

Form 3160-3
(June 2015)FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☐ DRILL ☐ REENTER 1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No.
2. Name of Operator		9. API Well No. 30-015-54033
3a. Address	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.
2. A Drilling Plan.
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). | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

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

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

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

(Continued on page 2)

*(Instructions on page 2)



Approval Date: 08/02/2023

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM I: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM connects this information to an evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Connection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

Additional Operator Remarks

Location of Well

0. SHL: NENW / 60 FNL / 1408 FWL / TWSP: 17S / RANGE: 28E / SECTION: 23 / LAT: 32.827394 / LONG: -104.1506098 (TVD: 0 feet, MD: 0 feet)

PPP: NENW / 1 FNL / 2275 FWL / TWSP: 17S / RANGE: 28E / SECTION: 23 / LAT: 32.827788 / LONG: -104.147793 (TVD: 4291 feet, MD: 4900 feet)

PPP: NENW / 100 FNL / 2275 FWL / TWSP: 17S / RANGE: 28E / SECTION: 23 / LAT: 32.8275037 / LONG: -104.1477972 (TVD: 4300 feet, MD: 5002 feet)

BHL: SESW / 50 FSL / 2275 FWL / TWSP: 17S / RANGE: 28E / SECTION: 23 / LAT: 32.8134076 / LONG: -104.1479618 (TVD: 4275 feet, MD: 10131 feet)

BLM Point of Contact

Name: Candy Vigil

Title: LIE

Phone: (575) 234-5982

Email: cvigil@blm.gov

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

**PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Spur Energy Partners LLC
LEASE NO.:	NMNM 0001510
COMM NO.:	NMNM 139059
COUNTY:	Eddy

Wells:

Sierra Nevada 23 State Com 10H
Surface Hole Location: 56' FNL & 1368' FWL, Section 23, T. 17 S., R. 28 E.
Bottom Hole Location: 50' FSL & 430' FWL, Section 23, T. 17 S, R 28 E.

Sierra Nevada 23 State Com 60H
Surface Hole Location: 58' FNL & 1388' FWL, Section 23, T. 17 S., R. 28 E.
Bottom Hole Location: 50' FSL & 1050' FWL, Section 23, T. 17 S, R 28 E.

Sierra Nevada 23 State Com 61H
Surface Hole Location: 60' FNL & 1408' FWL, Section 23, T. 17 S., R. 28 E.
Bottom Hole Location: 50' FSL & 2275' FWL, Section 23, T. 17 S, R 28 E.

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☒ **General Provisions**
- ☒ **Permit Expiration**
- ☒ **Archaeology, Paleontology, and Historical Sites**
- ☒ **Noxious Weeds**
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 - Range
 - VRM IV
- ☒ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
- ☒ **Road Section Diagram**
- ☒ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☒ **Interim Reclamation**
- ☒ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See information below discussing NAGPRA.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Watershed:

The entire well pad(s) will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The topsoil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

TANK BATTERY:

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank or 24 hour production, whichever is greater. Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

SURFACE PIPELINE(S):

When crossing ephemeral drainages the pipeline(s) will be buried to a minimum depth of 48 inches from the top of pipe to ground level. Erosion control methods such as gabions and/or rock aprons should be placed on both up and downstream sides of the pipeline crossing. In addition, curled (weed free) wood/straw fiber wattles/logs and/or silt fences should be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars should be placed within the ROW to divert and dissipate surface runoff. A pipeline access road is not permitted to cross these ephemeral drainages. Traffic should be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Prior to pipeline installation/construction a leak detection plan will be developed. The method(s) could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present.

The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

ELECTRIC LINE(S):

Any water erosion that may occur due to the construction of overhead electric line and during the life of the power line will be quickly corrected and proper measures will be taken to prevent future erosion. A power pole should not be placed in drainages, playas, wetlands, riparian areas, or floodplains and must span across the features at a distance away that would not promote further erosion.

Range:

Cattleguards

Where a permanent cattlegaurd is approved, an appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations. A gate shall be constructed on one side of the cattleguard and fastened securely to H-braces.

Fence Requirement

Where entry granted across a fence line, the fence must be braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Figure 1. Pipe H-brace specifications

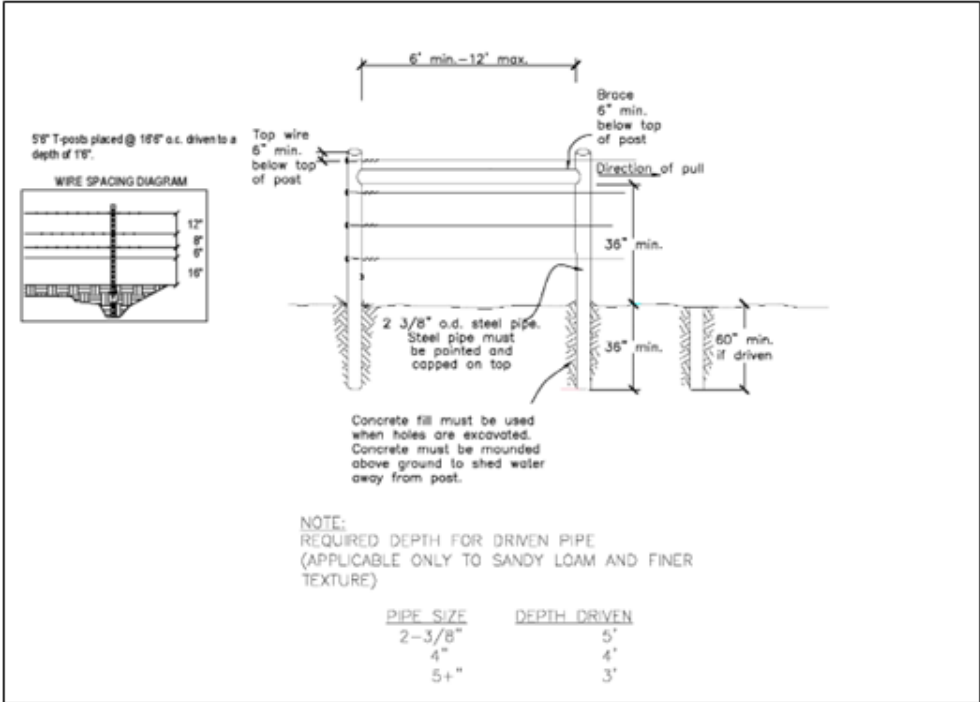
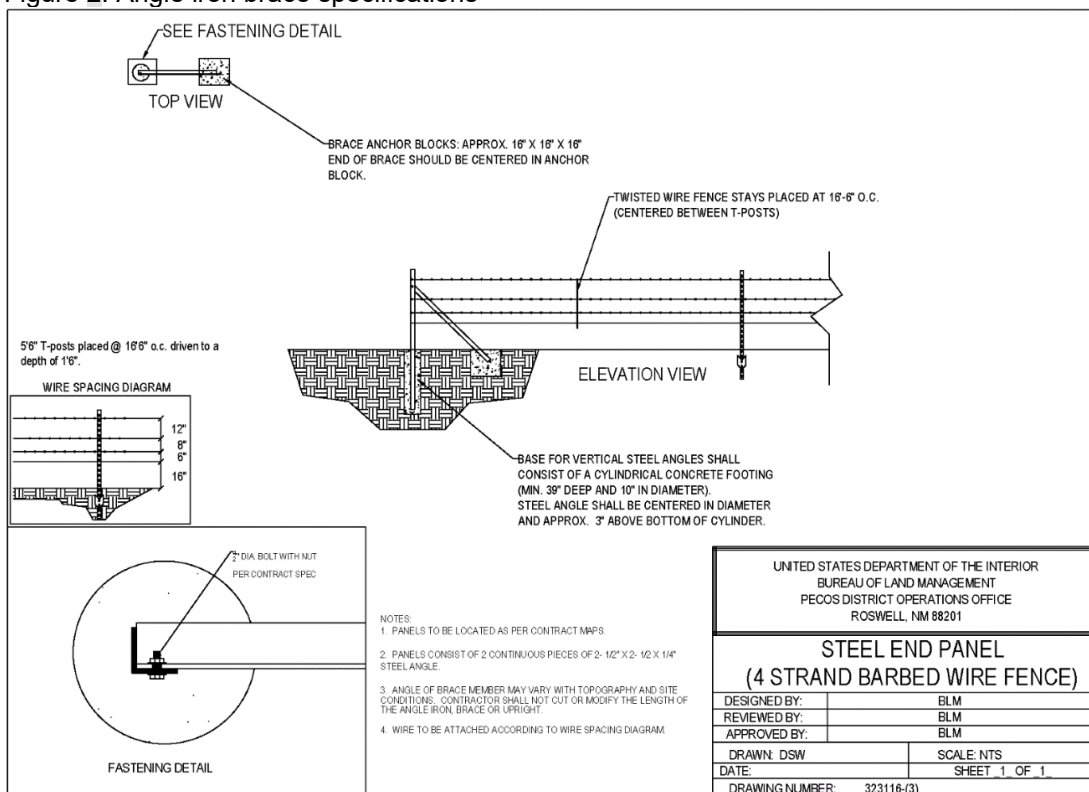


Figure 2. Angle iron brace specifications



Livestock Watering Requirement

Any damage to structures that provide water to livestock throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. The operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

VRM IV:

Short-term mitigation measures include painting all above-ground structures that are not subject to safety requirements (including meter housing) Shale Green, which is a flat non-reflective paint color listed in the BLM Standard Environmental Color Chart (CC-001: June 2013). Long-term mitigation measures include the removal of wells and associated infrastructure following abandonment (end of cost-effective production). Previously impacted areas will be reclaimed by removing structures and caliche pads, returning disturbed areas to natural grade, and revegetating with an approved BLM seed mixture; thereby eliminating visual impacts.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing

The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous

substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Enclosure Screening

The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock enclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Enclosures

The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended enclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

- A leak detection plan will be submitted to the BLM Carlsbad Field Office for approval prior to pipeline installation. The method could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.
- Regular monitoring is required to quickly identify leaks for their immediate and proper treatment.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the Grant and attachments, including stipulations, survey plat(s) and/or map(s), shall be on location during construction. BLM personnel may request to review a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, Holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC § 2601 *et seq.* (1982) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant (see 40 CFR, Part 702-799 and in particular, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. Holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. § 9601, *et seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et seq.*) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way Holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way Holder on the Right-of-Way. This provision applies without regard to whether a release is caused by Holder, its agent, or unrelated third parties.

4. Holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. Holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

- a. Activities of Holder including, but not limited to: construction, operation, maintenance, and termination of the facility;
- b. Activities of other parties including, but not limited to:
 - (1) Land clearing
 - (2) Earth-disturbing and earth-moving work
 - (3) Blasting
 - (4) Vandalism and sabotage;
- c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars (\$1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system,

impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of Holder, regardless of fault. Upon failure of Holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he/she deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of Holder. Such action by the Authorized Officer shall not relieve Holder of any responsibility as provided herein.

6. All construction and maintenance activity shall be confined to the authorized right-of-way width of 30_ feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline shall be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline shall be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity shall be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation shall be allowed unless approved in writing by the Authorized Officer.

8. Holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky or dune areas, the pipeline shall be "snaked" around hummocks and dunes rather than suspended across these features.

9. The pipeline shall be buried with a minimum of 6 inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any

person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 16 for more information.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

16. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

17. Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

18. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, powerline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

19. Surface pipelines shall be less than or equal to 4 inches and a working pressure below 125 psi.

C. ELECTRIC LINES

- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction.
- No further construction will be done until clearance has been issued by the Authorized Officer.
- Special restoration stipulations or realignment may be required.

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.
4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.
5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall

be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 11 for more information.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

11. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting,

excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

12. Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

13. Special Stipulations:

For reclamation remove poles, lines, transformer, etc. and dispose of properly.
Fill in any holes from the poles removed.

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

IX. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture 2, for Sandy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species

	<u>lb/acre</u>
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1.0
Sand love grass (<i>Eragrostis trichodes</i>)	1.0
Plains bristlegrass (<i>Setaria macrostachya</i>)	2.0

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

Seed Mixture 3, for Shallow Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains Bristlegrass (<i>Setaria macrostachya</i>)	1.0
Green Sprangletop (<i>Leptochloa dubia</i>)	2.0
Sideoats Grama (<i>Bouteloua curtipendula</i>)	5.0

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

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: 225 feet

Intermediate casing must be set at: 1260 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.

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 30-015-54033	² Pool Code 96210	³ Pool Name EMPIRE; GLORIETA-YESO
⁴ Property Code 334576	⁵ Property Name SIERRA NEVADA 23 FEDERAL COM	⁶ Well Number 61H
⁷ OGRID NO. 328947	⁸ Operator Name SPUR ENERGY PARTNERS LLC.	⁹ Elevation 3633'

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
C	23	17S	28E		60	NORTH	1408	WEST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	23	17S	28E		50	SOUTH	2275	WEST	EDDY

¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. CA Agreement: NMNM139059
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No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.

③ 1408' 60' S.L. FTP ①		⑤	
② GEODETIC DATA NAD 83 GRID - NM EAST SURFACE LOCATION N: 664787.3 - E: 597465.1 LAT: 32.8273940° N LONG: 104.1506098° W FIRST TAKE POINT (FTP) 100' FNL 2275' FWL N: 664828.7 - E: 598329.0 LAT: 32.8275037° N LONG: 104.1477972° W LAST TAKE POINT (LTP) 100' FSL 2275' FWL N: 659750.2 - E: 598289.3 LAT: 32.8136449° N LONG: 104.1479553° W BOTTOM HOLE LOCATION N: 659700.2 - E: 598287.4 LAT: 32.8134076° N LONG: 104.1479618° W ④		CORNER DATA NAD 83 GRID - NM EAST A: FOUND BRASS CAP "1941" N: 659475.1 - E: 596017.9 B: FOUND BRASS CAP "1941" N: 662071.0 - E: 596116.8 C: FOUND BRASS CAP "1941" N: 664715.7 - E: 596062.5 D: FOUND BRASS CAP "1941" N: 664959.0 - E: 598649.4 E: FOUND BRASS CAP "1941" N: 665202.5 - E: 601236.8 F: FOUND BRASS CAP "1941" N: 662539.7 - E: 601228.8 G: FOUND BRASS CAP "1941" N: 659870.2 - E: 601205.0 H: FOUND BRASS CAP "1941" N: 659675.9 - E: 598617.6 ⑥	
⑦ 2275' 50' LTP B.H. ⑧		⑨	

17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Sarah Chapman 08/18/2022
Signature Date

SARAH CHAPMAN
Printed Name

SCHAPMAN@SPURENERGY.COM
E-mail Address

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

06/18/2022
Date of Survey

Signature and Seal of Professional Surveyor

19680
Certificate Number

Job No.: LS22060716

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description Effective May 25, 2021

I. Operator: SPUR ENERGY PARTNERS LLC **OGRID:** 328947 **Date:** 08 / 23 / 2022

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
SIERRA NEVADA 23 FEDERAL COM 61H	30-015-	C-23-17S-28E	60' FNL 1408' FWL	282 BBL/D	453 MCF/D	1689 BBL/D
SIERRA NEVADA 23 STATE COM 10H	30-015-	C-23-17S-28E	56' FNL 1368' FWL	293 BBL/D	320 MCF/D	2048 BBL/D
SIERRA NEVADA 23 STATE COM 60H	30-015-	C-23-17S-28E	58' FNL 1388' FWL	282 BBL/D	453 MCF/D	1689 BBL/D

IV. Central Delivery Point Name: SIERRA NEVADA 23 FEDERAL STATE COM TANK BATTERY [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
SIERRA NEVADA 23 FEDERAL COM 61H	30-015-	04/29/2024	05/07/2024	05/16/2024	05/24/2024	06/13/2024
SIERRA NEVADA 23 STATE COM 10H	30-015-	04/19/2024	04/27/2024	05/16/2024	05/24/2024	06/13/2024
SIERRA NEVADA 23 STATE COM 60H	30-015-	04/11/2024	04/19/2024	05/16/2024	05/24/2024	06/13/2024

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

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

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

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature:	<i>Sarah Chapman</i>
Printed Name:	SARAH CHAPMAN
Title:	REGULATORY DIRECTOR
E-mail Address:	SCHAPMAN@SPUREENERGY.COM
Date:	08/23/2022
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 – Sierra Nevada 23 Federal Com 61H

1. Geologic Formations

TVD of Target	4,275'
MD at TD	10,131'

Formation	Depth	Lithology	Expected Fluids
Quaternary	0'	Alluvium	Useable Water
Top Salt	250'	Anhydrite	Other: Salt
Tansill	499'	Sandstone, Dolomite	None
Yates	597'	Dolomite, Limestone, Shale, Siltstone	None
Seven Rivers	858'	Dolomite, Limestone	Natural Gas, Oil
Queen	1415'	Anhydrite, Dolomite, Sandstone	Natural Gas, Oil
Grayburg	1832'	Anhydrite	Natural Gas, Oil
San Andres	2159'	Dolomite	Natural Gas, Oil
Glorieta	3548'	Dolomite, Siltstone	Natural Gas, Oil
Upper Paddock	3634'	Dolomite, Limestone	Natural Gas, Oil
Lower Paddock	3758'	Dolomite, Limestone	Natural Gas, Oil
Upper Blinebry	4090'	Dolomite, Limestone	Natural Gas, Oil
Lower Blinebry	4515'	Dolomite, Limestone	Natural Gas, Oil
Tubb	4980'	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
Quaternary	17.5	0	225	13.375	54.5	J-55	BTC	1.125	1.2	1.4	1.4
Seven Rivers	12.25	0	1260	9.625	36	J-55	BTC	1.125	1.2	1.4	1.4
N/A	8.75	0	4750	7	32	L-80	BK-HT	1.125	1.2	1.4	1.4
Yeso	8.75	4750	10131	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 – Sierra Nevada 23 Federal Com 61H

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

3. Cementing Program

Casing String	Top (ft)	Bottom (ft)	% Excess
Surface Tail	0	225	165%
Intermediate (Lead)	0	225	100%
Intermediate (Tail)	225	1260	165%
Production (Lead)	0	3750	0%
Production (Tail)	3750	10131	50%

Casing String	# Sks	Wt. (lb/gal)	Yld (ft3/sack)	H2O (gal/sk)	500# Comp. Strength (hours)	Slurry Description
Surface Tail	167	13.2	2.32	9.92	6:59	Clas C Premium Plus Cement
Intermediate (Lead)	45	12.2	1.84	13.48	8:12	Clas C Premium Plus Cement
Intermediate (Tail)	379	13.2	2.32	9.92	6:59	Clas C Premium Plus Cement
Production (Lead)	446	11.8	2.54	15.29	N/A	Clas C Premium Plus Cement
Production (Tail)	1256	13.2	1.81	9.81	N/A	Clas C Premium Plus Cement

Spur Energy Partners LLC – Sierra Nevada 23 Federal Com 61H**4. Pressure Control Equipment*****Spur Energy Partners LLC variance for flex hose***

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

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

Spur Energy Partners LLC will be utilizing a 5M BOP

Condition	Specify what type and where?
BH Pressure at deepest TVD	1991 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	115°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 – Sierra Nevada 23 Federal Com 61H

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

5. BOP Break Testing Request

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

BOP break test under the following conditions:

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

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

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

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

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

6. Mud Program

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

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From (ft)	To (ft)				
0	225	Water-Based Mud	8.6-8.9	32-36	N/C
225	1260	Brine	10.0-10.5	32-36	N/C
1260	10131	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
---	-----------------------------

Spur Energy Partners LLC – Sierra Nevada 23 Federal Com 61H

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: 928.4 bbls.

