361-2822

BLM_NM_CFO_DrillingNotifications@BLM.GOV

Lea County

414 West Taylor, Hobbs, NM 88240

(575) 689-5981

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

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

Pressure Control

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

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

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

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

Casing and Cement

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

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

14. Potash Areas:

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

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

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

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

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

Drilling Mud

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

Waste Material and Fluids

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

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

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

Special Requirements

1. Communitization Agreement

- a. The operator will submit a Communitization Agreement to the Santa Fe Office (301 Dinosaur Trail, Santa Fe, NM 87508), at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division.
- b. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
 - i. The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in 43 CFR 3171 and 3172.
 - ii. If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- c. In addition, the well sign shall include the surface and bottom hole lease numbers.
 - i. When the Communitization Agreement number is known, it shall also be on the sign.

2. Unit Wells

- a. The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers.
 - i. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.
- b. Commercial Well Determination
 - i. A commercial well determination shall be submitted after production has been established for at least six months (this is not necessary for secondary recovery unit wells).

3. Hydrogen Sulfide (H₂S)

- a. If H₂S is encountered, provide measured values and formations to the BLM.
- b. An H₂S area must meet 43 CFR 3176 requirements, which includes equipment and personnel/public protection items.

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

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

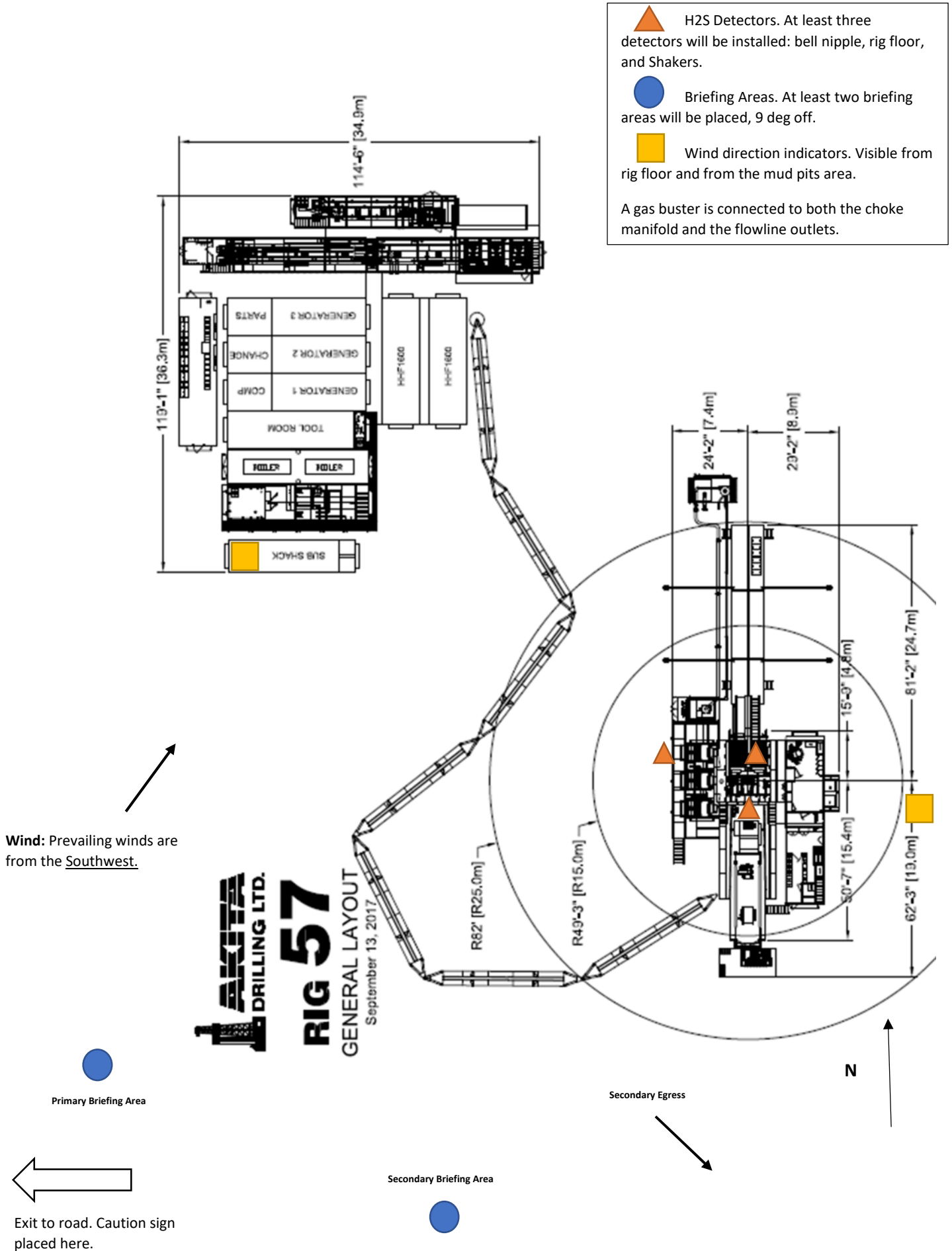


Permian Drilling Hydrogen Sulfide Drilling Operations Plan Miller 14 Federal Com

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

1. Escape