Spur Energy Partners LLC – Sierra Nevada 23 Federal Com 61H

9. Other facets of operation

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

Attachments

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

10. Company Personnel

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



Spur Energy Partners, LLC

**Eddy County, NM (NAD 83 - NME)
SIERRA NEVADA 23 FEDERAL COM
61H**

**Wellbore #1
PERMIT**

Anticollision Report

12 August, 2022





Anticollision Report



Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Reference	PERMIT
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	MD Interval 50.00usft
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 2,000.00 us
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Pedal Curve
Casing Method:	Not applied

Survey Tool Program		Date	08/05/22		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	10,131.03	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						
MAYARO 22 STATE COM						
11H - Wellbore #1 - PERMIT	200.00	289.00	1,985.48	1,984.15	1,501.010	CC
11H - Wellbore #1 - PERMIT	250.00	328.31	1,985.58	1,983.94	1,208.623	ES
11H - Wellbore #1 - PERMIT	550.00	545.52	1,999.76	1,996.25	569.471	SF
71H - Wellbore #1 - PERMIT PLAN #2	356.38	468.54	1,982.96	1,980.44	785.530	CC
71H - Wellbore #1 - PERMIT PLAN #2	400.00	519.02	1,983.08	1,980.22	693.438	ES
71H - Wellbore #1 - PERMIT PLAN #2	850.00	1,027.25	1,998.79	1,992.37	311.520	SF
OFFSET: BLACK CAT FEDERAL 1 - Wellbore #1 - Wellb	2,029.76	1,941.70	90.45	44.55	1.971	CC
OFFSET: BLACK CAT FEDERAL 1 - Wellbore #1 - Wellb	2,050.00	1,960.05	90.86	44.46	1.958	ES, SF
OFFSET: BLACK CAT FEDERAL 2 - Wellbore #1 - Wellb	3,795.44	3,545.71	288.87	208.05	3.574	CC
OFFSET: BLACK CAT FEDERAL 2 - Wellbore #1 - Wellb	3,800.00	3,550.16	288.89	207.93	3.568	ES
OFFSET: BLACK CAT FEDERAL 2 - Wellbore #1 - Wellb	3,850.00	3,597.51	291.43	208.94	3.533	SF
OFFSET: COLLIER 22 STATE COM 043H - Wellbore #1						Out of range
OFFSET: COLLIER STATE 14 - Wellbore #1 - Wellbore						Out of range
OFFSET: COLLIER STATE 15 - Wellbore #1 - Wellbore						Out of range
OFFSET: COLLIER STATE 16 - Wellbore #1 - Wellbore						Out of range
OFFSET: DINAH '23' FEDERAL COM 1 - Wellbore #1 -	9,233.25	4,233.37	1,654.43	1,554.07	16.485	CC
OFFSET: DINAH '23' FEDERAL COM 1 - Wellbore #1 -	9,250.00	4,233.14	1,654.51	1,553.97	16.456	ES
OFFSET: DINAH '23' FEDERAL COM 1 - Wellbore #1 -	9,400.00	4,231.15	1,662.81	1,561.02	16.335	SF
OFFSET: LUCAS STOR JZ ST CM 1 - Wellbore #1 - We	7,032.26	4,350.48	1,404.95	1,227.22	7.905	CC
OFFSET: LUCAS STOR JZ ST CM 1 - Wellbore #1 - We	7,050.00	4,350.67	1,405.06	1,227.15	7.898	ES
OFFSET: LUCAS STOR JZ ST CM 1 - Wellbore #1 - We	7,150.00	4,351.78	1,409.88	1,231.08	7.886	SF
OFFSET: LUCAS STORE 'KT' STATE COM 1 - Wellbore						Out of range
OFFSET: MALCO 23 FEDERAL COM 013H - Wellbore #	766.57	765.66	146.51	141.36	28.458	CC
OFFSET: MALCO 23 FEDERAL COM 013H - Wellbore #	800.00	798.70	146.60	141.20	27.113	ES
OFFSET: MALCO 23 FEDERAL COM 013H - Wellbore #	10,131.03	8,573.84	850.41	705.05	5.851	SF
OFFSET: MARACAS 22 STATE 1 - Wellbore #1 - Wellbo						Out of range
OFFSET: MARACAS 22 STATE 12 - Wellbore #1 - Wellb	300.00	369.94	1,931.53	1,925.47	319.075	CC
OFFSET: MARACAS 22 STATE 12 - Wellbore #1 - Wellb	400.00	468.04	1,932.91	1,924.07	218.654	ES
OFFSET: MARACAS 22 STATE 12 - Wellbore #1 - Wellb	1,000.00	1,057.77	1,999.51	1,975.44	83.067	SF
OFFSET: MARACAS 22 STATE 2 - Wellbore #1 - Wellbo						Out of range
OFFSET: MAYARO 22 STATE 1 - Wellbore #1 - Wellbore						Out of range
OFFSET: MAYARO 22 STATE 3 - Wellbore #1 - Wellbore						Out of range
OFFSET: MAYARO 22 STATE 4 - Wellbore #1 - Wellbore						Out of range
OFFSET: MAYARO 22 STATE 5 - Wellbore #1 - Wellbore						Out of range
OFFSET: MAYARO 22 STATE 6 - Wellbore #1 - Wellbore						Out of range
OFFSET: MAYARO 22 STATE 7 - Wellbore #1 - Wellbore						Out of range
OFFSET: MONCRIEF STATE 1 - Wellbore #1 - Wellbore	8,726.94	4,215.90	1,977.64	1,886.76	21.760	CC

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



Anticollision Report



Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
MAYARO 22 STATE COM						
OFFSET: MONCRIEF STATE 1 - Wellbore #1 - Wellbore	8,750.00	4,215.71	1,977.78	1,886.61	21.694	ES
OFFSET: MONCRIEF STATE 1 - Wellbore #1 - Wellbore	9,000.00	4,213.58	1,996.40	1,902.85	21.340	SF
OFFSET: MONCRIEF STATE 2 - Wellbore #1 - Wellbore	8,009.45	4,025.00	1,746.86	1,617.69	13.524	CC, ES
OFFSET: MONCRIEF STATE 2 - Wellbore #1 - Wellbore	8,200.00	4,025.00	1,757.22	1,626.19	13.410	SF
OFFSET: MONCRIEF STATE 3 - Wellbore #1 - Wellbore	8,022.13	4,253.35	1,332.85	1,254.91	17.102	CC, ES
OFFSET: MONCRIEF STATE 3 - Wellbore #1 - Wellbore	8,150.00	4,252.73	1,338.97	1,260.12	16.981	SF
OFFSET: MONCRIEF STATE 4 - Wellbore #1 - Wellbore	8,608.23	4,261.32	1,273.02	1,184.15	14.325	CC, ES
OFFSET: MONCRIEF STATE 4 - Wellbore #1 - Wellbore	8,700.00	4,261.81	1,276.32	1,186.83	14.262	SF
OFFSET: SRC STATE 1 - Wellbore #1 - Wellbore #1	9,270.26	3,495.00	1,025.10	926.34	10.379	CC, ES
OFFSET: SRC STATE 1 - Wellbore #1 - Wellbore #1	9,350.00	3,495.00	1,028.20	929.02	10.366	SF
OFFSET: TUMAK FEDERAL 2 - Wellbore #1 - Wellbore	2,032.10	2,148.91	1,321.15	1,302.56	71.071	CC
OFFSET: TUMAK FEDERAL 2 - Wellbore #1 - Wellbore	2,150.00	2,255.41	1,321.94	1,302.05	66.445	ES
OFFSET: TUMAK FEDERAL 2 - Wellbore #1 - Wellbore	4,100.00	4,067.33	1,509.98	1,473.23	41.088	SF
OFFSET: TUMAK FEDERAL 3 - Wellbore #1 - Wellbore	0.00	46.94	1,195.68			
OFFSET: TUMAK FEDERAL 3 - Wellbore #1 - Wellbore	350.00	399.85	1,196.51	1,194.25	528.047	ES
OFFSET: TUMAK FEDERAL 3 - Wellbore #1 - Wellbore	5,000.00	4,400.54	1,949.03	1,914.23	56.009	SF
OFFSET: VERMEJO SWD 1 - Wellbore #1 - Wellbore #1						Out of range
SIERRA NEVADA 23 FEDERAL COM						
10H - Wellbore #1 - PERMIT	300.00	300.00	40.00	38.28	23.248	CC, ES
10H - Wellbore #1 - PERMIT	10,131.03	9,478.21	1,910.57	1,763.75	13.013	SF
60H - Wellbore #1 - PERMIT	300.00	300.00	20.00	18.28	11.624	CC, ES
60H - Wellbore #1 - PERMIT	10,131.03	9,989.93	1,220.16	1,067.50	7.993	SF

Offset Design

MAYARO 22 STATE COM - 11H - Wellbore #1 - PERMIT

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IGRF

Offset Well Error: 0.00 usft

Survey Program: 5-MWD-001										Onset 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)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	89.00	0.00	0.00	0.13	-85.407	159.00	-1,979.10	1,985.48					
50.00	50.00	139.00	50.00	0.05	0.28	-85.407	159.00	-1,979.10	1,985.48	1,985.14	0.34	5,892.261		
100.00	100.00	189.00	100.00	0.14	0.46	-85.407	159.00	-1,979.10	1,985.48	1,984.87	0.61	3,277.353		
150.00	150.00	239.00	150.00	0.32	0.64	-85.407	159.00	-1,979.10	1,985.48	1,984.51	0.96	2,059.006		
200.00	200.00	289.00	200.00	0.50	0.82	-85.407	159.00	-1,979.10	1,985.48	1,984.15	1.32	1,501.010	CC	
250.00	250.00	328.31	239.31	0.68	0.96	-85.403	159.12	-1,979.17	1,985.58	1,983.94	1.64	1,208.623	ES	
300.00	300.00	364.60	275.60	0.86	1.09	-85.389	159.64	-1,979.45	1,986.02	1,984.07	1.95	1,017.314		
350.00	350.00	400.00	310.98	1.04	1.22	-125.746	160.54	-1,979.93	1,987.07	1,984.81	2.26	880.110		
400.00	399.98	437.11	348.06	1.22	1.35	-125.700	161.89	-1,980.66	1,988.96	1,986.39	2.57	773.646		
450.00	449.93	473.31	384.20	1.40	1.49	-125.645	163.61	-1,981.59	1,991.71	1,988.83	2.88	691.042		
500.00	499.84	509.45	420.26	1.58	1.62	-125.580	165.73	-1,982.74	1,995.31	1,992.12	3.19	624.685		
550.00	549.68	545.52	456.22	1.76	1.75	-125.505	168.25	-1,984.10	1,999.76	1,996.25	3.51	569.471	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 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - 71H - Wellbore #1 - PERMIT PLAN #2												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
0.00	0.00	89.00	0.00	0.00	0.13	-85.979	139.10	-1,978.60	1,983.48				
50.00	50.00	139.00	50.00	0.05	0.28	-85.979	139.10	-1,978.60	1,983.48	1,983.15	0.34	5,886.346	
100.00	100.00	189.00	100.00	0.14	0.46	-85.979	139.10	-1,978.60	1,983.48	1,982.88	0.61	3,274.062	
150.00	150.00	239.00	150.00	0.32	0.64	-85.979	139.10	-1,978.60	1,983.48	1,982.52	0.96	2,056.939	
200.00	200.00	289.00	200.00	0.50	0.82	-85.979	139.10	-1,978.60	1,983.48	1,982.16	1.32	1,499.503	
250.00	250.00	345.25	256.25	0.68	1.02	-85.968	139.44	-1,978.50	1,983.42	1,981.72	1.70	1,164.420	
300.00	300.00	403.24	314.22	0.86	1.23	-85.926	140.89	-1,978.10	1,983.16	1,981.07	2.09	948.860	
350.00	350.00	461.16	372.07	1.04	1.44	-126.256	143.47	-1,977.39	1,982.96	1,980.49	2.48	801.106	
356.38	356.37	468.54	379.44	1.06	1.47	-126.248	143.88	-1,977.27	1,982.96	1,980.44	2.52	785.530 CC	
400.00	399.98	519.02	429.81	1.22	1.65	-126.181	147.16	-1,976.36	1,983.08	1,980.22	2.86	693.438 ES	
450.00	449.93	576.81	487.38	1.40	1.86	-126.091	151.97	-1,975.02	1,983.52	1,980.28	3.25	611.095	
500.00	499.84	634.52	544.76	1.58	2.07	-125.987	157.90	-1,973.37	1,984.28	1,980.65	3.63	546.385	
550.00	549.68	692.15	601.92	1.76	2.28	-125.868	164.92	-1,971.42	1,985.36	1,981.34	4.02	493.676	
600.00	599.45	749.68	658.83	1.95	2.49	-125.735	173.03	-1,969.16	1,986.76	1,982.35	4.41	450.273	
650.00	649.13	807.10	715.46	2.14	2.70	-125.588	182.23	-1,966.61	1,988.49	1,983.68	4.81	413.446	
700.00	698.70	864.41	771.77	2.34	2.90	-125.427	192.49	-1,963.75	1,990.54	1,985.34	5.21	382.192	
750.00	748.15	921.60	827.73	2.55	3.11	-125.253	203.82	-1,960.60	1,992.92	1,987.31	5.62	354.860	
800.00	797.47	978.66	883.33	2.76	3.32	-125.065	216.19	-1,957.16	1,995.63	1,989.61	6.02	331.244	
850.00	846.63	1,027.25	930.60	2.98	3.49	-124.902	227.01	-1,954.15	1,998.79	1,992.37	6.42	311.520 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 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: BLACK CAT FEDERAL 1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 195-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.00	0.00	4.00	0.00	0.00	0.04	29.521	417.36	236.33	479.63				
50.00	50.00	46.00	50.00	0.05	0.41	29.521	417.36	236.33	479.63	479.16	0.47	1,031.262	
100.00	100.00	96.00	100.00	0.14	0.86	29.521	417.36	236.33	479.63	478.62	1.00	478.770	
150.00	150.00	146.00	150.00	0.32	1.31	29.521	417.36	236.33	479.63	478.00	1.63	294.592	
200.00	200.00	196.01	200.00	0.50	1.76	29.521	417.36	236.33	479.63	477.36	2.27	211.659	
250.00	250.00	246.01	250.00	0.68	2.79	29.521	417.36	236.33	479.63	476.16	3.47	138.346	
300.00	300.00	297.59	301.58	0.86	3.84	29.512	417.50	236.33	479.75	475.05	4.70	102.072	
350.00	350.00	346.02	350.00	1.04	4.81	-10.882	417.36	236.33	479.20	473.34	5.85	81.876	
400.00	399.98	435.99	399.98	1.22	6.53	-10.916	417.36	236.33	477.91	470.16	7.75	61.656	
450.00	449.93	445.96	449.93	1.40	6.70	-10.974	417.36	236.33	475.77	467.67	8.10	58.719	
500.00	499.84	495.87	499.84	1.58	7.56	-11.056	417.36	236.33	472.77	463.64	9.14	51.745	
550.00	549.68	546.07	550.04	1.76	8.41	-11.177	417.59	236.33	469.12	458.95	10.18	46.093	
600.00	599.45	596.66	600.63	1.95	9.28	-11.307	417.49	236.33	464.34	453.12	11.22	41.367	
650.00	649.13	647.15	651.11	2.14	10.14	-11.459	417.29	236.33	458.62	446.35	12.27	37.369	
700.00	698.70	694.73	698.70	2.34	10.93	-11.647	417.36	236.33	452.28	439.03	13.24	34.149	
750.00	748.15	744.18	748.15	2.55	11.76	-11.869	417.36	236.33	445.04	430.78	14.26	31.216	
800.00	797.47	793.50	797.47	2.76	12.58	-12.126	417.36	236.33	436.96	421.70	15.27	28.624	
850.00	846.63	845.34	846.63	2.98	13.45	-12.420	417.36	236.33	428.05	411.73	16.32	26.225	
900.00	895.62	891.65	895.62	3.21	14.30	-12.758	417.36	236.33	418.31	400.96	17.36	24.101	
950.00	944.44	940.48	944.45	3.45	15.19	-13.145	417.40	236.33	407.79	389.35	18.44	22.112	
1,000.00	993.06	989.25	993.22	3.69	16.08	-13.583	417.39	236.33	396.41	376.88	19.52	20.303	
1,050.00	1,041.46	1,037.81	1,041.78	3.96	16.97	-14.081	417.35	236.33	384.20	363.59	20.61	18.643	
1,100.00	1,089.64	1,085.68	1,089.64	4.23	17.92	-14.647	417.36	236.33	371.23	349.48	21.75	17.068	
1,150.00	1,137.58	1,133.78	1,137.74	4.52	18.86	-15.322	417.69	236.33	357.77	334.88	22.89	15.627	
1,200.00	1,185.27	1,182.58	1,186.54	4.81	19.82	-16.075	417.58	236.33	343.15	319.10	24.05	14.267	
1,250.00	1,232.68	1,231.02	1,234.98	5.13	20.77	-16.931	417.29	236.33	327.62	302.41	25.21	12.996	
1,300.00	1,279.82	1,275.87	1,279.82	5.44	21.59	-17.887	417.36	236.33	311.67	285.41	26.25	11.872	
1,350.00	1,326.65	1,322.83	1,326.77	5.79	22.47	-19.069	417.69	236.33	295.26	267.90	27.35	10.795	
1,400.00	1,373.17	1,370.26	1,374.20	6.13	23.36	-20.441	417.58	236.33	277.78	249.31	28.46	9.759	
1,450.00	1,419.36	1,417.25	1,421.19	6.50	24.24	-22.054	417.31	236.33	259.52	229.93	29.58	8.773	
1,500.00	1,465.21	1,461.28	1,465.21	6.88	25.11	-23.908	417.36	236.33	240.97	210.25	30.72	7.844	
1,550.00	1,510.71	1,506.78	1,510.71	7.27	26.01	-26.221	417.36	236.33	221.88	189.98	31.90	6.956	
1,600.00	1,556.03	1,552.10	1,556.03	7.67	26.91	-28.802	417.36	236.33	202.79	169.68	33.10	6.126	
1,650.00	1,601.36	1,597.51	1,601.44	8.08	27.80	-31.908	417.56	236.33	184.32	149.98	34.35	5.366	
1,700.00	1,646.68	1,642.95	1,646.88	8.49	28.70	-35.649	417.52	236.33	166.22	130.58	35.64	4.663	
1,750.00	1,692.00	1,688.36	1,692.29	8.90	29.60	-40.219	417.45	236.33	148.89	111.87	37.01	4.023	
1,800.00	1,737.32	1,733.75	1,737.69	9.32	30.49	-45.853	417.34	236.33	132.64	94.17	38.47	3.448	
1,850.00	1,782.65	1,778.75	1,782.65	9.74	31.40	-52.737	417.36	236.33	118.09	78.04	40.05	2.949	
1,900.00	1,827.97	1,824.68	1,828.57	10.15	32.32	-61.307	417.62	236.33	106.01	64.27	41.74	2.540	
1,950.00	1,873.29	1,869.41	1,873.29	10.58	33.21	-71.348	417.36	236.33	96.52	53.07	43.45	2.221	
2,000.00	1,918.61	1,914.73	1,918.61	11.00	34.11	-82.822	417.36	236.33	91.32	46.26	45.06	2.027	
2,029.76	1,945.59	1,941.70	1,945.59	11.25	34.65	-90.000	417.36	236.33	90.45	44.55	45.90	1.971 CC	
2,050.00	1,963.94	1,960.05	1,963.94	11.42	35.01	-94.897	417.36	236.33	90.86	44.46	46.40	1.958 ES, SF	
2,100.00	2,009.26	2,005.38	2,009.26	11.85	35.91	-106.430	417.61	236.33	95.29	47.88	47.41	2.010	
2,150.00	2,054.58	2,050.72	2,054.61	12.27	36.81	-116.866	417.58	236.33	103.77	55.60	48.17	2.154	
2,200.00	2,099.90	2,096.03	2,099.91	12.70	37.71	-125.711	417.49	236.33	115.55	66.72	48.83	2.366	
2,250.00	2,145.22	2,141.37	2,145.22	13.13	38.61	-132.988	417.36	236.33	129.74	80.24	49.50	2.621	
2,300.00	2,190.55	2,186.69	2,190.55	13.55	39.50	-138.836	417.36	236.33	145.63	95.42	50.21	2.900	
2,350.00	2,235.87	2,231.61	2,235.46	13.98	40.39	-143.525	417.40	236.33	162.69	111.72	50.98	3.192	
2,400.00	2,281.19	2,277.35	2,281.19	14.41	41.21	-147.455	417.36	236.33	180.64	128.89	51.75	3.490	
2,450.00	2,326.51	2,322.67	2,326.51	14.84	42.03	-150.653	417.36	236.33	199.20	146.64	52.56	3.790	
2,500.00	2,371.84	2,367.90	2,371.74	15.27	42.84	-153.290	417.47	236.33	218.18	164.77	53.41	4.085	

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 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: BLACK CAT FEDERAL 1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 195-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
2,550.00	2,417.16	2,413.07	2,416.92	15.71	43.65	-155.555	417.39	236.33	237.59	183.30	54.28	4.377	
2,600.00	2,462.48	2,458.64	2,462.48	16.14	44.47	-157.493	417.36	236.33	257.25	202.06	55.19	4.661	
2,650.00	2,507.80	2,503.96	2,507.80	16.57	45.29	-159.146	417.36	236.33	277.12	221.00	56.12	4.938	
2,700.00	2,553.13	2,549.25	2,553.08	17.00	46.10	-160.535	417.61	236.33	297.03	239.97	57.06	5.206	
2,750.00	2,598.45	2,594.27	2,598.11	17.43	46.91	-161.796	417.56	236.33	317.23	259.23	58.00	5.469	
2,800.00	2,643.77	2,639.25	2,643.08	17.87	47.72	-162.919	417.44	236.33	337.59	278.64	58.96	5.726	
2,850.00	2,689.09	2,685.26	2,689.09	18.30	48.60	-163.930	417.36	236.33	358.02	298.03	59.99	5.968	
2,900.00	2,734.41	2,730.58	2,734.41	18.73	49.48	-164.810	417.36	236.33	378.49	317.45	61.04	6.201	
2,950.00	2,779.74	2,775.70	2,779.54	19.17	50.37	-165.583	417.46	236.33	398.96	336.87	62.09	6.425	
3,000.00	2,825.06	2,820.68	2,824.51	19.60	51.25	-166.301	417.40	236.33	419.60	356.45	63.15	6.645	
3,050.00	2,870.38	2,866.56	2,870.38	20.04	52.20	-166.960	417.36	236.33	440.26	375.98	64.28	6.849	
3,100.00	2,915.70	2,911.41	2,915.22	20.47	53.16	-167.509	417.69	236.33	460.74	395.33	65.41	7.044	
3,150.00	2,961.03	2,954.62	2,958.43	20.91	54.08	-168.049	417.47	236.33	481.61	415.11	66.50	7.242	
3,200.00	3,006.35	3,002.56	3,006.35	21.34	55.11	-168.585	417.36	236.33	502.43	434.69	67.74	7.417	
3,250.00	3,051.67	3,047.88	3,051.67	21.78	56.09	-169.041	417.36	236.33	523.21	454.30	68.91	7.593	
3,300.00	3,096.99	3,092.56	3,096.35	22.21	57.06	-169.418	417.80	236.33	543.74	473.68	70.06	7.761	
3,350.00	3,142.32	3,136.52	3,140.30	22.65	58.01	-169.813	417.63	236.33	564.68	493.49	71.20	7.931	
3,400.00	3,187.64	3,183.89	3,187.64	23.08	59.04	-170.216	417.36	236.33	585.71	513.27	72.44	8.086	
3,450.00	3,232.96	3,229.21	3,232.96	23.52	60.06	-170.554	417.36	236.33	606.58	532.93	73.65	8.236	
3,500.00	3,278.28	3,271.90	3,275.64	23.95	61.02	-170.975	417.60	236.33	627.32	552.52	74.79	8.387	
3,550.00	3,324.20	3,320.48	3,324.20	24.37	62.11	-177.977	417.36	236.33	647.15	571.05	76.10	8.504	
3,600.00	3,371.11	3,367.41	3,371.11	24.73	63.17	173.585	417.36	236.33	664.42	587.07	77.35	8.590	
3,650.00	3,418.77	3,415.07	3,418.77	25.06	64.19	162.995	417.36	236.33	679.22	600.65	78.57	8.645	
3,700.00	3,466.97	3,460.66	3,464.36	25.33	65.18	149.759	417.64	236.33	691.31	611.58	79.73	8.671	
3,750.00	3,515.45	3,511.78	3,515.45	25.55	66.26	134.351	417.36	236.33	701.22	620.21	81.01	8.656	
3,800.00	3,563.99	3,560.12	3,563.79	25.73	67.25	118.650	417.61	236.33	708.29	626.10	82.18	8.618	
3,850.00	3,612.35	3,605.97	3,609.65	25.85	68.19	104.921	417.46	236.33	713.15	629.87	83.29	8.563	
3,900.00	3,660.30	3,656.64	3,660.30	25.93	69.23	94.501	417.36	236.33	715.60	631.09	84.52	8.467	
3,950.00	3,707.59	3,702.92	3,706.58	25.97	70.18	87.081	417.59	236.33	715.61	629.98	85.64	8.357	
4,000.00	3,754.01	3,750.36	3,754.01	25.97	71.15	82.138	417.36	236.33	713.79	627.00	86.78	8.225	
4,050.00	3,799.32	3,795.67	3,799.32	25.94	72.01	79.027	417.36	236.33	709.91	622.08	87.83	8.083	
4,100.00	3,843.30	3,839.65	3,843.30	25.86	72.86	77.301	417.36	236.33	704.35	615.49	88.86	7.926	
4,150.00	3,885.74	3,880.97	3,884.62	25.76	73.65	76.598	417.66	236.33	697.21	607.36	89.85	7.760	
4,200.00	3,926.43	3,920.74	3,924.38	25.62	74.41	76.676	417.46	236.33	689.17	598.36	90.81	7.589	
4,250.00	3,965.18	3,961.55	3,965.18	25.46	75.18	77.541	417.36	236.33	680.27	588.44	91.83	7.408	
4,300.00	4,001.79	3,998.16	4,001.79	25.28	75.88	78.784	417.36	236.33	670.88	578.10	92.78	7.231	
4,350.00	4,036.09	4,032.09	4,035.72	25.07	76.52	80.343	417.44	236.33	661.42	567.72	93.70	7.059	
4,400.00	4,067.91	4,063.69	4,067.32	24.84	77.11	82.107	417.36	236.33	652.39	557.79	94.60	6.896	
4,450.00	4,097.09	4,093.46	4,097.09	24.60	77.73	84.020	417.36	236.33	644.14	548.59	95.55	6.741	
4,500.00	4,123.49	4,119.87	4,123.49	24.35	78.28	85.864	417.36	236.33	637.16	540.71	96.44	6.606	
4,550.00	4,148.49	4,144.79	4,148.41	24.09	78.80	87.828	417.57	236.33	632.40	535.06	97.34	6.497	
4,600.00	4,173.49	4,169.87	4,173.50	23.85	79.32	89.798	417.48	236.33	630.62	532.42	98.19	6.422	
4,605.19	4,176.09	4,172.49	4,176.11	23.83	79.37	90.003	417.47	236.33	630.60	532.31	98.29	6.416	
4,650.00	4,198.49	4,195.20	4,198.83	23.63	79.85	91.783	417.33	236.33	631.78	532.70	99.08	6.377	
4,700.00	4,223.49	4,219.88	4,223.49	23.41	80.37	93.715	417.36	236.33	635.91	536.00	99.91	6.365	
4,750.00	4,246.53	4,242.93	4,246.53	23.20	80.87	94.832	417.36	236.33	643.14	542.44	100.69	6.387	
4,800.00	4,265.62	4,262.22	4,265.83	23.00	81.28	95.361	417.66	236.33	653.87	552.50	101.36	6.451	
4,850.00	4,280.61	4,277.80	4,281.41	22.79	81.61	95.224	417.62	236.33	668.05	566.14	101.90	6.556	
4,900.00	4,291.39	4,289.23	4,292.83	22.59	81.85	94.348	417.57	236.33	685.69	583.38	102.30	6.703	
4,950.00	4,297.87	4,296.32	4,299.92	22.40	82.01	92.683	417.53	236.33	706.60	604.05	102.55	6.890	
5,000.00	4,300.01	4,298.92	4,302.52	22.23	82.06	90.200	417.52	236.33	730.49	627.83	102.66	7.116	
5,050.00	4,299.77	4,299.02	4,302.63	22.08	82.06	90.074	417.51	236.33	756.96	654.30	102.66	7.374	

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

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COMPASS 5000.14 Build 85



Anticollision Report



Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: BLACK CAT FEDERAL 1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 195-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.00	4,299.52	4,299.12	4,302.73	21.98	82.07	90.083	417.51	236.33	785.72	683.06	102.66	7.654	
5,150.00	4,299.28	4,299.23	4,302.83	21.92	82.07	90.093	417.51	236.33	816.54	713.99	102.54	7.963	
5,200.00	4,299.04	4,299.33	4,302.93	21.94	82.07	90.102	417.51	236.33	849.18	746.60	102.58	8.279	
5,250.00	4,298.79	4,299.43	4,303.04	22.02	82.07	90.112	417.51	236.33	883.44	780.87	102.58	8.613	
5,300.00	4,298.55	4,299.54	4,303.14	22.25	82.07	90.121	417.51	236.33	919.16	816.71	102.44	8.972	
5,350.00	4,298.31	4,299.65	4,303.25	22.54	82.08	90.131	417.51	236.33	956.15	853.75	102.40	9.338	
5,400.00	4,298.06	4,299.76	4,303.36	22.95	82.08	90.141	417.51	236.33	994.28	891.99	102.29	9.720	
5,450.00	4,297.82	4,299.87	4,303.47	23.40	82.08	90.151	417.51	236.33	1,033.42	931.19	102.23	10.109	
5,500.00	4,297.57	4,299.99	4,303.59	23.91	82.08	90.162	417.51	236.33	1,073.47	971.34	102.13	10.511	
5,550.00	4,297.33	4,300.10	4,303.71	24.45	82.09	90.172	417.51	236.33	1,114.32	1,012.25	102.07	10.918	
5,600.00	4,297.09	4,300.22	4,303.82	25.02	82.09	90.183	417.51	236.33	1,155.89	1,053.91	101.98	11.335	
5,650.00	4,296.84	4,300.34	4,303.94	25.62	82.09	90.194	417.51	236.33	1,198.10	1,096.19	101.91	11.756	
5,700.00	4,296.60	4,300.47	4,304.07	26.24	82.09	90.205	417.50	236.33	1,240.90	1,139.07	101.83	12.186	
5,750.00	4,296.36	4,300.59	4,304.19	26.88	82.10	90.217	417.50	236.33	1,284.21	1,182.44	101.77	12.619	
5,800.00	4,296.11	4,300.72	4,304.32	27.53	82.10	90.228	417.50	236.33	1,327.99	1,226.30	101.69	13.059	
5,850.00	4,295.87	4,300.85	4,304.45	28.20	82.10	90.240	417.50	236.33	1,372.20	1,270.56	101.64	13.501	
5,900.00	4,295.62	4,300.98	4,304.58	28.88	82.11	90.252	417.50	236.33	1,416.80	1,315.22	101.57	13.949	
5,950.00	4,295.38	4,301.11	4,304.72	29.59	82.11	90.264	417.50	236.33	1,461.74	1,360.22	101.52	14.398	
6,000.00	4,295.14	4,301.25	4,304.85	30.29	82.11	90.277	417.50	236.33	1,507.00	1,405.54	101.46	14.853	
6,050.00	4,294.89	4,301.39	4,304.99	31.02	82.11	90.289	417.50	236.33	1,552.55	1,451.14	101.42	15.309	
6,100.00	4,294.65	4,301.53	4,305.14	31.75	82.12	90.302	417.50	236.33	1,598.37	1,497.01	101.36	15.769	
6,150.00	4,294.41	4,301.68	4,305.28	32.50	82.12	90.316	417.50	236.33	1,644.44	1,543.11	101.32	16.230	
6,200.00	4,294.16	4,301.83	4,305.43	33.25	82.12	90.329	417.50	236.33	1,690.72	1,589.45	101.27	16.694	
6,250.00	4,293.92	4,301.98	4,305.58	34.01	82.13	90.343	417.49	236.33	1,737.21	1,635.98	101.24	17.160	
6,300.00	4,293.67	4,302.13	4,305.74	34.78	82.13	90.357	417.49	236.33	1,783.90	1,682.70	101.20	17.628	
6,350.00	4,293.43	4,302.29	4,305.89	35.56	82.13	90.371	417.49	236.33	1,830.75	1,729.59	101.16	18.097	
6,400.00	4,293.19	4,302.45	4,306.05	36.35	82.14	90.386	417.49	236.33	1,877.77	1,776.64	101.13	18.568	
6,450.00	4,292.94	4,302.61	4,306.22	37.14	82.14	90.401	417.49	236.33	1,924.94	1,823.84	101.10	19.040	
6,500.00	4,292.70	4,302.78	4,306.38	37.94	82.14	90.416	417.49	236.33	1,972.25	1,871.18	101.07	19.514	

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



Anticollision Report



Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: BLACK CAT FEDERAL 2 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 197-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.00	0.00	15.00	0.00	0.00	0.13	37.549	1,140.54	876.71	1,438.56				
50.00	50.00	35.00	50.00	0.05	0.31	37.549	1,140.54	876.71	1,438.56	1,438.19	0.37	3,919.302	
100.00	100.00	85.00	100.00	0.14	0.76	37.549	1,140.54	876.71	1,438.56	1,437.65	0.90	1,590.980	
150.00	150.00	135.00	150.00	0.32	1.21	37.549	1,140.54	876.71	1,438.56	1,437.03	1.53	939.641	
200.00	200.00	185.00	200.00	0.50	1.66	37.549	1,140.54	876.71	1,438.56	1,436.40	2.16	666.698	
250.00	250.00	235.01	250.00	0.68	2.54	37.549	1,140.54	876.71	1,438.56	1,435.34	3.22	446.652	
300.00	300.00	292.98	300.00	0.86	3.72	37.549	1,140.54	876.71	1,438.56	1,433.98	4.58	313.997	
350.00	350.00	335.01	350.00	1.04	4.55	-2.844	1,140.54	876.71	1,438.12	1,432.54	5.59	257.359	
400.00	399.98	385.00	399.98	1.22	5.53	-2.848	1,140.54	876.71	1,436.82	1,430.06	6.75	212.820	
450.00	449.93	437.35	452.33	1.40	6.56	-2.866	1,141.03	876.71	1,435.03	1,427.07	7.96	180.202	
500.00	499.84	491.78	506.75	1.58	7.64	-2.871	1,140.81	876.71	1,431.82	1,422.60	9.22	155.350	
550.00	549.68	546.11	561.08	1.76	8.71	-2.873	1,140.37	876.71	1,427.58	1,417.11	10.47	136.350	
600.00	599.45	584.49	599.45	1.95	9.39	-2.889	1,140.54	876.71	1,422.88	1,411.55	11.33	125.580	
650.00	649.13	634.17	649.13	2.14	10.30	-2.907	1,140.54	876.71	1,417.23	1,404.81	12.43	114.049	
700.00	698.70	683.74	698.70	2.34	11.21	-2.927	1,140.54	876.71	1,410.71	1,397.20	13.52	104.353	
750.00	748.15	733.55	748.51	2.55	12.12	-2.961	1,140.96	876.71	1,403.66	1,389.04	14.62	96.021	
800.00	797.47	784.14	799.10	2.76	13.05	-2.986	1,140.91	876.71	1,395.39	1,379.66	15.73	88.706	
850.00	846.63	834.56	849.52	2.98	13.98	-3.013	1,140.81	876.71	1,386.21	1,369.36	16.84	82.302	
900.00	895.62	884.79	899.74	3.21	14.90	-3.043	1,140.65	876.71	1,376.13	1,358.18	17.95	76.666	
950.00	944.44	934.81	949.77	3.45	15.82	-3.074	1,140.43	876.71	1,365.15	1,346.10	19.06	71.638	
1,000.00	993.06	978.11	993.06	3.69	16.60	-3.113	1,140.54	876.71	1,353.57	1,333.55	20.03	67.592	
1,050.00	1,041.46	1,027.54	1,042.49	3.96	17.50	-3.162	1,140.74	876.71	1,341.23	1,320.12	21.12	63.519	
1,100.00	1,089.64	1,078.16	1,093.10	4.23	18.42	-3.209	1,140.63	876.71	1,327.81	1,305.58	22.22	59.747	
1,150.00	1,137.58	1,122.64	1,137.58	4.52	19.23	-3.255	1,140.54	876.71	1,313.55	1,290.32	23.23	56.555	
1,200.00	1,185.27	1,170.33	1,185.27	4.81	20.10	-3.311	1,140.54	876.71	1,298.54	1,274.25	24.28	53.471	
1,250.00	1,232.68	1,217.74	1,232.68	5.13	20.96	-3.371	1,140.54	876.71	1,282.70	1,257.35	25.34	50.613	
1,300.00	1,279.82	1,265.95	1,280.89	5.44	21.84	-3.444	1,140.74	876.71	1,266.19	1,239.78	26.41	47.938	
1,350.00	1,326.65	1,314.11	1,329.05	5.79	22.72	-3.514	1,140.65	876.71	1,248.64	1,221.16	27.49	45.427	
1,400.00	1,373.17	1,361.90	1,376.84	6.13	23.59	-3.588	1,140.51	876.71	1,230.24	1,201.68	28.55	43.089	
1,450.00	1,419.36	1,404.43	1,419.36	6.50	24.36	-3.667	1,140.54	876.71	1,211.15	1,181.64	29.52	41.034	
1,500.00	1,465.21	1,450.36	1,465.29	6.88	25.18	-3.764	1,140.75	876.71	1,191.42	1,160.88	30.54	39.012	
1,550.00	1,510.71	1,497.89	1,512.83	7.27	26.04	-3.862	1,140.69	876.71	1,170.68	1,139.08	31.60	37.050	
1,600.00	1,556.03	1,546.90	1,556.03	7.67	26.92	-3.924	1,140.54	876.71	1,149.48	1,116.80	32.68	35.176	
1,650.00	1,601.36	1,586.43	1,601.36	8.08	27.64	-3.997	1,140.54	876.71	1,128.41	1,094.82	33.59	33.595	
1,700.00	1,646.68	1,631.75	1,646.68	8.49	28.45	-4.074	1,140.54	876.71	1,107.33	1,072.73	34.60	32.002	
1,750.00	1,692.00	1,677.22	1,692.15	8.90	29.28	-4.159	1,140.70	876.71	1,086.39	1,050.77	35.62	30.498	
1,800.00	1,737.32	1,723.37	1,738.30	9.32	30.11	-4.241	1,140.67	876.71	1,065.30	1,028.65	36.65	29.066	
1,850.00	1,782.65	1,769.49	1,784.41	9.74	30.94	-4.326	1,140.60	876.71	1,044.17	1,006.49	37.68	27.708	
1,900.00	1,827.97	1,815.57	1,830.50	10.15	31.77	-4.412	1,140.48	876.71	1,023.01	984.30	38.72	26.424	
1,950.00	1,873.29	1,858.37	1,873.29	10.58	32.56	-4.502	1,140.54	876.71	1,001.99	962.29	39.71	25.234	
2,000.00	1,918.61	1,904.94	1,919.86	11.00	33.41	-4.608	1,140.69	876.71	981.06	940.30	40.76	24.069	
2,050.00	1,963.94	1,964.98	1,963.94	11.42	34.51	-4.700	1,140.54	876.71	959.87	917.81	42.06	22.820	
2,100.00	2,009.26	1,994.34	2,009.26	11.85	35.04	-4.806	1,140.54	876.71	938.82	896.02	42.80	21.936	
2,150.00	2,054.58	2,039.66	2,054.58	12.27	35.86	-4.916	1,140.54	876.71	917.76	873.94	43.82	20.942	
2,200.00	2,099.90	2,085.45	2,100.37	12.70	36.68	-5.040	1,140.72	876.71	896.86	852.00	44.86	19.994	
2,250.00	2,145.22	2,131.83	2,146.74	13.13	37.52	-5.162	1,140.66	876.71	875.76	829.86	45.90	19.079	
2,300.00	2,190.55	2,178.15	2,193.07	13.55	38.36	-5.286	1,140.53	876.71	854.61	807.67	46.94	18.205	
2,350.00	2,235.87	2,220.96	2,235.87	13.98	39.15	-5.413	1,140.54	876.71	833.58	785.63	47.95	17.383	
2,400.00	2,281.19	2,266.28	2,281.19	14.41	39.99	-5.553	1,140.54	876.71	812.54	763.54	49.00	16.582	
2,450.00	2,326.51	2,312.13	2,327.04	14.84	40.84	-5.711	1,140.72	876.71	791.66	741.60	50.06	15.814	
2,500.00	2,371.84	2,358.35	2,373.26	15.27	41.69	-5.867	1,140.65	876.71	770.58	719.46	51.12	15.073	
2,550.00	2,417.16	2,404.52	2,419.43	15.71	42.54	-6.029	1,140.52	876.71	749.45	697.26	52.19	14.361	

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

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COMPASS 5000.14 Build 85



Anticollision Report



Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: BLACK CAT FEDERAL 2 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 197-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis					Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
2,600.00	2,462.48	2,447.58	2,462.48	16.14	43.38	-6.196	1,140.54	876.71	728.44	675.20	53.25	13.681	
2,650.00	2,507.80	2,492.90	2,507.80	16.57	44.26	-6.380	1,140.54	876.71	707.43	653.10	54.34	13.019	
2,700.00	2,553.13	2,538.50	2,553.40	17.00	45.14	-6.594	1,140.87	876.71	686.70	631.27	55.43	12.388	
2,750.00	2,598.45	2,584.86	2,599.76	17.43	46.03	-6.804	1,140.81	876.71	665.65	609.11	56.54	11.772	
2,800.00	2,643.77	2,631.12	2,643.77	17.87	47.89	-7.005	1,140.54	876.71	644.44	585.81	58.63	10.992	
2,850.00	2,689.09	2,677.39	2,692.29	18.30	47.82	-7.251	1,140.41	876.71	623.36	564.60	58.76	10.609	
2,900.00	2,734.41	2,719.53	2,734.41	18.73	48.64	-7.494	1,140.54	876.71	602.48	542.67	59.81	10.073	
2,950.00	2,779.74	2,764.85	2,779.74	19.17	49.51	-7.765	1,140.54	876.71	581.52	520.61	60.92	9.546	
3,000.00	2,825.06	2,810.17	2,825.06	19.60	50.39	-8.056	1,140.54	876.71	560.57	498.55	62.02	9.039	
3,050.00	2,870.38	2,856.42	2,871.30	20.04	51.28	-8.408	1,141.04	876.71	540.05	476.91	63.14	8.553	
3,100.00	2,915.70	2,902.63	2,917.50	20.47	52.18	-8.746	1,140.90	876.71	519.01	454.76	64.26	8.077	
3,150.00	2,961.03	2,947.84	2,961.03	20.91	53.81	-9.076	1,140.54	876.71	497.80	431.67	66.14	7.527	
3,200.00	3,006.35	2,994.83	3,009.70	21.34	53.96	-9.491	1,140.33	876.71	476.75	410.25	66.50	7.169	
3,250.00	3,051.67	3,036.81	3,051.67	21.78	54.71	-9.910	1,140.54	876.71	456.05	388.52	67.52	6.754	
3,300.00	3,096.99	3,082.13	3,096.99	22.21	55.55	-10.410	1,140.84	876.71	435.46	366.85	68.61	6.347	
3,350.00	3,142.32	3,128.21	3,143.07	22.65	56.40	-10.941	1,140.79	876.71	414.61	344.89	69.72	5.947	
3,400.00	3,187.64	3,221.22	3,187.64	23.08	58.11	-11.492	1,140.54	876.71	393.60	321.91	71.69	5.490	
3,450.00	3,232.96	3,220.16	3,235.01	23.52	58.10	-12.156	1,140.41	876.71	372.75	300.81	71.94	5.182	
3,500.00	3,278.28	3,263.43	3,278.28	23.95	58.87	-12.982	1,140.54	876.71	352.16	279.14	73.02	4.823	
3,550.00	3,324.20	3,309.35	3,324.20	24.37	59.70	-20.120	1,140.54	876.71	333.08	258.92	74.16	4.491	
3,600.00	3,371.11	3,356.26	3,371.11	24.73	60.55	-29.319	1,140.54	876.71	317.18	241.82	75.37	4.209	
3,650.00	3,418.77	3,404.12	3,418.97	25.06	61.41	-41.257	1,140.83	876.71	304.90	228.25	76.65	3.978	
3,700.00	3,466.97	3,452.58	3,467.43	25.33	62.28	-56.320	1,140.77	876.71	295.85	217.83	78.02	3.792	
3,750.00	3,515.45	3,501.34	3,516.19	25.55	63.16	-74.037	1,140.66	876.71	290.47	211.01	79.46	3.656	
3,795.44	3,559.57	3,545.71	3,560.56	25.71	63.97	-90.806	1,140.52	876.71	288.87	208.05	80.82	3.574 CC	
3,800.00	3,563.99	3,550.16	3,565.01	25.73	64.05	-92.445	1,140.50	876.71	288.89	207.93	80.96	3.568 ES	
3,850.00	3,612.35	3,597.51	3,612.35	25.85	64.90	-109.082	1,140.54	876.71	291.43	208.94	82.49	3.533 SF	
3,900.00	3,660.30	3,645.54	3,660.38	25.93	65.77	-122.841	1,140.71	876.71	298.08	214.06	84.03	3.548	
3,950.00	3,707.59	3,693.36	3,708.20	25.97	66.63	-133.743	1,140.65	876.71	308.47	222.94	85.53	3.607	
4,000.00	3,754.01	3,740.34	3,755.18	25.97	67.48	-142.346	1,140.52	876.71	322.63	235.66	86.97	3.710	
4,050.00	3,799.32	3,784.48	3,799.32	25.94	68.28	-149.148	1,140.54	876.71	340.65	252.33	88.32	3.857	
4,100.00	3,843.30	3,828.46	3,843.30	25.86	69.07	-154.717	1,140.54	876.71	362.18	272.60	89.58	4.043	
4,150.00	3,885.74	3,871.00	3,885.84	25.76	69.84	-159.328	1,140.76	876.71	387.26	296.54	90.73	4.268	
4,200.00	3,926.43	3,912.17	3,927.01	25.62	70.59	-163.216	1,140.73	876.71	415.23	323.45	91.78	4.524	
4,250.00	3,965.18	3,951.44	3,966.28	25.46	71.30	-166.550	1,140.65	876.71	446.07	353.34	92.73	4.811	
4,300.00	4,001.79	3,991.04	4,001.79	25.28	72.01	-169.437	1,140.54	876.71	479.59	385.96	93.63	5.122	
4,350.00	4,036.09	4,021.26	4,036.09	25.07	72.55	-172.064	1,140.54	876.71	515.73	421.43	94.30	5.469	
4,400.00	4,067.91	4,053.07	4,067.91	24.84	73.12	-174.512	1,140.54	876.71	554.18	459.23	94.95	5.836	
4,450.00	4,097.09	4,082.25	4,097.09	24.60	73.64	-176.890	1,140.54	876.71	594.73	499.21	95.52	6.226	
4,500.00	4,123.49	4,108.66	4,123.49	24.35	74.11	-179.300	1,140.54	876.71	637.17	541.16	96.01	6.636	
4,550.00	4,148.49	4,133.66	4,148.49	24.09	74.56	-179.344	1,140.54	876.71	680.47	584.01	96.46	7.055	
4,600.00	4,173.49	4,158.84	4,173.67	23.85	75.01	-179.384	1,140.82	876.71	724.05	627.14	96.91	7.472	
4,650.00	4,198.49	4,184.28	4,199.11	23.63	75.47	-179.420	1,140.80	876.71	767.33	669.97	97.36	7.881	
4,700.00	4,223.49	4,209.77	4,224.60	23.41	75.92	-179.450	1,140.77	876.71	810.61	712.79	97.81	8.287	
4,750.00	4,246.53	4,233.32	4,248.15	23.20	76.34	-179.384	1,140.74	876.71	854.93	756.69	98.24	8.703	
4,800.00	4,265.62	4,252.88	4,267.71	23.00	76.69	-179.279	1,140.69	876.71	901.08	802.49	98.59	9.140	
4,850.00	4,280.61	4,268.31	4,283.14	22.79	76.97	-179.098	1,140.66	876.71	948.73	849.86	98.87	9.596	
4,900.00	4,291.39	4,279.46	4,294.29	22.59	77.17	-178.727	1,140.62	876.71	997.51	898.44	99.07	10.069	
4,950.00	4,297.87	4,328.96	4,297.87	22.40	78.09	-177.532	1,140.54	876.71	1,046.98	946.97	100.00	10.469	
5,000.00	4,300.01	4,326.82	4,300.01	22.23	78.05	-76.341	1,140.54	876.71	1,096.92	996.95	99.96	10.973	
5,050.00	4,299.77	4,327.06	4,299.77	22.08	78.06	-34.859	1,140.54	876.71	1,146.92	1,046.94	99.97	11.472	
5,100.00	4,299.52	4,327.30	4,299.52	21.98	78.06	-33.721	1,140.54	876.71	1,196.91	1,096.94	99.98	11.972	