Personnel shall escape upwind of wellbore in the event of an emergency gas release. Escape can take place through the lease road on the Southeast side of the location. Personnel need to move to a safe distance and block the entrance to location. If the primary route is not an option due to the wind direction, then a secondary egress route should be taken.





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

SUBSTRUCTURE

One Piece Step Down

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

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

Rotary Capacity: 400,000 lbf

Max Pipe Setback: 400,000 lbf

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

MAST

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

Static Hook Load: 440,000 lbf

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

DRAWWORKS

TSM 850 425,000lbs w/ 10 Lines

Input Power: 1,150 hp AC traction motor

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

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

TOP DRIVE

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

Continuous Drill Torque: 30,000 ft-lbs

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

600 hp AC induction motor & drive system with PLC

250 Ton 5 x 36" Becket Block Assembly

IRON ROUGHNECK

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

Spin Speed: 75 rpm nominal on 5" drill pipe

Spin Torque: 1,750 ft-lbs

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

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

ROTARY TABLE

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

27 1/2" Diameter opening

POWER SYSTEM

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

sets, 1220 BHP.

MUD PUMP #1

HHF1600 Triplex Rated Power: 1600 hp

Stroke: 12"

Input Power: 1500 hp AC traction motor

Pressure Rating: 5000 psi

MUD PUMP #2

HHF1600 Triplex Rated Power: 1600 hp

Stroke: 12"

Input Power: 1500 hp AC traction motor

Pressure Rating: 5000 psi

MUD TANKS

Two Tank system w/ 1200 bbls total capacity

Shakers: Three MI Swaco Mongoose 4 panel dual motion

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

Pill Tank: 54 bbls

MUD SYSTEM

5000 psi Max Pressure

5" Main plumbing and standpipe

SCALPING TANK

Main Tank: 186 bbls capacity

Trip Tank: 24 bbls capacity

Shakers: Three NOV Venom shakers dual motion

BOP (NACE)

11" x 5000 psi WP Spherical Annular

11" x 5000 psi WP Double Ram

11" x 5000 psi WP Single Ram (Optional)

MANIFOLD

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

ACCUMULATOR

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

CATWALK

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

TUBULARS

Drill Pipe: Supplied as needed, per availability

Drill Collars & heavywate: Supplied as needed, per availability

MISC.

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

Boiler: 125 hp with Full Winterization

MOVING SYSTEM:

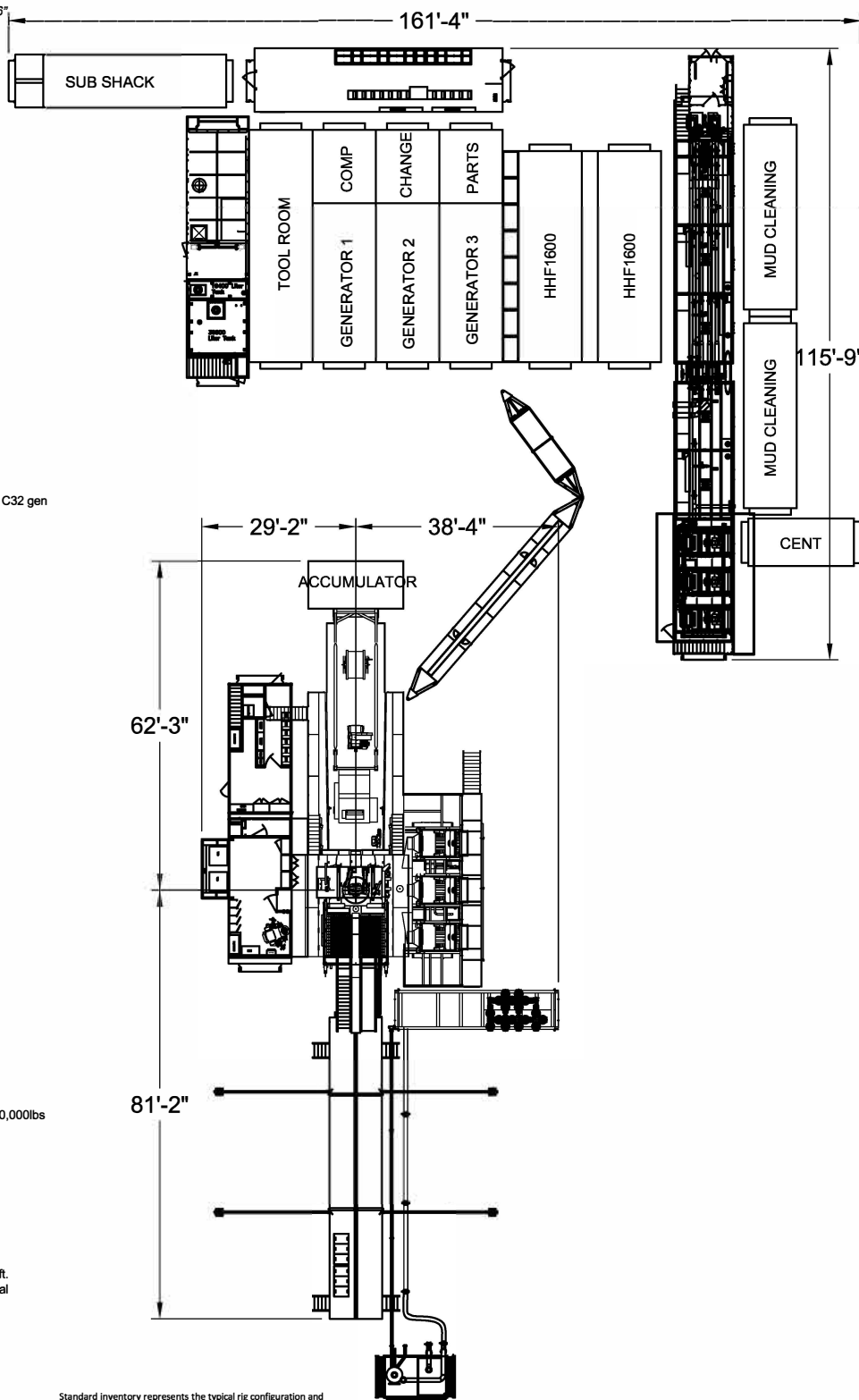
Walking beam hydraulic pony sub moving system for linear motion & side shift.