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



Anticollision Report



Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: BLACK CAT FEDERAL 2 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 197-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,150.00	4,299.28	4,327.55	4,299.28	21.92	78.07	-32.647	1,140.54	876.71	1,246.91	1,146.92	99.99	12.470	
5,200.00	4,299.04	4,327.79	4,299.04	21.94	78.07	-31.633	1,140.54	876.71	1,296.91	1,196.92	99.99	12.970	
5,250.00	4,298.79	4,328.03	4,298.79	22.02	78.08	-30.673	1,140.54	876.71	1,346.91	1,246.91	100.00	13.469	
5,300.00	4,298.55	4,328.28	4,298.55	22.25	78.08	-29.765	1,140.54	876.71	1,396.91	1,296.90	100.01	13.968	
5,350.00	4,298.31	4,328.52	4,298.31	22.54	78.09	-28.905	1,140.54	876.71	1,446.91	1,346.89	100.02	14.466	
5,400.00	4,298.06	4,328.77	4,298.06	22.95	78.09	-28.088	1,140.54	876.71	1,496.91	1,396.88	100.03	14.965	
5,450.00	4,297.82	4,329.01	4,297.82	23.40	78.09	-27.314	1,140.54	876.71	1,546.91	1,446.87	100.03	15.464	
5,500.00	4,297.57	4,329.25	4,297.57	23.91	78.10	-26.577	1,140.54	876.71	1,596.91	1,496.86	100.04	15.962	
5,550.00	4,297.33	4,329.50	4,297.33	24.45	78.10	-25.877	1,140.54	876.71	1,646.91	1,546.86	100.05	16.461	
5,600.00	4,297.09	4,329.74	4,297.09	25.02	78.11	-25.211	1,140.54	876.71	1,696.91	1,596.85	100.06	16.959	
5,650.00	4,296.84	4,329.98	4,296.84	25.62	78.11	-24.575	1,140.54	876.71	1,746.91	1,646.84	100.07	17.457	
5,700.00	4,296.60	4,330.23	4,296.60	26.24	78.12	-23.969	1,140.54	876.71	1,796.91	1,696.83	100.08	17.955	
5,750.00	4,296.36	4,330.47	4,296.36	26.88	78.12	-23.391	1,140.54	876.71	1,846.90	1,746.82	100.09	18.453	
5,800.00	4,296.11	4,330.72	4,296.11	27.53	78.13	-22.839	1,140.54	876.71	1,896.90	1,796.81	100.10	18.951	
5,850.00	4,295.87	4,330.96	4,295.87	28.20	78.13	-22.310	1,140.54	876.71	1,946.90	1,846.80	100.10	19.449	
5,900.00	4,295.62	4,331.20	4,295.62	28.88	78.14	-21.804	1,140.54	876.71	1,996.90	1,896.79	100.11	19.946	

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 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: DINAH '23' FEDERAL COM 1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft		
Survey Program: 100-MWD												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 Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
8,150.00	4,284.66	4,247.63	4,296.26	66.56	14.94	90.585	-4,175.84	-824.76	1,977.46	1,900.41	77.05	25.665			
8,200.00	4,284.41	4,246.98	4,295.61	67.47	14.93	90.562	-4,175.85	-824.76	1,950.52	1,872.22	78.31	24.908			
8,250.00	4,284.17	4,246.32	4,294.96	68.38	14.93	90.540	-4,175.85	-824.76	1,924.51	1,844.93	79.58	24.184			
8,300.00	4,283.93	4,245.67	4,294.30	69.29	14.93	90.517	-4,175.86	-824.77	1,899.46	1,818.61	80.85	23.494			
8,350.00	4,283.68	4,245.02	4,293.65	70.20	14.93	90.494	-4,175.86	-824.77	1,875.40	1,793.27	82.12	22.836			
8,400.00	4,283.44	4,244.36	4,293.00	71.11	14.92	90.472	-4,175.87	-824.77	1,852.38	1,768.98	83.40	22.211			
8,450.00	4,283.19	4,243.71	4,292.34	72.02	14.92	90.449	-4,175.87	-824.77	1,830.44	1,745.77	84.67	21.619			
8,500.00	4,282.95	4,243.05	4,291.68	72.93	14.92	90.426	-4,175.88	-824.77	1,809.61	1,723.68	85.93	21.060			
8,550.00	4,282.71	4,242.39	4,291.03	73.85	14.92	90.403	-4,175.88	-824.77	1,789.94	1,702.76	87.17	20.533			
8,600.00	4,282.46	4,241.74	4,290.37	74.76	14.92	90.381	-4,175.89	-824.77	1,771.46	1,683.06	88.40	20.039			
8,650.00	4,282.22	4,241.08	4,289.71	75.68	14.91	90.358	-4,175.89	-824.77	1,754.21	1,664.60	89.61	19.577			
8,700.00	4,281.98	4,240.42	4,289.05	76.60	14.91	90.335	-4,175.90	-824.78	1,738.23	1,647.44	90.78	19.147			
8,750.00	4,281.73	4,239.76	4,288.40	77.51	14.91	90.312	-4,175.90	-824.78	1,723.55	1,631.62	91.93	18.749			
8,800.00	4,281.49	4,239.10	4,287.74	78.43	14.91	90.290	-4,175.91	-824.78	1,710.20	1,617.17	93.04	18.382			
8,850.00	4,281.24	4,238.44	4,287.08	79.35	14.90	90.267	-4,175.91	-824.78	1,698.23	1,604.13	94.10	18.047			
8,900.00	4,281.00	4,237.78	4,286.42	80.27	14.90	90.244	-4,175.92	-824.78	1,687.65	1,592.53	95.12	17.743			
8,950.00	4,280.76	4,237.12	4,285.76	81.20	14.90	90.221	-4,175.92	-824.78	1,678.49	1,582.41	96.08	17.469			
9,000.00	4,280.51	4,236.46	4,285.09	82.12	14.90	90.198	-4,175.93	-824.78	1,670.78	1,573.79	96.99	17.226			
9,050.00	4,280.27	4,235.80	4,284.43	83.04	14.90	90.175	-4,175.93	-824.78	1,664.54	1,566.70	97.84	17.013			
9,100.00	4,280.03	4,235.14	4,283.77	83.97	14.89	90.152	-4,175.94	-824.79	1,659.78	1,561.16	98.62	16.830			
9,150.00	4,279.78	4,234.47	4,283.11	84.89	14.89	90.129	-4,175.94	-824.79	1,656.52	1,557.19	99.33	16.677			
9,200.00	4,279.54	4,233.81	4,282.44	85.82	14.89	90.106	-4,175.95	-824.79	1,654.76	1,554.79	99.97	16.552			
9,233.25	4,279.38	4,233.37	4,282.00	86.43	14.89	90.091	-4,175.95	-824.79	1,654.43	1,554.07	100.36	16.485 CC			
9,250.00	4,279.29	4,233.14	4,281.78	86.74	14.89	90.083	-4,175.95	-824.79	1,654.51	1,553.97	100.54	16.456 ES			
9,300.00	4,279.05	4,232.48	4,281.11	87.67	14.88	90.060	-4,175.96	-824.79	1,655.77	1,554.74	101.04	16.388			
9,350.00	4,278.81	4,231.81	4,280.45	88.60	14.88	90.037	-4,175.96	-824.79	1,658.54	1,557.09	101.45	16.348			
9,400.00	4,278.56	4,231.15	4,279.78	89.52	14.88	90.014	-4,175.97	-824.79	1,662.81	1,561.02	101.79	16.335 SF			
9,450.00	4,278.32	4,230.48	4,279.12	90.45	14.88	89.991	-4,175.97	-824.79	1,668.56	1,566.51	102.06	16.349			
9,500.00	4,278.08	4,229.82	4,278.45	91.38	14.87	89.968	-4,175.98	-824.79	1,675.79	1,573.55	102.25	16.390			
9,550.00	4,277.83	4,229.15	4,277.78	92.31	14.87	89.945	-4,175.98	-824.79	1,684.47	1,582.11	102.36	16.456			
9,600.00	4,277.59	4,228.48	4,277.11	93.24	14.87	89.922	-4,175.99	-824.80	1,694.58	1,592.18	102.40	16.548			
9,650.00	4,277.34	4,227.81	4,276.44	94.17	14.87	89.898	-4,175.99	-824.80	1,706.10	1,603.73	102.37	16.665			
9,700.00	4,277.10	4,227.14	4,275.78	95.10	14.87	89.875	-4,176.00	-824.80	1,719.00	1,616.72	102.28	16.807			
9,750.00	4,276.86	4,226.47	4,275.11	96.03	14.86	89.852	-4,176.00	-824.80	1,733.24	1,631.12	102.12	16.972			
9,800.00	4,276.61	4,225.80	4,274.44	96.97	14.86	89.829	-4,176.01	-824.80	1,748.80	1,646.89	101.90	17.161			
9,850.00	4,276.37	4,225.13	4,273.76	97.90	14.86	89.806	-4,176.01	-824.80	1,765.63	1,664.00	101.63	17.373			
9,900.00	4,276.13	4,224.46	4,273.09	98.83	14.86	89.782	-4,176.02	-824.80	1,783.71	1,682.41	101.30	17.608			
9,950.00	4,275.88	4,223.79	4,272.42	99.77	14.85	89.759	-4,176.02	-824.80	1,802.99	1,702.06	100.93	17.864			
10,000.00	4,275.64	4,223.11	4,271.75	100.70	14.85	89.736	-4,176.03	-824.80	1,823.44	1,722.93	100.51	18.142			
10,050.00	4,275.40	4,222.44	4,271.08	101.63	14.85	89.713	-4,176.03	-824.80	1,845.02	1,744.97	100.05	18.441			
10,100.00	4,275.15	4,221.77	4,270.40	102.57	14.85	89.689	-4,176.04	-824.81	1,867.69	1,768.14	99.55	18.761			
10,131.03	4,275.00	4,221.35	4,269.98	103.15	14.85	89.675	-4,176.04	-824.81	1,882.29	1,783.06	99.23	18.970			

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

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COMPASS 5000.14 Build 85



Anticollision Report



Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: LUCAS STOR JZ ST CM 1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 445-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
5,650.00	4,296.84	4,337.88	4,277.77	25.62	132.04	89.497	-1,976.89	-557.47	1,970.87	1,813.40	157.48	12.515	
5,700.00	4,296.60	4,338.27	4,278.15	26.24	132.05	89.513	-1,976.90	-557.47	1,936.14	1,778.07	158.07	12.249	
5,750.00	4,296.36	4,338.65	4,278.54	26.88	132.06	89.528	-1,976.90	-557.47	1,902.08	1,743.39	158.69	11.986	
5,800.00	4,296.11	4,339.05	4,278.93	27.53	132.08	89.544	-1,976.91	-557.47	1,868.74	1,709.41	159.33	11.729	
5,850.00	4,295.87	4,339.44	4,279.33	28.20	132.09	89.561	-1,976.91	-557.47	1,836.16	1,676.17	159.99	11.477	
5,900.00	4,295.62	4,339.85	4,279.73	28.88	132.10	89.577	-1,976.92	-557.47	1,804.38	1,643.70	160.68	11.230	
5,950.00	4,295.38	4,340.25	4,280.14	29.59	132.12	89.594	-1,976.92	-557.47	1,773.43	1,612.04	161.39	10.989	
6,000.00	4,295.14	4,340.67	4,280.55	30.29	132.13	89.610	-1,976.93	-557.47	1,743.37	1,581.26	162.11	10.754	
6,050.00	4,294.89	4,341.08	4,280.97	31.02	132.14	89.627	-1,976.94	-557.47	1,714.24	1,551.38	162.86	10.526	
6,100.00	4,294.65	4,341.51	4,281.39	31.75	132.16	89.645	-1,976.94	-557.47	1,686.09	1,522.46	163.63	10.304	
6,150.00	4,294.41	4,341.93	4,281.82	32.50	132.17	89.662	-1,976.95	-557.47	1,658.97	1,494.56	164.42	10.090	
6,200.00	4,294.16	4,342.37	4,282.25	33.25	132.18	89.680	-1,976.95	-557.47	1,632.93	1,467.72	165.21	9.884	
6,250.00	4,293.92	4,342.81	4,282.69	34.01	132.20	89.698	-1,976.96	-557.47	1,608.03	1,442.00	166.03	9.685	
6,300.00	4,293.67	4,343.25	4,283.14	34.78	132.21	89.716	-1,976.97	-557.47	1,584.31	1,417.46	166.85	9.495	
6,350.00	4,293.43	4,343.70	4,283.59	35.56	132.23	89.734	-1,976.97	-557.47	1,561.83	1,394.15	167.68	9.314	
6,400.00	4,293.19	4,344.16	4,284.04	36.35	132.24	89.753	-1,976.98	-557.47	1,540.65	1,372.13	168.52	9.142	
6,450.00	4,292.94	4,344.62	4,284.50	37.14	132.26	89.772	-1,976.99	-557.47	1,520.81	1,351.46	169.35	8.980	
6,500.00	4,292.70	4,345.09	4,284.97	37.94	132.27	89.791	-1,976.99	-557.47	1,502.38	1,332.20	170.18	8.828	
6,550.00	4,292.46	4,345.56	4,285.45	38.75	132.29	89.810	-1,977.00	-557.47	1,485.41	1,314.40	171.01	8.686	
6,600.00	4,292.21	4,346.04	4,285.93	39.56	132.30	89.830	-1,977.01	-557.47	1,469.94	1,298.11	171.82	8.555	
6,650.00	4,291.97	4,346.53	4,286.41	40.38	132.32	89.849	-1,977.02	-557.47	1,456.02	1,283.40	172.62	8.435	
6,700.00	4,291.72	4,347.02	4,286.91	41.20	132.34	89.869	-1,977.02	-557.47	1,443.70	1,270.30	173.40	8.326	
6,750.00	4,291.48	4,347.52	4,287.40	42.04	132.35	89.890	-1,977.03	-557.47	1,433.02	1,258.87	174.15	8.228	
6,800.00	4,291.24	4,348.03	4,287.91	42.87	132.37	89.911	-1,977.04	-557.47	1,424.02	1,249.14	174.87	8.143	
6,850.00	4,290.99	4,348.54	4,288.42	43.71	132.38	89.931	-1,977.05	-557.47	1,416.72	1,241.16	175.57	8.069	
6,900.00	4,290.75	4,349.06	4,288.95	44.55	132.40	89.953	-1,977.05	-557.47	1,411.16	1,234.95	176.22	8.008	
6,950.00	4,290.51	4,349.59	4,289.47	45.40	132.42	89.974	-1,977.06	-557.47	1,407.36	1,230.53	176.83	7.959	
7,000.00	4,290.26	4,350.13	4,290.01	46.25	132.44	89.996	-1,977.07	-557.47	1,405.32	1,227.93	177.39	7.922	
7,032.26	4,290.11	4,350.48	4,290.36	46.80	132.45	90.010	-1,977.08	-557.47	1,404.95	1,227.22	177.73	7.905 CC	
7,050.00	4,290.02	4,350.67	4,290.55	47.10	132.45	90.018	-1,977.08	-557.47	1,405.06	1,227.15	177.91	7.898 ES	
7,100.00	4,289.77	4,351.22	4,291.10	47.96	132.47	90.041	-1,977.09	-557.47	1,406.58	1,228.21	178.37	7.886	
7,150.00	4,289.53	4,351.78	4,291.66	48.82	132.49	90.063	-1,977.10	-557.47	1,409.88	1,231.08	178.79	7.886 SF	
7,200.00	4,289.29	4,352.35	4,292.23	49.68	132.51	90.087	-1,977.11	-557.47	1,414.93	1,235.77	179.15	7.898	
7,250.00	4,289.04	4,352.92	4,292.80	50.55	132.53	90.110	-1,977.12	-557.47	1,421.72	1,242.26	179.47	7.922	
7,300.00	4,288.80	4,353.50	4,293.38	51.42	132.55	90.134	-1,977.12	-557.47	1,430.23	1,250.51	179.72	7.958	
7,350.00	4,288.56	4,354.10	4,293.98	52.30	132.57	90.158	-1,977.13	-557.47	1,440.43	1,260.50	179.93	8.005	
7,400.00	4,288.31	4,354.70	4,294.58	53.17	132.58	90.182	-1,977.14	-557.47	1,452.28	1,272.19	180.09	8.064	
7,450.00	4,288.07	4,355.31	4,295.19	54.05	132.60	90.207	-1,977.15	-557.47	1,465.73	1,285.53	180.20	8.134	
7,500.00	4,287.83	4,355.93	4,295.81	54.93	132.62	90.232	-1,977.16	-557.47	1,480.76	1,300.50	180.26	8.215	
7,550.00	4,287.58	4,356.55	4,296.43	55.81	132.64	90.258	-1,977.17	-557.47	1,497.30	1,317.02	180.28	8.305	
7,600.00	4,287.34	4,357.19	4,297.07	56.70	132.67	90.284	-1,977.19	-557.47	1,515.31	1,335.05	180.26	8.406	
7,650.00	4,287.09	4,357.84	4,297.72	57.59	132.69	90.310	-1,977.20	-557.47	1,534.74	1,354.54	180.20	8.517	
7,700.00	4,286.85	4,358.50	4,298.38	58.48	132.71	90.337	-1,977.21	-557.47	1,555.54	1,375.43	180.11	8.637	
7,750.00	4,286.61	4,359.17	4,299.04	59.37	132.73	90.365	-1,977.22	-557.47	1,577.65	1,397.66	179.99	8.765	
7,800.00	4,286.36	4,359.84	4,299.72	60.26	132.75	90.392	-1,977.23	-557.47	1,601.01	1,421.17	179.84	8.903	
7,850.00	4,286.12	4,360.53	4,300.41	61.16	132.77	90.420	-1,977.24	-557.47	1,625.58	1,445.92	179.66	9.048	
7,900.00	4,285.88	4,361.23	4,301.11	62.05	132.80	90.449	-1,977.25	-557.47	1,651.29	1,471.83	179.46	9.201	
7,950.00	4,285.63	4,361.95	4,301.82	62.95	132.82	90.478	-1,977.27	-557.47	1,678.10	1,498.85	179.25	9.362	
8,000.00	4,285.39	4,362.67	4,302.55	63.85	132.84	90.507	-1,977.28	-557.47	1,705.95	1,526.94	179.01	9.530	
8,050.00	4,285.14	4,363.41	4,303.28	64.76	132.87	90.537	-1,977.29	-557.47	1,734.80	1,556.04	178.77	9.704	
8,100.00	4,284.90	4,364.15	4,304.03	65.66	132.89	90.568	-1,977.30	-557.47	1,764.60	1,586.09	178.51	9.885	
8,150.00	4,284.66	4,364.91	4,304.79	66.56	132.92	90.599	-1,977.32	-557.47	1,795.29	1,617.05	178.24	10.072	

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



Anticollision Report



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Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: LUCAS STOR JZ ST CM 1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 445-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
8,200.00	4,284.41	4,365.69	4,305.56	67.47	132.94	90.630	-1,977.33	-557.47	1,826.83	1,648.87	177.96	10.265	
8,250.00	4,284.17	4,366.47	4,306.34	68.38	132.97	90.662	-1,977.35	-557.47	1,859.18	1,681.50	177.68	10.464	
8,300.00	4,283.93	4,367.27	4,307.14	69.29	132.99	90.695	-1,977.36	-557.47	1,892.31	1,714.91	177.40	10.667	
8,350.00	4,283.68	4,368.08	4,307.96	70.20	133.02	90.728	-1,977.37	-557.47	1,926.16	1,749.05	177.11	10.876	
8,400.00	4,283.44	4,368.91	4,308.78	71.11	133.05	90.762	-1,977.39	-557.47	1,960.70	1,783.88	176.82	11.089	
8,450.00	4,283.19	4,369.75	4,309.62	72.02	133.07	90.796	-1,977.41	-557.47	1,995.89	1,819.36	176.53	11.306	

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 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: MALCO 23 FEDERAL COM 013H - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 100-MWD												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 Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	2.00	0.00	0.00	0.00	111.034	-53.36	138.76	148.67				
50.00	50.00	52.02	50.02	0.05	0.08	111.099	-53.52	138.70	148.66	148.53	0.13	1,139.726	
100.00	100.00	102.03	100.03	0.14	0.15	111.283	-53.96	138.52	148.65	148.36	0.29	506.028	
106.95	106.95	108.98	106.98	0.17	0.16	111.318	-54.04	138.48	148.65	148.32	0.33	451.930	
150.00	150.00	151.73	149.73	0.32	0.33	111.529	-54.57	138.32	148.70	148.04	0.66	226.611	
200.00	200.00	201.45	199.43	0.50	0.51	111.793	-55.26	138.20	148.84	147.82	1.01	146.804	
250.00	250.00	251.17	249.15	0.68	0.69	112.045	-55.95	138.17	149.08	147.70	1.37	108.710	
300.00	300.00	300.89	298.87	0.86	0.87	112.262	-56.60	138.27	149.41	147.68	1.73	86.421	
350.00	350.00	350.84	348.81	1.04	1.05	72.224	-57.23	138.43	149.66	147.58	2.09	71.745	
400.00	399.98	400.76	398.73	1.22	1.23	72.896	-57.86	138.60	149.68	147.23	2.44	61.270	
450.00	449.93	450.73	448.69	1.40	1.41	73.897	-58.50	138.77	149.47	146.67	2.80	53.347	
500.00	499.84	500.64	498.60	1.58	1.58	75.239	-59.16	138.92	149.07	145.91	3.16	47.167	
550.00	549.68	550.55	548.51	1.76	1.76	76.900	-59.78	139.07	148.53	145.00	3.52	42.145	
600.00	599.45	600.41	598.36	1.95	1.94	78.859	-60.28	139.23	147.90	144.01	3.89	38.032	
650.00	649.13	650.09	648.04	2.14	2.12	81.141	-60.73	139.39	147.28	143.02	4.26	34.567	
700.00	698.70	699.66	697.61	2.34	2.30	83.771	-61.19	139.53	146.79	142.16	4.63	31.674	
750.00	748.15	749.25	747.20	2.55	2.48	86.750	-61.64	139.63	146.53	141.51	5.02	29.189	
766.57	764.51	765.66	763.60	2.62	2.54	87.811	-61.79	139.65	146.51	141.36	5.15	28.458 CC	
800.00	797.47	798.70	796.64	2.76	2.65	90.057	-62.07	139.67	146.60	141.20	5.41	27.113 ES	
850.00	846.63	848.00	845.94	2.98	2.83	93.647	-62.43	139.69	147.17	141.36	5.81	25.340	
900.00	895.62	897.16	895.11	3.21	3.01	97.463	-62.68	139.72	148.36	142.15	6.21	23.898	
950.00	944.44	945.97	943.91	3.45	3.18	101.465	-62.87	139.75	150.36	143.74	6.62	22.709	
1,000.00	993.06	994.53	992.47	3.69	3.36	105.628	-63.10	139.73	153.36	146.33	7.03	21.814	
1,050.00	1,041.46	1,042.82	1,040.76	3.96	3.53	109.874	-63.37	139.68	157.50	150.05	7.45	21.145	
1,100.00	1,089.64	1,090.86	1,088.80	4.23	3.70	114.124	-63.66	139.61	162.92	155.06	7.86	20.734	
1,150.00	1,137.58	1,138.78	1,136.72	4.52	3.87	118.322	-63.97	139.50	169.68	161.41	8.27	20.513	
1,200.00	1,185.27	1,186.44	1,184.38	4.81	4.04	122.402	-64.28	139.32	177.81	169.14	8.67	20.506	
1,250.00	1,232.68	1,234.08	1,232.02	5.13	4.21	126.316	-64.56	139.10	187.32	178.25	9.07	20.647	
1,300.00	1,279.82	1,281.62	1,279.56	5.44	4.38	129.987	-64.70	138.98	198.14	188.68	9.46	20.946	
1,350.00	1,326.65	1,328.85	1,326.79	5.79	4.54	133.378	-64.76	138.97	210.26	200.42	9.85	21.353	
1,400.00	1,373.17	1,379.60	1,377.54	6.13	4.72	136.711	-64.24	139.23	223.20	212.96	10.23	21.813	
1,450.00	1,419.36	1,430.72	1,428.63	6.50	4.89	139.757	-62.74	139.80	236.50	225.88	10.62	22.265	
1,500.00	1,465.21	1,478.20	1,476.06	6.88	5.04	142.338	-60.92	140.56	250.59	239.61	10.98	22.818	
1,550.00	1,510.71	1,526.37	1,524.18	7.27	5.20	144.750	-58.75	141.54	265.50	254.15	11.35	23.393	
1,600.00	1,556.03	1,574.58	1,572.31	7.67	5.36	147.067	-56.29	142.84	280.87	269.16	11.71	23.978	
1,650.00	1,601.36	1,623.12	1,620.74	8.08	5.53	149.095	-53.55	144.52	296.28	284.20	12.08	24.528	
1,700.00	1,646.68	1,671.94	1,669.42	8.49	5.69	150.879	-50.53	146.55	311.66	299.22	12.44	25.045	
1,750.00	1,692.00	1,720.87	1,718.19	8.90	5.86	152.451	-47.23	148.90	326.96	314.14	12.81	25.517	
1,800.00	1,737.32	1,769.75	1,766.87	9.32	6.02	153.855	-43.70	151.45	342.17	328.99	13.18	25.959	
1,850.00	1,782.65	1,820.01	1,816.90	9.74	6.20	155.146	-39.81	154.32	357.24	343.68	13.56	26.350	
1,900.00	1,827.97	1,872.22	1,868.79	10.15	6.38	156.293	-35.32	157.97	371.88	357.93	13.94	26.672	
1,950.00	1,873.29	1,924.20	1,920.35	10.58	6.57	157.267	-30.38	162.27	386.00	371.67	14.33	26.931	
2,000.00	1,918.61	1,976.09	1,971.75	11.00	6.75	158.138	-24.99	166.92	399.70	384.98	14.72	27.150	
2,050.00	1,963.94	2,025.74	2,020.87	11.42	6.93	158.901	-19.49	171.59	413.09	397.98	15.11	27.344	
2,100.00	2,009.26	2,074.79	2,069.38	11.85	7.11	159.612	-13.91	176.21	426.40	410.91	15.49	27.528	
2,150.00	2,054.58	2,122.48	2,116.54	12.27	7.29	160.261	-8.43	180.72	439.70	423.83	15.87	27.707	
2,200.00	2,099.90	2,169.95	2,163.49	12.70	7.47	160.860	-3.06	185.26	453.11	436.86	16.25	27.886	
2,250.00	2,145.22	2,218.61	2,211.61	13.13	7.65	161.433	2.44	189.97	466.56	449.92	16.63	28.049	
2,300.00	2,190.55	2,267.56	2,260.00	13.55	7.83	161.977	8.06	194.73	479.95	462.93	17.02	28.200	
2,350.00	2,235.87	2,316.18	2,308.05	13.98	8.02	162.486	13.70	199.51	493.30	475.90	17.41	28.341	
2,400.00	2,281.19	2,364.79	2,356.09	14.41	8.21	162.962	19.38	204.35	506.63	488.84	17.79	28.475	
2,450.00	2,326.51	2,409.66	2,400.44	14.84	8.38	163.385	24.55	208.74	520.10	501.93	18.16	28.633	

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 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: MALCO 23 FEDERAL COM 013H - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 100-MWD												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
2,500.00	2,371.84	2,454.16	2,444.48	15.27	8.55	163.804	29.49	212.83	533.90	515.37	18.53	28.811	
2,550.00	2,417.16	2,497.40	2,487.32	15.71	8.72	164.207	34.07	216.53	548.08	529.19	18.89	29.012	
2,600.00	2,462.48	2,540.21	2,529.78	16.14	8.88	164.599	38.31	219.95	562.71	543.46	19.25	29.238	
2,650.00	2,507.80	2,582.24	2,571.51	16.57	9.04	164.977	42.18	223.05	577.79	558.20	19.59	29.488	
2,700.00	2,553.13	2,623.68	2,612.71	17.00	9.20	165.338	45.65	225.89	593.38	573.44	19.94	29.763	
2,750.00	2,598.45	2,664.34	2,653.18	17.43	9.35	165.681	48.71	228.44	609.47	589.20	20.27	30.065	
2,800.00	2,643.77	2,703.80	2,692.49	17.87	9.50	166.011	51.32	230.60	626.15	605.55	20.60	30.402	
2,850.00	2,689.09	2,742.89	2,731.48	18.30	9.64	166.336	53.55	232.40	643.41	622.50	20.91	30.765	
2,900.00	2,734.41	2,783.95	2,772.45	18.73	9.79	166.669	55.55	234.04	661.19	639.94	21.24	31.126	
2,950.00	2,779.74	2,824.88	2,813.32	19.17	9.94	166.985	57.24	235.51	679.37	657.80	21.57	31.497	
3,000.00	2,825.06	2,862.75	2,851.15	19.60	10.07	167.264	58.50	236.72	698.00	676.13	21.87	31.914	
3,050.00	2,870.38	2,898.58	2,886.96	20.04	10.20	167.513	59.22	237.65	717.31	695.15	22.16	32.376	
3,100.00	2,915.70	2,935.00	2,923.37	20.47	10.33	167.753	59.48	238.37	737.28	714.84	22.44	32.854	
3,150.00	2,961.03	2,972.16	2,960.53	20.91	10.45	167.980	59.32	238.97	757.82	735.09	22.73	33.339	
3,200.00	3,006.35	3,010.11	2,998.47	21.34	10.58	168.193	58.78	239.49	778.81	755.78	23.03	33.822	
3,250.00	3,051.67	3,050.99	3,039.34	21.78	10.72	168.402	57.84	239.98	800.19	776.84	23.35	34.270	
3,300.00	3,096.99	3,095.44	3,083.77	22.21	10.87	168.618	56.74	240.49	821.67	797.97	23.70	34.664	
3,350.00	3,142.32	3,124.00	3,112.30	22.65	10.97	168.736	55.58	240.76	843.75	819.84	23.91	35.286	
3,400.00	3,187.64	3,140.82	3,129.08	23.08	11.02	168.790	54.44	240.87	866.92	842.92	24.00	36.128	
3,450.00	3,232.96	3,156.00	3,144.20	23.52	11.07	168.827	53.02	240.92	891.38	867.33	24.05	37.070	
3,500.00	3,278.28	3,175.01	3,163.05	23.95	11.13	168.718	50.64	240.92	917.08	892.95	24.13	38.012	
3,550.00	3,324.20	3,188.00	3,175.88	24.37	11.17	162.188	48.58	240.89	942.63	918.52	24.11	39.094	
3,600.00	3,371.11	3,205.29	3,192.85	24.73	11.23	153.896	45.25	240.83	966.67	942.55	24.12	40.079	
3,650.00	3,418.77	3,219.00	3,206.19	25.06	11.27	143.175	42.13	240.78	989.19	965.14	24.05	41.126	
3,700.00	3,466.97	3,235.85	3,222.46	25.33	11.32	129.582	37.73	240.69	1,010.12	986.12	24.00	42.088	
3,750.00	3,515.45	3,251.00	3,236.94	25.55	11.36	113.560	33.27	240.58	1,029.42	1,005.53	23.90	43.080	
3,800.00	3,563.99	3,270.96	3,255.82	25.73	11.42	97.048	26.80	240.40	1,046.97	1,023.14	23.83	43.932	
3,850.00	3,612.35	3,291.15	3,274.71	25.85	11.47	82.375	19.67	240.19	1,062.67	1,038.92	23.74	44.753	
3,900.00	3,660.30	3,313.00	3,294.92	25.93	11.53	70.702	11.38	239.93	1,076.41	1,052.75	23.66	45.498	
3,950.00	3,707.59	3,333.72	3,313.85	25.97	11.59	61.881	2.95	239.69	1,088.18	1,064.65	23.53	46.242	
4,000.00	3,754.01	3,355.89	3,333.81	25.97	11.64	55.310	-6.67	239.48	1,097.95	1,074.54	23.41	46.903	
4,050.00	3,799.32	3,377.00	3,352.56	25.94	11.70	50.376	-16.37	239.32	1,105.65	1,082.40	23.25	47.553	
4,100.00	3,843.30	3,399.52	3,372.24	25.86	11.76	46.638	-27.34	239.23	1,111.31	1,088.20	23.10	48.104	
4,150.00	3,885.74	3,417.75	3,387.85	25.76	11.81	43.744	-36.74	239.19	1,115.01	1,092.14	22.87	48.757	
4,200.00	3,926.43	3,440.00	3,406.39	25.62	11.87	41.519	-49.04	239.21	1,116.94	1,094.24	22.69	49.216	
4,250.00	3,965.18	3,451.34	3,415.60	25.46	11.90	39.730	-55.65	239.24	1,116.96	1,094.64	22.32	50.038	
4,300.00	4,001.79	3,472.00	3,431.98	25.28	11.96	38.387	-68.24	239.32	1,115.20	1,093.09	22.11	50.435	
4,350.00	4,036.09	3,488.71	3,444.87	25.07	12.01	37.346	-78.87	239.40	1,111.52	1,089.69	21.83	50.909	
4,400.00	4,067.91	3,510.48	3,461.27	24.84	12.08	36.611	-93.18	239.50	1,105.87	1,084.21	21.66	51.059	
4,450.00	4,097.09	3,535.00	3,479.27	24.60	12.18	36.140	-109.83	239.62	1,098.14	1,076.60	21.55	50.969	
4,500.00	4,123.49	3,566.00	3,501.54	24.35	12.31	35.953	-131.40	239.75	1,088.16	1,066.57	21.58	50.417	
4,550.00	4,148.49	3,598.39	3,524.51	24.09	12.45	36.219	-154.23	239.67	1,077.37	1,055.68	21.69	49.675	
4,600.00	4,173.49	3,647.76	3,559.32	23.85	12.70	36.625	-189.24	239.49	1,066.88	1,044.76	22.12	48.230	
4,650.00	4,198.49	3,695.29	3,592.78	23.63	12.95	37.023	-223.01	239.25	1,056.56	1,033.97	22.59	46.772	
4,700.00	4,223.49	3,747.62	3,629.58	23.41	13.25	37.459	-260.20	239.35	1,046.10	1,022.95	23.15	45.180	
4,750.00	4,246.53	3,774.34	3,648.17	23.20	13.42	38.449	-279.40	239.51	1,034.37	1,011.12	23.26	44.478	
4,800.00	4,265.62	3,787.00	3,656.74	23.00	13.50	39.490	-288.71	239.57	1,020.65	997.53	23.12	44.140	
4,850.00	4,280.61	3,819.00	3,677.34	22.79	13.71	41.008	-313.19	239.72	1,005.13	981.67	23.46	42.850	
4,900.00	4,291.39	3,819.00	3,677.34	22.59	13.71	42.226	-313.19	239.72	987.91	964.72	23.19	42.601	
4,950.00	4,297.87	3,843.02	3,691.55	22.40	13.88	44.076	-332.55	239.92	969.10	945.59	23.50	41.235	
5,000.00	4,300.01	3,857.00	3,699.27	22.23	13.97	45.950	-344.20	240.11	948.94	925.26	23.69	40.064	
5,050.00	4,299.77	3,883.09	3,712.90	22.08	14.17	46.659	-366.45	240.58	928.53	904.31	24.22	38.340	

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



Anticollision Report



Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: MALCO 23 FEDERAL COM 013H - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 100-MWD												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 Toelface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.00	4,299.52	3,901.90	3,722.14	21.98	14.32	47.093	-382.82	241.01	909.39	884.84	24.55	37.044	
5,150.00	4,299.28	3,920.00	3,730.35	21.92	14.46	47.480	-398.94	241.45	891.78	866.76	25.02	35.639	
5,200.00	4,299.04	3,937.37	3,737.55	21.94	14.60	47.822	-414.74	241.89	875.76	850.41	25.35	34.548	
5,250.00	4,298.79	3,951.00	3,742.71	22.02	14.71	48.068	-427.35	242.25	861.42	835.72	25.70	33.513	
5,300.00	4,298.55	3,963.00	3,753.42	22.25	14.99	48.579	-457.49	243.12	848.54	822.10	26.44	32.092	
5,350.00	4,298.31	4,009.43	3,761.21	22.54	15.23	48.950	-482.74	243.87	836.99	809.90	27.09	30.899	
5,400.00	4,298.06	4,036.90	3,768.59	22.95	15.48	49.308	-509.18	244.57	826.62	798.86	27.76	29.776	
5,450.00	4,297.82	4,062.21	3,774.69	23.40	15.72	49.616	-533.75	244.96	817.62	789.19	28.43	28.760	
5,500.00	4,297.57	4,088.89	3,780.23	23.91	15.98	49.906	-559.84	245.13	810.10	780.99	29.11	27.826	
5,550.00	4,297.33	4,118.64	3,785.55	24.45	16.28	50.196	-589.11	245.11	803.86	773.99	29.88	26.906	
5,600.00	4,297.09	4,144.74	3,789.49	25.02	16.54	50.419	-614.91	244.94	798.89	768.33	30.56	26.140	
5,650.00	4,296.84	4,176.75	3,793.11	25.62	16.88	50.629	-646.71	244.69	795.19	763.83	31.36	25.356	
5,700.00	4,296.60	4,203.00	3,794.81	26.24	17.16	50.727	-672.90	244.56	792.88	760.86	32.03	24.757	
5,750.00	4,296.36	4,236.54	3,795.51	26.88	17.52	50.766	-706.43	244.50	791.85	759.05	32.81	24.137	
5,800.00	4,296.11	4,266.04	3,795.41	27.53	18.08	50.754	-755.93	244.53	791.42	757.59	33.83	23.393	
5,850.00	4,295.87	4,338.38	3,795.14	28.20	18.68	50.721	-808.27	244.82	790.90	755.96	34.94	22.635	
5,900.00	4,295.62	4,390.73	3,794.79	28.88	19.31	50.670	-860.61	245.38	790.23	754.17	36.06	21.913	
5,950.00	4,295.38	4,443.07	3,794.42	29.59	19.96	50.608	-912.95	246.16	789.42	752.20	37.22	21.211	
6,000.00	4,295.14	4,487.39	3,794.01	30.29	20.52	50.549	-957.26	246.85	788.64	750.41	38.23	20.627	
6,050.00	4,294.89	4,529.09	3,793.32	31.02	21.05	50.490	-998.95	247.20	788.37	749.16	39.22	20.102	
6,050.45	4,294.89	4,529.47	3,793.32	31.03	21.06	50.489	-999.33	247.20	788.37	749.15	39.23	20.098	
6,100.00	4,294.65	4,574.28	3,792.27	31.75	21.65	50.423	-1,044.13	247.28	788.58	748.31	40.27	19.582	
6,150.00	4,294.41	4,623.00	3,791.02	32.50	22.29	50.347	-1,092.83	247.29	788.92	747.50	41.42	19.048	
6,200.00	4,294.16	4,673.37	3,789.63	33.25	22.98	50.263	-1,143.19	247.32	789.31	746.71	42.60	18.528	
6,250.00	4,293.92	4,725.10	3,788.13	34.01	23.68	50.164	-1,194.89	247.53	789.62	745.79	43.83	18.016	
6,300.00	4,293.67	4,775.89	3,786.60	34.78	24.39	50.057	-1,245.66	247.89	789.84	744.80	45.04	17.537	
6,350.00	4,293.43	4,826.30	3,785.07	35.56	25.10	49.946	-1,296.04	248.32	790.03	743.77	46.25	17.080	
6,400.00	4,293.19	4,878.74	3,783.45	36.35	25.85	49.824	-1,348.45	248.88	790.14	742.62	47.52	16.629	
6,450.00	4,292.94	4,931.53	3,781.82	37.14	26.61	49.689	-1,401.21	249.71	790.08	741.29	48.79	16.193	
6,500.00	4,292.70	4,982.25	3,780.23	37.94	27.35	49.552	-1,451.90	250.65	789.91	739.89	50.02	15.791	
6,550.00	4,292.46	5,032.82	3,778.65	38.75	28.09	49.411	-1,502.44	251.68	789.70	738.44	51.26	15.406	
6,600.00	4,292.21	5,082.32	3,777.03	39.56	28.82	49.266	-1,551.90	252.73	789.49	737.02	52.47	15.047	
6,650.00	4,291.97	5,131.81	3,775.33	40.38	29.56	49.115	-1,601.35	253.82	789.31	735.63	53.68	14.704	
6,700.00	4,291.72	5,181.28	3,773.52	41.20	30.30	48.956	-1,650.77	254.96	789.17	734.29	54.89	14.379	
6,747.58	4,291.49	5,227.01	3,771.77	41.99	30.98	48.804	-1,696.45	256.03	789.09	733.09	56.00	14.090	
6,750.00	4,291.48	5,229.22	3,771.69	42.04	31.02	48.797	-1,698.66	256.07	789.09	733.03	56.06	14.076	
6,800.00	4,291.24	5,274.89	3,770.13	42.87	31.71	48.677	-1,744.30	256.69	789.24	732.05	57.20	13.799	
6,850.00	4,290.99	5,322.02	3,768.75	43.71	32.42	48.590	-1,791.41	256.81	789.65	731.26	58.39	13.523	
6,900.00	4,290.75	5,371.93	3,767.22	44.55	33.18	48.496	-1,841.30	256.90	790.13	730.47	59.66	13.245	
6,950.00	4,290.51	5,421.86	3,765.56	45.40	33.94	48.389	-1,891.20	257.11	790.61	729.69	60.92	12.979	
7,000.00	4,290.26	5,471.81	3,763.81	46.25	34.71	48.275	-1,941.12	257.40	791.10	728.93	62.17	12.725	
7,050.00	4,290.02	5,521.35	3,762.11	47.10	35.47	48.165	-1,990.63	257.63	791.60	728.17	63.42	12.481	
7,100.00	4,289.77	5,570.60	3,760.96	47.96	36.23	48.111	-2,039.87	257.34	792.14	727.44	64.70	12.243	
7,150.00	4,289.53	5,619.77	3,760.27	48.82	36.99	48.105	-2,089.02	256.56	792.73	726.71	66.02	12.008	
7,200.00	4,289.29	5,668.89	3,759.52	49.68	37.75	48.097	-2,138.13	255.76	793.38	726.05	67.33	11.784	
7,250.00	4,289.04	5,716.66	3,758.69	50.55	38.49	48.085	-2,185.88	254.97	794.11	725.50	68.61	11.575	
7,300.00	4,288.80	5,763.83	3,757.76	51.42	39.22	48.072	-2,233.04	254.07	795.01	725.15	69.87	11.379	
7,350.00	4,288.56	5,813.42	3,756.67	52.30	39.99	48.056	-2,282.61	253.06	796.04	724.84	71.20	11.181	
7,400.00	4,288.31	5,863.86	3,755.46	53.17	40.78	48.028	-2,333.03	252.16	797.04	724.50	72.54	10.988	
7,450.00	4,288.07	5,913.67	3,754.21	54.05	41.56	47.994	-2,382.82	251.34	798.03	724.17	73.87	10.804	
7,500.00	4,287.83	5,963.38	3,752.95	54.93	42.34	47.961	-2,432.50	250.50	799.04	723.85	75.19	10.627	
7,550.00	4,287.58	6,013.63	3,751.71	55.81	43.13	47.930	-2,482.73	249.62	800.05	723.52	76.53	10.454	