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

TOOL/ STORAGE/ CAMP

Parts Storage Room and Tool House Room

Rig Manage Trailer: 14' x 44' skid mounted



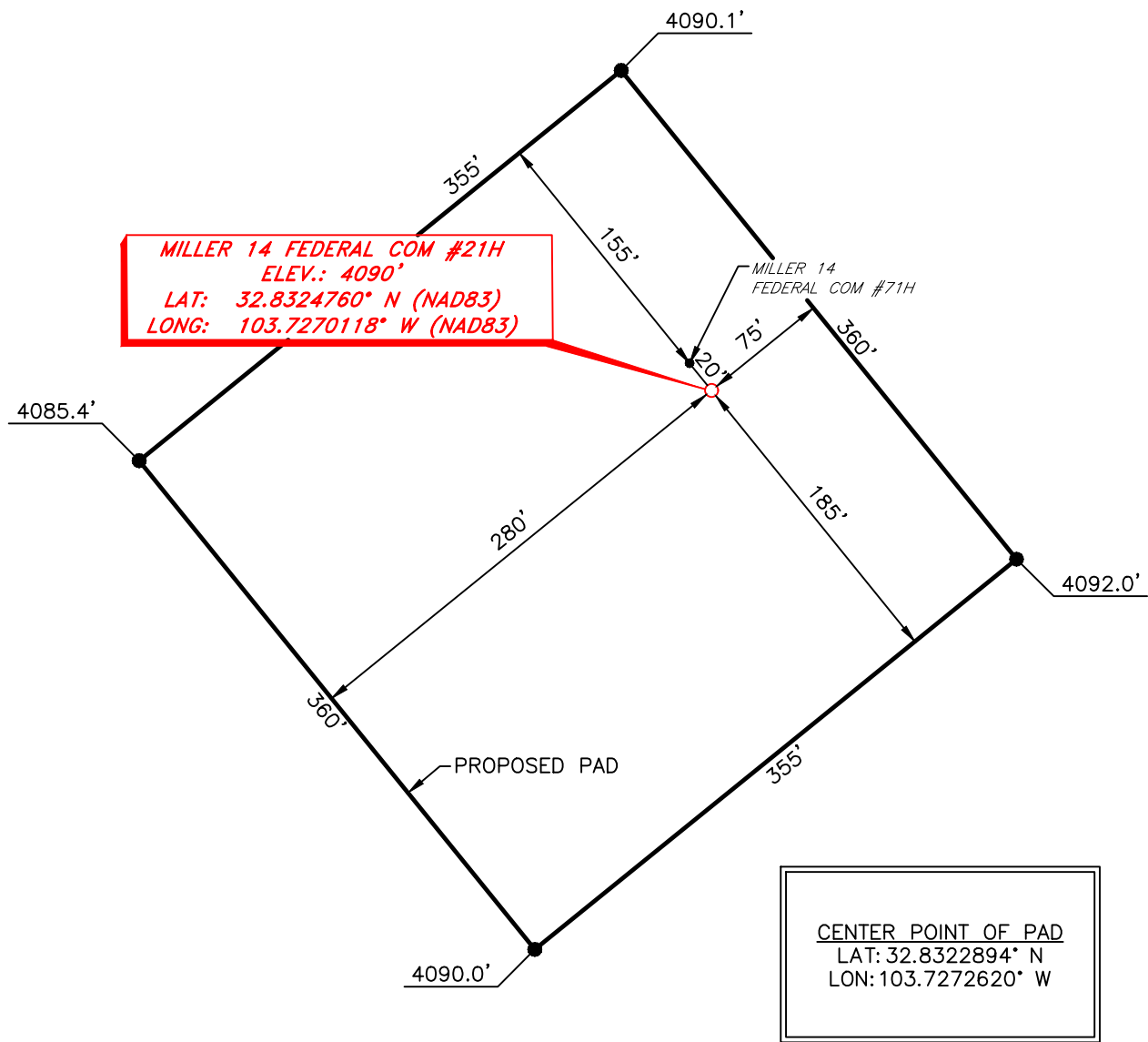
Standard inventory represents the typical rig configuration and inventory available, but specifications are subject to slight modifications from time to time due to customer requirements.

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

© AKITA DRILLING August, 2020

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

SPUR ENERGY PARTNERS LLC.
MILLER 14 FEDERAL COM #21H
(1882' FSL & 455' FWL)
SECTION 13, T17S, R32E
N. M. P. M., LEA COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

From the intersection of CR #126A (Maljamar Rd.) and CR #125 (Mescalero Rd.);
Go Southeast on CR #125 approx. 2.3 miles to a proposed road on the right;
Turn right and go West approx. 230 feet to location on the right.



SCALE: 1" = 100'
0 50 100

BEARINGS ARE
NAD 83 GRID - NM EAST
DISTANCES ARE GROUND

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

Dale E. Bell NM PS 14400



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NO.	REVISION	DATE
JOB NO.: LS23010061		
DWG. NO.: 23010061-4		



SCALE: 1" = 100'
DATE: 01/25/2023
SURVEYED BY: JF/DC
DRAWN BY: RQ
APPROVED BY: DEB
SHEET: 1 OF 1

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)