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 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: MALCO 23 FEDERAL COM 013H - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 100-MWD												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,600.00	4,287.34	6,064.43	3,750.50	56.70	43.93	47.902	-2,533.50	248.73	801.04	723.15	77.89	10.284	
7,650.00	4,287.09	6,121.45	3,749.23	57.59	44.83	47.861	-2,590.50	248.03	801.78	722.35	79.42	10.095	
7,700.00	4,286.85	6,175.98	3,748.13	58.48	45.70	47.804	-2,645.02	247.86	802.10	721.24	80.86	9.919	
7,750.00	4,286.61	6,226.93	3,747.16	59.37	46.51	47.747	-2,695.97	247.82	802.31	720.10	82.21	9.759	
7,800.00	4,286.36	6,275.92	3,746.24	60.26	47.29	47.693	-2,744.94	247.81	802.48	718.98	83.50	9.610	
7,850.00	4,286.12	6,323.26	3,745.33	61.16	48.04	47.647	-2,792.28	247.63	802.80	718.04	84.76	9.471	
7,900.00	4,285.88	6,372.82	3,744.36	62.05	48.83	47.606	-2,841.83	247.30	803.25	717.17	86.08	9.331	
7,950.00	4,285.63	6,424.27	3,743.41	62.95	49.65	47.564	-2,893.26	246.99	803.63	716.18	87.46	9.189	
8,000.00	4,285.39	6,474.47	3,742.52	63.85	50.46	47.522	-2,943.46	246.73	803.95	715.16	88.80	9.054	
8,050.00	4,285.14	6,524.13	3,741.60	64.76	51.25	47.478	-2,993.11	246.50	804.29	714.17	90.12	8.925	
8,100.00	4,284.90	6,575.15	3,740.63	65.66	52.07	47.431	-3,044.12	246.30	804.62	713.14	91.48	8.796	
8,150.00	4,284.66	6,626.51	3,739.69	66.56	52.89	47.380	-3,095.47	246.18	804.86	712.02	92.84	8.669	
8,200.00	4,284.41	6,674.59	3,738.81	67.47	53.67	47.334	-3,143.54	246.04	805.11	711.00	94.12	8.555	
8,250.00	4,284.17	6,722.50	3,737.92	68.38	54.44	47.295	-3,191.44	245.76	805.50	710.11	95.39	8.444	
8,300.00	4,283.93	6,771.83	3,737.00	69.29	55.23	47.259	-3,240.76	245.36	805.97	709.26	96.71	8.334	
8,350.00	4,283.68	6,821.17	3,736.09	70.20	56.02	47.228	-3,290.09	244.89	806.48	708.44	98.04	8.226	
8,400.00	4,283.44	6,870.20	3,735.18	71.11	56.81	47.199	-3,339.11	244.36	807.05	707.69	99.36	8.122	
8,450.00	4,283.19	6,919.36	3,734.25	72.02	57.60	47.173	-3,388.26	243.76	807.67	706.98	100.69	8.022	
8,500.00	4,282.95	6,969.35	3,733.35	72.93	58.41	47.151	-3,438.23	243.09	808.31	706.27	102.04	7.922	
8,550.00	4,282.71	7,020.36	3,732.50	73.85	59.23	47.136	-3,489.23	242.34	808.95	705.52	103.43	7.821	
8,600.00	4,282.46	7,075.29	3,731.74	74.76	60.12	47.119	-3,544.16	241.71	809.38	704.45	104.93	7.713	
8,650.00	4,282.22	7,126.07	3,731.18	75.68	60.94	47.102	-3,594.93	241.32	809.57	703.25	106.32	7.615	
8,700.00	4,281.98	7,172.62	3,730.70	76.60	61.69	47.098	-3,641.48	240.76	809.90	702.31	107.60	7.527	
8,750.00	4,281.73	7,216.85	3,730.20	77.51	62.41	47.104	-3,685.70	239.97	810.49	701.67	108.82	7.448	
8,800.00	4,281.49	7,258.29	3,729.47	78.43	63.07	47.110	-3,727.12	238.93	811.55	701.60	109.95	7.381	
8,850.00	4,281.24	7,301.22	3,728.38	79.35	63.77	47.115	-3,770.01	237.54	813.13	702.01	111.12	7.318	
8,900.00	4,281.00	7,350.72	3,727.03	80.27	64.57	47.123	-3,819.46	235.77	814.90	702.41	112.49	7.244	
8,950.00	4,280.76	7,400.99	3,725.69	81.20	65.38	47.136	-3,869.68	233.91	816.69	702.79	113.90	7.170	
9,000.00	4,280.51	7,453.17	3,724.39	82.12	66.22	47.152	-3,921.81	232.04	818.40	703.02	115.37	7.093	
9,050.00	4,280.27	7,505.79	3,723.16	83.04	67.07	47.165	-3,974.38	230.28	819.96	703.10	116.86	7.017	
9,100.00	4,280.03	7,558.91	3,721.81	83.97	67.93	47.156	-4,027.47	228.86	821.33	703.00	118.33	6.941	
9,150.00	4,279.78	7,609.96	3,720.42	84.89	68.76	47.129	-4,078.48	227.80	822.56	702.85	119.72	6.871	
9,200.00	4,279.54	7,660.09	3,719.06	85.82	69.57	47.102	-4,128.59	226.76	823.77	702.70	121.07	6.804	
9,250.00	4,279.29	7,715.46	3,717.63	86.74	70.47	47.068	-4,183.93	225.78	824.85	702.27	122.58	6.729	
9,300.00	4,279.05	7,772.12	3,716.31	87.67	71.39	47.019	-4,240.57	225.23	825.53	701.43	124.10	6.652	
9,350.00	4,278.81	7,814.10	3,715.17	88.60	72.08	46.973	-4,282.53	224.86	826.31	701.12	125.19	6.601	
9,400.00	4,278.56	7,857.70	3,713.67	89.52	72.79	46.916	-4,326.10	224.33	827.46	701.17	126.30	6.552	
9,450.00	4,278.32	7,905.53	3,711.79	90.45	73.56	46.848	-4,373.90	223.62	828.89	701.36	127.52	6.500	
9,500.00	4,278.08	7,953.65	3,709.82	91.38	74.35	46.779	-4,421.96	222.83	830.43	701.67	128.75	6.450	
9,550.00	4,277.83	8,005.63	3,707.82	92.31	75.19	46.717	-4,473.90	221.87	831.96	701.84	130.11	6.394	
9,600.00	4,277.59	8,057.64	3,706.16	93.24	76.04	46.680	-4,525.86	220.75	833.37	701.86	131.51	6.337	
9,650.00	4,277.34	8,107.68	3,704.64	94.17	76.85	46.648	-4,575.87	219.67	834.73	701.88	132.85	6.283	
9,700.00	4,277.10	8,158.38	3,703.06	95.10	77.68	46.610	-4,626.54	218.66	836.07	701.87	134.20	6.230	
9,750.00	4,276.86	8,209.94	3,701.49	96.03	78.52	46.569	-4,678.07	217.71	837.32	701.75	135.57	6.176	
9,800.00	4,276.61	8,259.10	3,700.02	96.97	79.32	46.529	-4,727.20	216.86	838.52	701.65	136.87	6.126	
9,850.00	4,276.37	8,305.38	3,698.55	97.90	80.08	46.495	-4,773.45	215.91	839.89	701.81	138.09	6.082	
9,900.00	4,276.13	8,351.09	3,697.01	98.83	80.82	46.466	-4,819.11	214.77	841.49	702.20	139.29	6.041	
9,950.00	4,275.88	8,397.49	3,695.42	99.77	81.58	46.450	-4,865.47	213.29	843.37	702.84	140.53	6.001	
10,000.00	4,275.64	8,449.06	3,693.69	100.70	82.42	46.437	-4,916.97	211.58	845.27	703.32	141.94	5.955	
10,050.00	4,275.40	8,498.58	3,692.08	101.63	83.22	46.427	-4,966.44	209.98	847.09	703.80	143.29	5.912	
10,100.00	4,275.15	8,545.02	3,690.60	102.57	83.98	46.428	-5,012.83	208.26	849.08	704.51	144.56	5.873	
10,131.03	4,275.00	8,573.84	3,689.68	103.15	84.45	46.435	-5,041.60	207.05	850.41	705.05	145.36	5.851 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 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum



Anticollision Report



Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: MARACAS 22 STATE 12 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 369-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	68.00	0.00	0.00	0.95	-102.006	-401.77	-1,889.28	1,931.53				
50.00	50.00	118.00	50.00	0.05	1.65	-102.006	-401.77	-1,889.28	1,931.53	1,929.82	1.71	1,131.425	
100.00	100.00	168.00	100.00	0.14	2.35	-102.006	-401.77	-1,889.28	1,931.53	1,929.03	2.50	773.450	
150.00	150.00	218.00	150.00	0.32	3.05	-102.006	-401.77	-1,889.28	1,931.53	1,928.15	3.38	571.961	
200.00	200.00	268.00	200.00	0.50	3.76	-102.006	-401.77	-1,889.28	1,931.53	1,927.27	4.26	453.754	
250.00	250.00	318.00	250.00	0.68	4.46	-102.006	-401.77	-1,889.28	1,931.53	1,926.39	5.14	376.039	
300.00	300.00	369.94	300.00	0.86	5.19	-102.006	-401.77	-1,889.28	1,931.53	1,925.47	6.05	319.075 CC	
350.00	350.00	418.06	350.00	1.04	6.38	-142.400	-401.77	-1,889.28	1,931.87	1,924.45	7.42	260.232	
400.00	399.98	468.04	399.98	1.22	7.62	-142.411	-401.77	-1,889.28	1,932.91	1,924.07	8.84	218.654 ES	
450.00	449.93	516.76	448.68	1.40	8.83	-142.401	-400.84	-1,889.28	1,934.45	1,924.22	10.23	189.158	
500.00	499.84	564.23	496.15	1.58	10.00	-142.432	-401.13	-1,889.28	1,936.93	1,925.35	11.58	167.226	
550.00	549.68	611.63	543.53	1.76	11.18	-142.476	-401.70	-1,889.28	1,940.17	1,927.23	12.94	149.939	
600.00	599.45	667.59	599.45	1.95	12.37	-142.527	-401.77	-1,889.28	1,943.98	1,929.67	14.31	135.817	
650.00	649.13	717.27	649.13	2.14	13.41	-142.573	-401.77	-1,889.28	1,948.49	1,932.95	15.54	125.358	
700.00	698.70	766.84	698.70	2.34	14.45	-142.626	-401.77	-1,889.28	1,953.69	1,936.92	16.77	116.497	
750.00	748.15	816.29	748.15	2.55	15.49	-142.684	-401.77	-1,889.28	1,959.59	1,941.59	18.00	108.860	
800.00	797.47	865.59	797.44	2.76	16.53	-142.715	-400.58	-1,889.28	1,965.92	1,946.70	19.23	102.246	
850.00	846.63	913.93	845.78	2.98	17.54	-142.783	-400.62	-1,889.28	1,973.23	1,952.79	20.44	96.531	
900.00	895.62	962.09	893.93	3.21	18.55	-142.859	-400.76	-1,889.28	1,981.27	1,959.61	21.65	91.512	
950.00	944.44	1,010.04	941.88	3.45	19.56	-142.942	-400.99	-1,889.28	1,990.02	1,967.16	22.86	87.038	
1,000.00	993.06	1,057.77	989.60	3.69	20.56	-143.030	-401.30	-1,889.28	1,999.51	1,975.44	24.07	83.067 SF	

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



Anticollision Report



Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: MONCRIEF STATE 1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 100-MWD												Offset Well Error:	0.00 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
8,450.00	4,283.19	4,218.22	4,285.78	72.02	14.85	90.114	-3,667.03	-1,143.89	1,996.94	1,910.14	86.80	23.006	
8,500.00	4,282.95	4,217.81	4,285.36	72.93	14.85	90.102	-3,667.03	-1,143.89	1,990.62	1,902.99	87.63	22.717	
8,550.00	4,282.71	4,217.39	4,284.94	73.85	14.85	90.090	-3,667.03	-1,143.89	1,985.54	1,897.12	88.42	22.456	
8,600.00	4,282.46	4,216.97	4,284.52	74.76	14.85	90.078	-3,667.04	-1,143.89	1,981.71	1,892.54	89.17	22.224	
8,650.00	4,282.22	4,216.55	4,284.10	75.68	14.85	90.065	-3,667.04	-1,143.89	1,979.14	1,889.26	89.88	22.020	
8,700.00	4,281.98	4,216.13	4,283.68	76.60	14.85	90.053	-3,667.04	-1,143.89	1,977.83	1,887.28	90.55	21.843	
8,726.94	4,281.84	4,215.90	4,283.45	77.09	14.85	90.047	-3,667.04	-1,143.89	1,977.64	1,886.76	90.89	21.760	CC
8,750.00	4,281.73	4,215.71	4,283.26	77.51	14.84	90.041	-3,667.04	-1,143.89	1,977.78	1,886.61	91.17	21.694	ES
8,800.00	4,281.49	4,215.28	4,282.83	78.43	14.84	90.029	-3,667.04	-1,143.89	1,978.99	1,887.25	91.74	21.572	
8,850.00	4,281.24	4,214.86	4,282.41	79.35	14.84	90.016	-3,667.04	-1,143.89	1,981.47	1,889.20	92.27	21.476	
8,900.00	4,281.00	4,214.43	4,281.98	80.27	14.84	90.004	-3,667.05	-1,143.89	1,985.20	1,892.46	92.74	21.406	
8,950.00	4,280.76	4,214.00	4,281.56	81.20	14.84	89.992	-3,667.05	-1,143.89	1,990.18	1,897.01	93.17	21.360	
9,000.00	4,280.51	4,213.58	4,281.13	82.12	14.84	89.979	-3,667.05	-1,143.89	1,996.40	1,902.85	93.55	21.340	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 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: MONCRIEF STATE 2 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 540-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
7,050.00	4,290.02	4,025.00	4,077.92	47.10	67.59	83.181	-2,950.54	-894.93	1,993.01	1,880.40	112.61	17.698	
7,100.00	4,289.77	4,025.00	4,077.92	47.96	67.59	83.181	-2,950.54	-894.93	1,969.42	1,855.85	113.58	17.340	
7,150.00	4,289.53	4,025.00	4,077.92	48.82	67.59	83.181	-2,950.54	-894.93	1,946.84	1,832.29	114.55	16.996	
7,200.00	4,289.29	4,025.00	4,077.92	49.68	67.59	83.181	-2,950.54	-894.93	1,925.29	1,809.77	115.52	16.666	
7,250.00	4,289.04	4,025.00	4,077.92	50.55	67.59	83.181	-2,950.54	-894.93	1,904.81	1,788.31	116.49	16.351	
7,300.00	4,288.80	4,025.00	4,077.92	51.42	67.59	83.181	-2,950.54	-894.93	1,885.43	1,767.97	117.47	16.051	
7,350.00	4,288.56	4,025.00	4,077.92	52.30	67.59	83.181	-2,950.54	-894.93	1,867.19	1,748.76	118.43	15.766	
7,400.00	4,288.31	4,025.00	4,077.92	53.17	67.59	83.181	-2,950.54	-894.93	1,850.12	1,730.74	119.39	15.497	
7,450.00	4,288.07	4,025.00	4,077.92	54.05	67.59	83.181	-2,950.54	-894.93	1,834.26	1,713.93	120.33	15.243	
7,500.00	4,287.83	4,025.00	4,077.92	54.93	67.59	83.181	-2,950.54	-894.93	1,819.63	1,698.37	121.27	15.005	
7,550.00	4,287.58	4,025.00	4,077.92	55.81	67.59	83.181	-2,950.54	-894.93	1,806.27	1,684.10	122.18	14.784	
7,600.00	4,287.34	4,025.00	4,077.92	56.70	67.59	83.181	-2,950.54	-894.93	1,794.21	1,671.14	123.07	14.579	
7,650.00	4,287.09	4,025.00	4,077.92	57.59	67.59	83.181	-2,950.54	-894.93	1,783.46	1,659.52	123.94	14.390	
7,700.00	4,286.85	4,025.00	4,077.92	58.48	67.59	83.181	-2,950.54	-894.93	1,774.06	1,649.28	124.78	14.218	
7,750.00	4,286.61	4,025.00	4,077.92	59.37	67.59	83.181	-2,950.54	-894.93	1,766.03	1,640.44	125.59	14.062	
7,800.00	4,286.36	4,025.00	4,077.92	60.26	67.59	83.181	-2,950.54	-894.93	1,759.37	1,633.02	126.36	13.924	
7,850.00	4,286.12	4,025.00	4,077.92	61.16	67.59	83.181	-2,950.54	-894.93	1,754.12	1,627.03	127.10	13.802	
7,900.00	4,285.88	4,025.00	4,077.92	62.05	67.59	83.181	-2,950.54	-894.93	1,750.29	1,622.50	127.79	13.696	
7,950.00	4,285.63	4,025.00	4,077.92	62.95	67.59	83.181	-2,950.54	-894.93	1,747.87	1,619.43	128.45	13.608	
8,000.00	4,285.39	4,025.00	4,077.92	63.85	67.59	83.181	-2,950.54	-894.93	1,746.89	1,617.83	129.06	13.536	
8,009.45	4,285.34	4,025.00	4,077.92	64.02	67.59	83.181	-2,950.54	-894.93	1,746.86	1,617.69	129.17	13.524 CC, ES	
8,050.00	4,285.14	4,025.00	4,077.92	64.76	67.59	83.181	-2,950.54	-894.93	1,747.33	1,617.71	129.63	13.480	
8,100.00	4,284.90	4,025.00	4,077.92	65.66	67.59	83.181	-2,950.54	-894.93	1,749.21	1,619.06	130.14	13.441	
8,150.00	4,284.66	4,025.00	4,077.92	66.56	67.59	83.181	-2,950.54	-894.93	1,752.51	1,621.89	130.61	13.417	
8,200.00	4,284.41	4,025.00	4,077.92	67.47	67.59	83.181	-2,950.54	-894.93	1,757.22	1,626.19	131.03	13.410 SF	
8,250.00	4,284.17	4,025.00	4,077.92	68.38	67.59	83.181	-2,950.54	-894.93	1,763.35	1,631.94	131.41	13.419	
8,300.00	4,283.93	4,025.00	4,077.92	69.29	67.59	83.181	-2,950.54	-894.93	1,770.86	1,639.13	131.73	13.443	
8,350.00	4,283.68	4,025.00	4,077.92	70.20	67.59	83.181	-2,950.54	-894.93	1,779.75	1,647.74	132.00	13.483	
8,400.00	4,283.44	4,025.00	4,077.92	71.11	67.59	83.181	-2,950.54	-894.93	1,789.99	1,657.76	132.23	13.537	
8,450.00	4,283.19	4,025.00	4,077.92	72.02	67.59	83.181	-2,950.54	-894.93	1,801.56	1,669.15	132.41	13.606	
8,500.00	4,282.95	4,025.00	4,077.92	72.93	67.59	83.181	-2,950.54	-894.93	1,814.43	1,681.89	132.54	13.689	
8,550.00	4,282.71	4,025.00	4,077.92	73.85	67.59	83.181	-2,950.54	-894.93	1,828.58	1,695.95	132.63	13.787	
8,600.00	4,282.46	4,025.00	4,077.92	74.76	67.59	83.181	-2,950.54	-894.93	1,843.98	1,711.30	132.68	13.898	
8,650.00	4,282.22	4,025.00	4,077.92	75.68	67.59	83.181	-2,950.54	-894.93	1,860.60	1,727.91	132.69	14.023	
8,700.00	4,281.98	4,025.00	4,077.92	76.60	67.59	83.181	-2,950.54	-894.93	1,878.40	1,745.74	132.65	14.160	
8,750.00	4,281.73	4,025.00	4,077.92	77.51	67.59	83.181	-2,950.54	-894.93	1,897.35	1,764.76	132.59	14.310	
8,800.00	4,281.49	4,025.00	4,077.92	78.43	67.59	83.181	-2,950.54	-894.93	1,917.42	1,784.93	132.49	14.473	
8,850.00	4,281.24	4,025.00	4,077.92	79.35	67.59	83.181	-2,950.54	-894.93	1,938.57	1,806.21	132.35	14.647	
8,900.00	4,281.00	4,025.00	4,077.92	80.27	67.59	83.181	-2,950.54	-894.93	1,960.77	1,828.57	132.19	14.833	
8,950.00	4,280.76	4,025.00	4,077.92	81.20	67.59	83.181	-2,950.54	-894.93	1,983.97	1,851.97	132.00	15.030	

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 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: MONCRIEF STATE 3 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 100-MWD												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
6,550.00	4,292.46	4,260.53	4,292.46	38.75	15.21	90.308	-2,967.49	-493.40	1,985.85	1,935.42	50.43	39.375	
6,600.00	4,292.21	4,260.28	4,292.21	39.56	15.21	90.298	-2,967.49	-493.40	1,949.08	1,897.83	51.25	38.031	
6,650.00	4,291.97	4,260.04	4,291.97	40.38	15.21	90.288	-2,967.49	-493.40	1,912.90	1,860.81	52.09	36.721	
6,700.00	4,291.72	4,259.79	4,291.72	41.20	15.21	90.277	-2,967.49	-493.40	1,877.36	1,824.40	52.96	35.447	
6,750.00	4,291.48	4,259.55	4,291.48	42.04	15.21	90.267	-2,967.49	-493.40	1,842.49	1,788.63	53.86	34.210	
6,800.00	4,291.24	4,259.31	4,291.24	42.87	15.21	90.256	-2,967.49	-493.40	1,808.33	1,753.55	54.78	33.011	
6,850.00	4,290.99	4,259.06	4,290.99	43.71	15.21	90.246	-2,967.49	-493.40	1,774.92	1,719.19	55.73	31.850	
6,900.00	4,290.75	4,258.82	4,290.75	44.55	15.21	90.235	-2,967.49	-493.40	1,742.31	1,685.61	56.70	30.728	
6,950.00	4,290.51	4,258.58	4,290.51	45.40	15.21	90.225	-2,967.49	-493.40	1,710.53	1,652.84	57.70	29.647	
7,000.00	4,290.26	4,258.33	4,290.26	46.25	15.21	90.214	-2,967.49	-493.40	1,679.65	1,620.93	58.71	28.607	
7,050.00	4,290.02	4,258.09	4,290.02	47.10	15.21	90.204	-2,967.49	-493.40	1,649.70	1,589.95	59.75	27.609	
7,100.00	4,289.77	4,257.85	4,289.77	47.96	15.21	90.193	-2,967.49	-493.40	1,620.74	1,559.93	60.81	26.653	
7,150.00	4,289.53	4,257.60	4,289.53	48.82	15.20	90.183	-2,967.49	-493.40	1,592.82	1,530.94	61.88	25.740	
7,200.00	4,289.29	4,257.36	4,289.29	49.68	15.20	90.172	-2,967.49	-493.40	1,566.01	1,503.04	62.96	24.872	
7,250.00	4,289.04	4,257.11	4,289.04	50.55	15.20	90.162	-2,967.49	-493.40	1,540.34	1,476.29	64.05	24.047	
7,300.00	4,288.80	4,256.87	4,288.80	51.42	15.20	90.151	-2,967.49	-493.40	1,515.90	1,450.75	65.15	23.268	
7,350.00	4,288.56	4,256.63	4,288.56	52.30	15.20	90.141	-2,967.49	-493.40	1,492.73	1,426.48	66.25	22.533	
7,400.00	4,288.31	4,256.38	4,288.31	53.17	15.20	90.130	-2,967.49	-493.40	1,470.89	1,403.56	67.34	21.844	
7,450.00	4,288.07	4,256.14	4,288.07	54.05	15.20	90.120	-2,967.49	-493.40	1,450.45	1,382.04	68.42	21.201	
7,500.00	4,287.83	4,255.90	4,287.83	54.93	15.20	90.109	-2,967.49	-493.40	1,431.47	1,361.99	69.48	20.603	
7,550.00	4,287.58	4,255.65	4,287.58	55.81	15.20	90.099	-2,967.49	-493.40	1,414.00	1,343.48	70.52	20.052	
7,600.00	4,287.34	4,255.41	4,287.34	56.70	15.20	90.088	-2,967.49	-493.40	1,398.10	1,326.57	71.52	19.547	
7,650.00	4,287.09	4,255.16	4,287.09	57.59	15.20	90.078	-2,967.49	-493.40	1,383.82	1,311.33	72.50	19.088	
7,700.00	4,286.85	4,254.92	4,286.85	58.48	15.20	90.067	-2,967.49	-493.40	1,371.22	1,297.80	73.42	18.675	
7,750.00	4,286.61	4,254.68	4,286.61	59.37	15.19	90.057	-2,967.49	-493.40	1,360.35	1,286.04	74.30	18.308	
7,800.00	4,286.36	4,254.43	4,286.36	60.26	15.19	90.047	-2,967.49	-493.40	1,351.23	1,276.11	75.12	17.987	
7,850.00	4,286.12	4,254.19	4,286.12	61.16	15.19	90.036	-2,967.49	-493.40	1,343.92	1,268.04	75.88	17.711	
7,900.00	4,285.88	4,253.95	4,285.88	62.05	15.19	90.026	-2,967.49	-493.40	1,338.43	1,261.86	76.57	17.480	
7,950.00	4,285.63	4,253.70	4,285.63	62.95	15.19	90.015	-2,967.49	-493.40	1,334.80	1,257.61	77.19	17.293	
8,000.00	4,285.39	4,253.46	4,285.39	63.85	15.19	90.005	-2,967.49	-493.40	1,333.03	1,255.31	77.72	17.151	
8,022.13	4,285.28	4,253.35	4,285.28	64.25	15.19	90.000	-2,967.49	-493.40	1,332.85	1,254.91	77.94	17.102 CC, ES	
8,050.00	4,285.14	4,253.21	4,285.14	64.76	15.19	89.994	-2,967.49	-493.40	1,333.14	1,254.96	78.18	17.052	
8,100.00	4,284.90	4,252.97	4,284.90	65.66	15.19	89.984	-2,967.49	-493.40	1,335.12	1,256.56	78.56	16.995	
8,150.00	4,284.66	4,252.73	4,284.66	66.56	15.19	89.973	-2,967.49	-493.40	1,338.97	1,260.12	78.85	16.981 SF	
8,200.00	4,284.41	4,252.48	4,284.41	67.47	15.19	89.963	-2,967.49	-493.40	1,344.66	1,265.60	79.06	17.008	
8,250.00	4,284.17	4,252.24	4,284.17	68.38	15.19	89.952	-2,967.49	-493.40	1,352.19	1,273.00	79.19	17.075	
8,300.00	4,283.93	4,252.00	4,283.93	69.29	15.19	89.942	-2,967.49	-493.40	1,361.50	1,282.27	79.24	17.183	
8,350.00	4,283.68	4,251.75	4,283.68	70.20	15.18	89.931	-2,967.49	-493.40	1,372.58	1,293.37	79.21	17.328	
8,400.00	4,283.44	4,251.51	4,283.44	71.11	15.18	89.921	-2,967.49	-493.40	1,385.38	1,306.27	79.11	17.512	
8,450.00	4,283.19	4,251.26	4,283.19	72.02	15.18	89.910	-2,967.49	-493.40	1,399.84	1,320.90	78.94	17.733	
8,500.00	4,282.95	4,251.02	4,282.95	72.93	15.18	89.900	-2,967.49	-493.40	1,415.92	1,337.22	78.71	17.990	
8,550.00	4,282.71	4,250.78	4,282.71	73.85	15.18	89.889	-2,967.49	-493.40	1,433.57	1,355.15	78.42	18.282	
8,600.00	4,282.46	4,250.53	4,282.46	74.76	15.18	89.879	-2,967.49	-493.40	1,452.72	1,374.65	78.07	18.608	
8,650.00	4,282.22	4,250.29	4,282.22	75.68	15.18	89.868	-2,967.49	-493.40	1,473.33	1,395.65	77.68	18.967	
8,700.00	4,281.98	4,250.05	4,281.98	76.60	15.18	89.858	-2,967.49	-493.40	1,495.32	1,418.07	77.25	19.358	
8,750.00	4,281.73	4,249.80	4,281.73	77.51	15.18	89.847	-2,967.49	-493.40	1,518.64	1,441.86	76.78	19.780	
8,800.00	4,281.49	4,249.56	4,281.49	78.43	15.18	89.837	-2,967.49	-493.40	1,543.23	1,466.95	76.27	20.232	
8,850.00	4,281.24	4,249.31	4,281.24	79.35	15.18	89.827	-2,967.49	-493.40	1,569.02	1,493.28	75.75	20.714	
8,900.00	4,281.00	4,249.07	4,281.00	80.27	15.18	89.816	-2,967.49	-493.40	1,595.97	1,520.77	75.20	21.224	
8,950.00	4,280.76	4,248.83	4,280.76	81.20	15.17	89.806	-2,967.49	-493.40	1,624.01	1,549.38	74.63	21.760	
9,000.00	4,280.51	4,248.58	4,280.51	82.12	15.17	89.795	-2,967.49	-493.40	1,653.08	1,579.03	74.05	22.324	
9,050.00	4,280.27	4,248.34	4,280.27	83.04	15.17	89.785	-2,967.49	-493.40	1,683.14	1,609.68	73.46	22.912	

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 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: MONCRIEF STATE 3 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 100-MWD												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,100.00	4,280.03	4,248.10	4,280.03	83.97	15.17	89.774	-2,967.49	-493.40	1,714.13	1,641.27	72.86	23.526	
9,150.00	4,279.78	4,247.85	4,279.78	84.89	15.17	89.764	-2,967.49	-493.40	1,746.01	1,673.75	72.26	24.162	
9,200.00	4,279.54	4,247.61	4,279.54	85.82	15.17	89.753	-2,967.49	-493.40	1,778.71	1,707.06	71.66	24.822	
9,250.00	4,279.29	4,247.36	4,279.29	86.74	15.17	89.743	-2,967.49	-493.40	1,812.21	1,741.15	71.06	25.504	
9,300.00	4,279.05	4,247.12	4,279.05	87.67	15.17	89.732	-2,967.49	-493.40	1,846.45	1,776.00	70.46	26.207	
9,350.00	4,278.81	4,246.88	4,278.81	88.60	15.17	89.722	-2,967.49	-493.40	1,881.40	1,811.54	69.86	26.930	
9,400.00	4,278.56	4,246.63	4,278.56	89.52	15.17	89.711	-2,967.49	-493.40	1,917.02	1,847.74	69.27	27.673	
9,450.00	4,278.32	4,246.39	4,278.32	90.45	15.17	89.701	-2,967.49	-493.40	1,953.26	1,884.57	68.69	28.435	
9,500.00	4,278.08	4,246.15	4,278.08	91.38	15.17	89.690	-2,967.49	-493.40	1,990.11	1,921.99	68.12	29.215	

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

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COMPASS 5000.14 Build 85



Anticollision Report



Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: MONCRIEF STATE 4 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 100-MWD												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,650.00	4,277.34	4,267.20	4,289.57	94.17	15.12	90.321	-3,554.12	-438.32	1,644.94	1,564.67	80.27	20.492	
9,700.00	4,277.10	4,267.51	4,289.87	95.10	15.12	90.335	-3,554.12	-438.32	1,677.05	1,597.60	79.45	21.108	
9,750.00	4,276.86	4,267.81	4,290.18	96.03	15.12	90.349	-3,554.12	-438.32	1,710.02	1,631.39	78.63	21.747	
9,800.00	4,276.61	4,268.12	4,290.48	96.97	15.12	90.363	-3,554.13	-438.32	1,743.80	1,665.98	77.82	22.409	
9,850.00	4,276.37	4,268.43	4,290.80	97.90	15.12	90.377	-3,554.13	-438.32	1,778.35	1,701.33	77.01	23.092	
9,900.00	4,276.13	4,268.75	4,291.11	98.83	15.13	90.391	-3,554.13	-438.32	1,813.61	1,737.40	76.22	23.796	
9,950.00	4,275.88	4,269.06	4,291.42	99.77	15.13	90.405	-3,554.14	-438.32	1,849.56	1,774.13	75.43	24.520	
10,000.00	4,275.64	4,269.38	4,291.74	100.70	15.13	90.419	-3,554.14	-438.32	1,886.14	1,811.48	74.66	25.263	
10,050.00	4,275.40	4,269.70	4,292.06	101.63	15.13	90.434	-3,554.14	-438.32	1,923.33	1,849.43	73.90	26.025	
10,100.00	4,275.15	4,270.02	4,292.38	102.57	15.13	90.448	-3,554.15	-438.32	1,961.09	1,887.93	73.16	26.805	
10,131.03	4,275.00	4,270.22	4,292.58	103.15	15.13	90.457	-3,554.15	-438.32	1,984.79	1,912.09	72.71	27.298	

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 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: SRC STATE 1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 570-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,131.03	4,275.00	3,495.00	3,464.75	103.15	62.24	37.391	-4,217.35	206.84	1,338.57	1,237.87	100.69	13.293	



Anticollision Report



Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: TUMAK FEDERAL 2 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 8-MWD												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
5,150.00	4,299.28	4,523.83	4,450.05	21.92	16.88	95.626	959.33	-607.21	1,821.79	1,785.00	36.79	49.519	
5,200.00	4,299.04	4,523.42	4,449.64	21.94	16.87	95.610	959.33	-607.25	1,851.18	1,814.38	36.80	50.309	
5,250.00	4,298.79	4,523.02	4,449.24	22.02	16.87	95.594	959.33	-607.29	1,881.44	1,844.64	36.80	51.128	
5,300.00	4,298.55	4,522.61	4,448.83	22.25	16.87	95.578	959.33	-607.33	1,912.52	1,875.84	36.68	52.139	
5,350.00	4,298.31	4,522.20	4,448.43	22.54	16.87	95.563	959.33	-607.37	1,944.40	1,907.73	36.67	53.029	
5,400.00	4,298.06	4,521.80	4,448.03	22.95	16.87	95.547	959.33	-607.42	1,977.02	1,940.43	36.59	54.027	

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 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Offset Design MAYARO 22 STATE COM - OFFSET: TUMAK FEDERAL 3 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 100-MWD												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
5,100.00	4,299.52	4,396.59	4,343.72	21.98	15.61	91.260	311.40	-1,066.15	1,964.48	1,929.46	35.02	56.092	
5,150.00	4,299.28	4,394.61	4,341.75	21.92	15.60	91.201	311.33	-1,066.20	1,974.06	1,938.92	35.13	56.188	
5,200.00	4,299.04	4,392.63	4,339.77	21.94	15.59	91.142	311.27	-1,066.26	1,984.84	1,949.55	35.30	56.236	
5,250.00	4,298.79	4,390.65	4,337.79	22.02	15.59	91.084	311.20	-1,066.32	1,996.83	1,961.33	35.49	56.261	

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



Anticollision Report



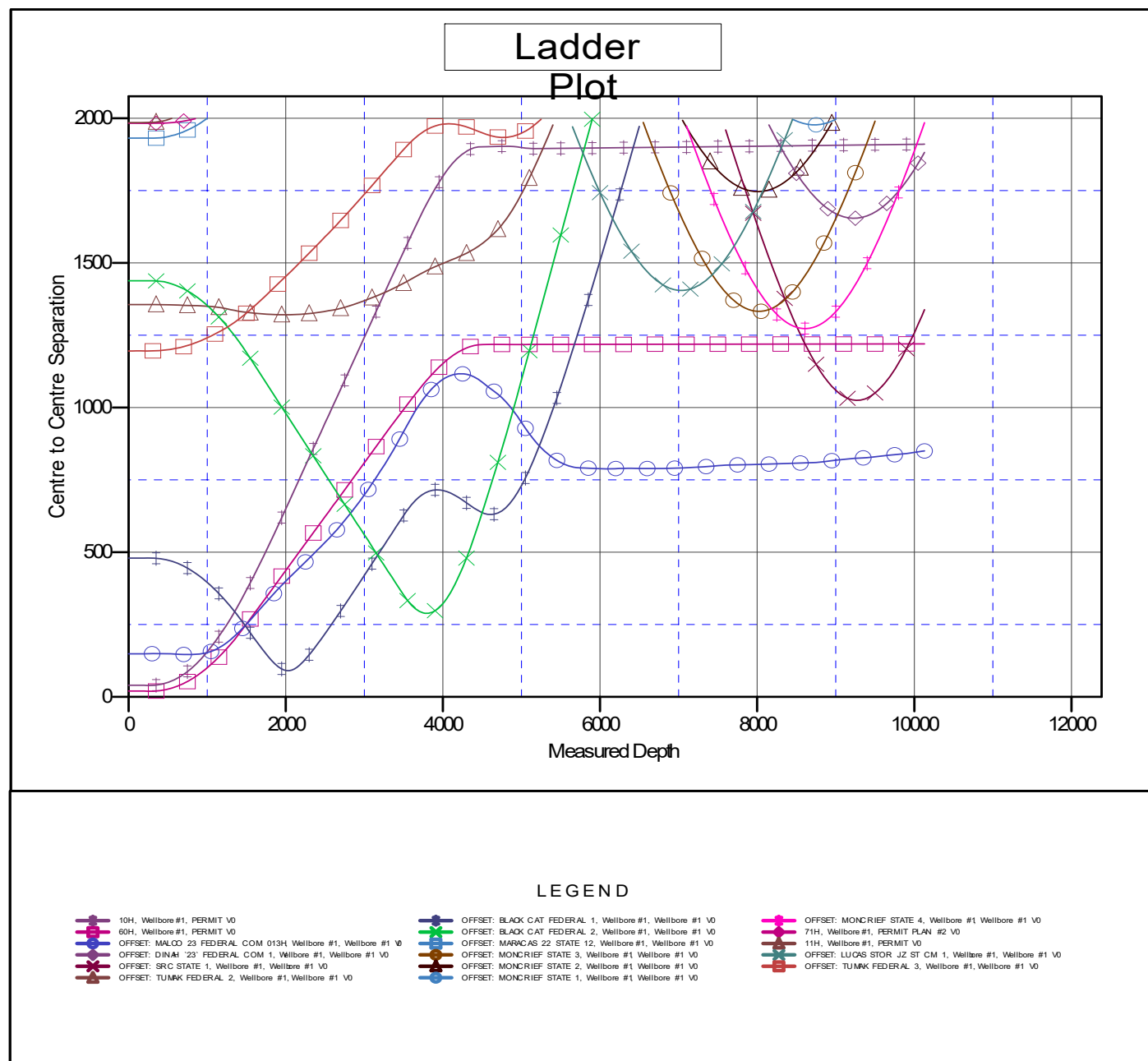
Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Reference Depths are relative to RKB = 20' @ 3653.00usft (AKITA 57) Coordinates are relative to: 61H

Offset Depths are relative to Offset Datum

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

Grid Convergence at Surface is: 0.099°



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 61H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 FEDERAL COM	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	WBDS_SQL_2
Reference Design:	PERMIT	Offset TVD Reference:	Reference Datum

Reference Depths are relative to RKB = 20' @ 3653.00usft (AKITA 57) Coordinates are relative to: 61H