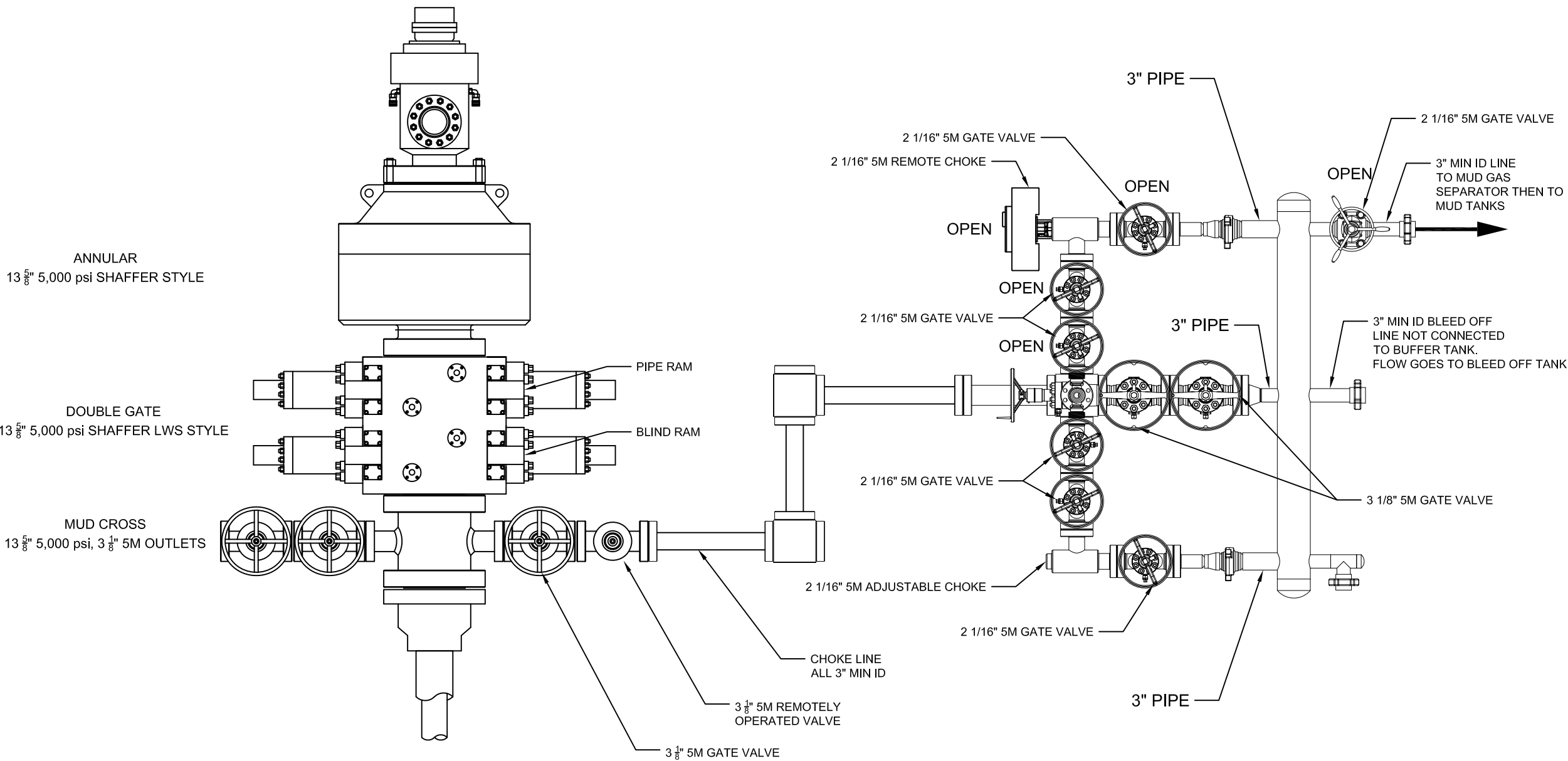
UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

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



Notes
-
-
-

No.	Revision	Date



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

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

RIG 57 BOP SCHEMATIC

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

CONDITIONS

Action 324761

CONDITIONS

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID:
	328947
	Action Number:
	324761
Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)	

CONDITIONS

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	3/21/2024
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	3/21/2024
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	3/21/2024
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	3/21/2024
pkautz	If cement does not circulate on any string, a CBL is required for that string of casing	3/21/2024