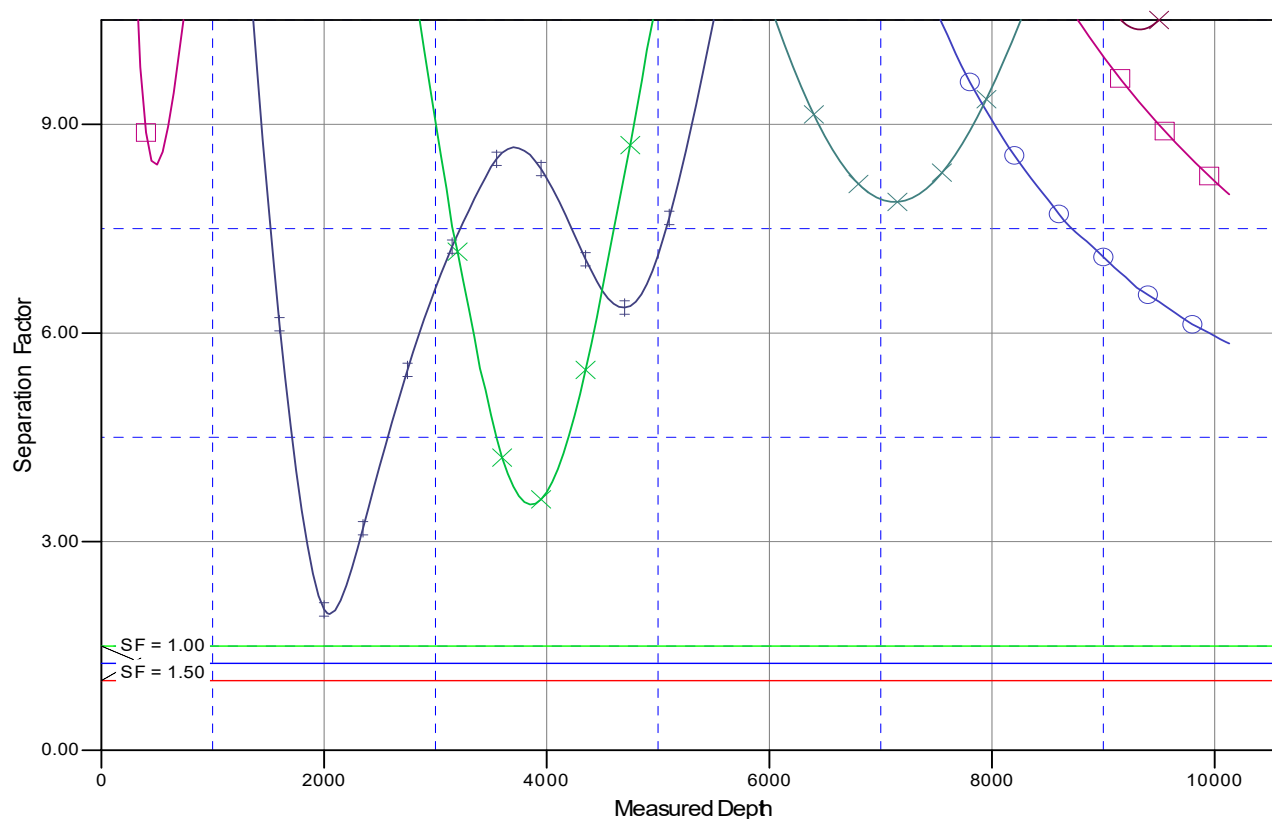
Offset Depths are relative to Offset Datum

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

Central Meridian is -104.333333

Grid Convergence at Surface is: 0.099°

Separation Factor Plot



LEGEND

10H, Wellbore #1, PERMIT V0	OFFSET: BLACK CAT FEDERAL 1, Wellbore #1, Wellbore #1 V0	OFFSET: MONCRIEF STATE 4, Wellbore #1 Wellbore #1 V0
60H, Wellbore #1, PERMIT V0	OFFSET: BLACK CAT FEDERAL 2, Wellbore #1, Wellbore #1 V0	71H, Wellbore #1, PERMIT PLAN #2 V0
OFFSET: MALCO 23 FEDERAL COM 013H Wellbore #1, Wellbore #1 V0	OFFSET: MARACAS 22 STATE 12, Wellbore #1, Wellbore #1 V0	11H, Wellbore #1, PERMIT V0
OFFSET: DINAH 23 FEDERAL COM 1, Wellbore #1, Wellbore #1 V0	OFFSET: MONCRIEF STATE 3, Wellbore #1 Wellbore #1 V0	OFFSET: LUGAS STOR JZ ST CM 1, Wellbore #1, Wellbore #1 V0
OFFSET: SRC STATE 1, Wellbore #1, Wellbore #1 V0	OFFSET: MONCRIEF STATE 2, Wellbore #1 Wellbore #1 V0	OFFSET: TUMAK FEDERAL 3, Wellbore #1, Wellbore #1 V0
OFFSET: TUMAK FEDERAL 2, Wellbore #1, Wellbore #1 V0	OFFSET: MONCRIEF STATE 1, Wellbore #1 Wellbore #1 V0	

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



Spur Energy Partners, LLC

**Eddy County, NM (NAD 83 - NME)
SIERRA NEVADA 23 FEDERAL COM
61H**

Wellbore #1

Plan: PERMIT

Standard Planning Report

12 August, 2022





Planning Report



Database:	WBDS_SQL_2	Local Co-ordinate Reference:	Well 61H
Company:	Spur Energy Partners, LLC	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Project:	Eddy County, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site:	SIERRA NEVADA 23 FEDERAL COM	North Reference:	Grid
Well:	61H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

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

Site		SIERRA NEVADA 23 FEDERAL COM			
Site Position:		Northing:	664,787.70 usft	Latitude:	32.8273953
From:	Map	Easting:	597,425.10 usft	Longitude:	-104.1507400
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.099

Well	61H					
Well Position	+N/-S	-0.40 usft	Northing:	664,787.30 usft	Latitude:	32.8273940
	+E/-W	40.00 usft	Easting:	597,465.10 usft	Longitude:	-104.1506098
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,633.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	08/04/22	6.729	60.324	47,670.07946217

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	180.46

Plan Survey Tool Program	Date	08/05/22		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	10,131.03	PERMIT (Wellbore #1)	MWD+IGRF
				OWSG MWD + IGRF or WM

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	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	
1,549.06	24.98	40.39	1,509.86	204.13	173.67	2.00	2.00	0.00	40.391	
3,498.85	24.98	40.39	3,277.24	831.29	707.26	0.00	0.00	0.00	0.000	
4,499.51	60.00	180.46	4,123.25	503.86	867.65	8.00	3.50	14.00	145.646	
4,699.51	60.00	180.46	4,223.25	330.66	866.25	0.00	0.00	0.00	0.000	
5,002.30	90.28	180.46	4,300.00	41.40	863.90	10.00	10.00	0.00	0.000	3. SIERRA NEVAD,
10,081.02	90.28	180.46	4,275.24	-5,037.09	822.71	0.00	0.00	0.00	0.000	4. SIERRA NEVAD,
10,131.03	90.28	180.46	4,275.00	-5,087.10	822.30	0.00	0.00	0.00	0.000	5. SIERRA NEVAD,



Planning Report



Database:	WBDS_SQL_2	Local Co-ordinate Reference:	Well 61H
Company:	Spur Energy Partners, LLC	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Project:	Eddy County, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site:	SIERRA NEVADA 23 FEDERAL COM	North Reference:	Grid
Well:	61H	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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	40.39	399.98	1.33	1.13	-1.34	2.00	2.00	0.00
500.00	4.00	40.39	499.84	5.32	4.52	-5.35	2.00	2.00	0.00
600.00	6.00	40.39	599.45	11.95	10.17	-12.03	2.00	2.00	0.00
700.00	8.00	40.39	698.70	21.23	18.07	-21.38	2.00	2.00	0.00
800.00	10.00	40.39	797.47	33.15	28.20	-33.37	2.00	2.00	0.00
900.00	12.00	40.39	895.62	47.68	40.57	-48.00	2.00	2.00	0.00
1,000.00	14.00	40.39	993.06	64.81	55.14	-65.25	2.00	2.00	0.00
1,100.00	16.00	40.39	1,089.64	84.52	71.91	-85.10	2.00	2.00	0.00
1,200.00	18.00	40.39	1,185.27	106.79	90.86	-107.52	2.00	2.00	0.00
1,300.00	20.00	40.39	1,279.82	131.59	111.95	-132.48	2.00	2.00	0.00
1,400.00	22.00	40.39	1,373.17	158.88	135.18	-159.96	2.00	2.00	0.00
1,500.00	24.00	40.39	1,465.21	188.64	160.49	-189.92	2.00	2.00	0.00
1,549.06	24.98	40.39	1,509.86	204.13	173.67	-205.52	2.00	2.00	0.00
1,600.00	24.98	40.39	1,556.03	220.51	187.61	-222.01	0.00	0.00	0.00
1,700.00	24.98	40.39	1,646.68	252.68	214.98	-254.40	0.00	0.00	0.00
1,800.00	24.98	40.39	1,737.32	284.84	242.35	-286.78	0.00	0.00	0.00
1,900.00	24.98	40.39	1,827.97	317.01	269.71	-319.17	0.00	0.00	0.00
2,000.00	24.98	40.39	1,918.61	349.18	297.08	-351.55	0.00	0.00	0.00
2,100.00	24.98	40.39	2,009.26	381.34	324.45	-383.93	0.00	0.00	0.00
2,200.00	24.98	40.39	2,099.90	413.51	351.81	-416.32	0.00	0.00	0.00
2,300.00	24.98	40.39	2,190.55	445.67	379.18	-448.70	0.00	0.00	0.00
2,400.00	24.98	40.39	2,281.19	477.84	406.54	-481.09	0.00	0.00	0.00
2,500.00	24.98	40.39	2,371.84	510.00	433.91	-513.47	0.00	0.00	0.00
2,600.00	24.98	40.39	2,462.48	542.17	461.28	-545.86	0.00	0.00	0.00
2,700.00	24.98	40.39	2,553.13	574.34	488.64	-578.24	0.00	0.00	0.00
2,800.00	24.98	40.39	2,643.77	606.50	516.01	-610.62	0.00	0.00	0.00
2,900.00	24.98	40.39	2,734.41	638.67	543.38	-643.01	0.00	0.00	0.00
3,000.00	24.98	40.39	2,825.06	670.83	570.74	-675.39	0.00	0.00	0.00
3,100.00	24.98	40.39	2,915.70	703.00	598.11	-707.78	0.00	0.00	0.00
3,200.00	24.98	40.39	3,006.35	735.16	625.48	-740.16	0.00	0.00	0.00
3,300.00	24.98	40.39	3,096.99	767.33	652.84	-772.55	0.00	0.00	0.00
3,400.00	24.98	40.39	3,187.64	799.50	680.21	-804.93	0.00	0.00	0.00
3,498.85	24.98	40.39	3,277.24	831.29	707.26	-836.94	0.00	0.00	0.00
3,500.00	24.91	40.51	3,278.28	831.66	707.58	-837.31	8.00	-6.60	10.72
3,550.00	21.72	46.64	3,324.20	846.02	721.15	-851.78	8.00	-6.37	12.25
3,600.00	18.83	54.64	3,371.11	857.05	734.46	-862.92	8.00	-5.78	16.00
3,650.00	16.39	65.16	3,418.77	864.68	747.44	-870.65	8.00	-4.88	21.04
3,700.00	14.63	78.65	3,466.97	868.89	760.04	-874.96	8.00	-3.51	26.98
3,750.00	13.82	94.64	3,515.45	869.65	772.19	-875.82	8.00	-1.63	31.99
3,800.00	14.11	111.22	3,563.99	866.96	783.83	-873.22	8.00	0.59	33.17
3,850.00	15.46	126.05	3,612.35	860.83	794.90	-867.18	8.00	2.68	29.64
3,900.00	17.60	137.95	3,660.30	851.29	805.36	-857.73	8.00	4.30	23.81
3,950.00	20.30	147.06	3,707.59	838.39	815.14	-844.91	8.00	5.40	18.23
4,000.00	23.37	154.00	3,754.01	822.19	824.21	-828.78	8.00	6.13	13.88
4,050.00	26.67	159.36	3,799.32	802.77	832.51	-809.43	8.00	6.60	10.72
4,100.00	30.13	163.59	3,843.30	780.22	840.02	-786.94	8.00	6.92	8.46
4,150.00	33.69	167.02	3,885.74	754.66	846.68	-761.44	8.00	7.14	6.85
4,200.00	37.34	169.85	3,926.43	726.21	852.47	-733.03	8.00	7.29	5.66
4,250.00	41.05	172.24	3,965.18	695.00	857.36	-701.86	8.00	7.41	4.78
4,300.00	44.79	174.30	4,001.79	661.20	861.33	-668.09	8.00	7.49	4.12



Planning Report



Database:	WBDS_SQL_2	Local Co-ordinate Reference:	Well 61H
Company:	Spur Energy Partners, LLC	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Project:	Eddy County, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site:	SIERRA NEVADA 23 FEDERAL COM	North Reference:	Grid
Well:	61H	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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,350.00	48.57	176.10	4,036.09	624.96	864.35	-631.88	8.00	7.56	3.61
4,400.00	52.38	177.71	4,067.91	586.45	866.42	-593.39	8.00	7.61	3.21
4,450.00	56.20	179.15	4,097.09	545.88	867.52	-552.83	8.00	7.65	2.89
4,499.51	60.00	180.46	4,123.25	503.86	867.65	-510.81	8.00	7.68	2.65
4,600.00	60.00	180.46	4,173.49	416.83	866.95	-423.78	0.00	0.00	0.00
4,699.51	60.00	180.46	4,223.25	330.66	866.25	-337.61	0.00	0.00	0.00
4,750.00	65.05	180.46	4,246.53	285.88	865.88	-292.82	10.00	10.00	0.00
4,800.00	70.05	180.46	4,265.62	239.68	865.51	-246.63	10.00	10.00	0.00
4,850.00	75.05	180.46	4,280.61	192.00	865.12	-198.94	10.00	10.00	0.00
4,900.00	80.05	180.46	4,291.39	143.20	864.73	-150.13	10.00	10.00	0.00
4,950.00	85.05	180.46	4,297.87	93.64	864.32	-100.57	10.00	10.00	0.00
5,002.30	90.28	180.46	4,300.00	41.40	863.90	-48.33	10.00	10.00	0.00
5,100.00	90.28	180.46	4,299.52	-56.30	863.11	49.37	0.00	0.00	0.00
5,200.00	90.28	180.46	4,299.04	-156.29	862.30	149.36	0.00	0.00	0.00
5,300.00	90.28	180.46	4,298.55	-256.29	861.49	249.36	0.00	0.00	0.00
5,400.00	90.28	180.46	4,298.06	-356.28	860.67	349.36	0.00	0.00	0.00
5,500.00	90.28	180.46	4,297.57	-456.28	859.86	449.36	0.00	0.00	0.00
5,600.00	90.28	180.46	4,297.09	-556.27	859.05	549.36	0.00	0.00	0.00
5,700.00	90.28	180.46	4,296.60	-656.27	858.24	649.36	0.00	0.00	0.00
5,800.00	90.28	180.46	4,296.11	-756.27	857.43	749.36	0.00	0.00	0.00
5,900.00	90.28	180.46	4,295.62	-856.26	856.62	849.36	0.00	0.00	0.00
6,000.00	90.28	180.46	4,295.14	-956.26	855.81	949.36	0.00	0.00	0.00
6,100.00	90.28	180.46	4,294.65	-1,056.25	855.00	1,049.35	0.00	0.00	0.00
6,200.00	90.28	180.46	4,294.16	-1,156.25	854.19	1,149.35	0.00	0.00	0.00
6,300.00	90.28	180.46	4,293.67	-1,256.24	853.37	1,249.35	0.00	0.00	0.00
6,400.00	90.28	180.46	4,293.19	-1,356.24	852.56	1,349.35	0.00	0.00	0.00
6,500.00	90.28	180.46	4,292.70	-1,456.23	851.75	1,449.35	0.00	0.00	0.00
6,600.00	90.28	180.46	4,292.21	-1,556.23	850.94	1,549.35	0.00	0.00	0.00
6,700.00	90.28	180.46	4,291.72	-1,656.23	850.13	1,649.35	0.00	0.00	0.00
6,800.00	90.28	180.46	4,291.24	-1,756.22	849.32	1,749.35	0.00	0.00	0.00
6,900.00	90.28	180.46	4,290.75	-1,856.22	848.51	1,849.34	0.00	0.00	0.00
7,000.00	90.28	180.46	4,290.26	-1,956.21	847.70	1,949.34	0.00	0.00	0.00
7,100.00	90.28	180.46	4,289.77	-2,056.21	846.89	2,049.34	0.00	0.00	0.00
7,200.00	90.28	180.46	4,289.29	-2,156.20	846.07	2,149.34	0.00	0.00	0.00
7,300.00	90.28	180.46	4,288.80	-2,256.20	845.26	2,249.34	0.00	0.00	0.00
7,400.00	90.28	180.46	4,288.31	-2,356.19	844.45	2,349.34	0.00	0.00	0.00
7,500.00	90.28	180.46	4,287.83	-2,456.19	843.64	2,449.34	0.00	0.00	0.00
7,600.00	90.28	180.46	4,287.34	-2,556.19	842.83	2,549.34	0.00	0.00	0.00
7,700.00	90.28	180.46	4,286.85	-2,656.18	842.02	2,649.33	0.00	0.00	0.00
7,800.00	90.28	180.46	4,286.36	-2,756.18	841.21	2,749.33	0.00	0.00	0.00
7,900.00	90.28	180.46	4,285.88	-2,856.17	840.40	2,849.33	0.00	0.00	0.00
8,000.00	90.28	180.46	4,285.39	-2,956.17	839.59	2,949.33	0.00	0.00	0.00
8,100.00	90.28	180.46	4,284.90	-3,056.16	838.77	3,049.33	0.00	0.00	0.00
8,200.00	90.28	180.46	4,284.41	-3,156.16	837.96	3,149.33	0.00	0.00	0.00
8,300.00	90.28	180.46	4,283.93	-3,256.15	837.15	3,249.33	0.00	0.00	0.00
8,400.00	90.28	180.46	4,283.44	-3,356.15	836.34	3,349.33	0.00	0.00	0.00
8,500.00	90.28	180.46	4,282.95	-3,456.14	835.53	3,449.33	0.00	0.00	0.00
8,600.00	90.28	180.46	4,282.46	-3,556.14	834.72	3,549.32	0.00	0.00	0.00
8,700.00	90.28	180.46	4,281.98	-3,656.14	833.91	3,649.32	0.00	0.00	0.00
8,800.00	90.28	180.46	4,281.49	-3,756.13	833.10	3,749.32	0.00	0.00	0.00
8,900.00	90.28	180.46	4,281.00	-3,856.13	832.29	3,849.32	0.00	0.00	0.00
9,000.00	90.28	180.46	4,280.51	-3,956.12	831.47	3,949.32	0.00	0.00	0.00
9,100.00	90.28	180.46	4,280.03	-4,056.12	830.66	4,049.32	0.00	0.00	0.00
9,200.00	90.28	180.46	4,279.54	-4,156.11	829.85	4,149.32	0.00	0.00	0.00



Planning Report



Database:	WBDS_SQL_2	Local Co-ordinate Reference:	Well 61H
Company:	Spur Energy Partners, LLC	TVD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Project:	Eddy County, NM (NAD 83 - NME)	MD Reference:	RKB = 20' @ 3653.00usft (AKITA 57)
Site:	SIERRA NEVADA 23 FEDERAL COM	North Reference:	Grid
Well:	61H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

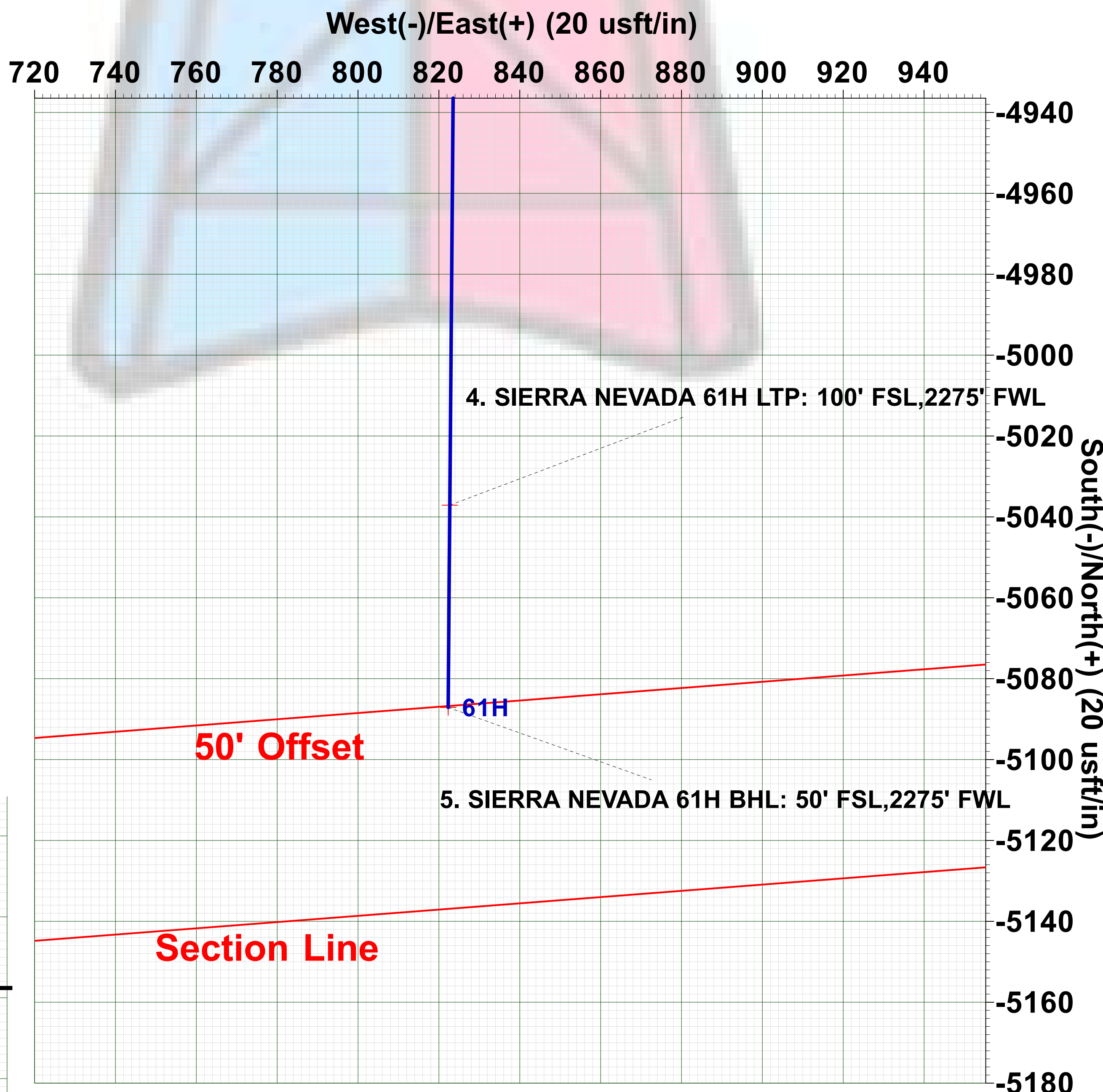
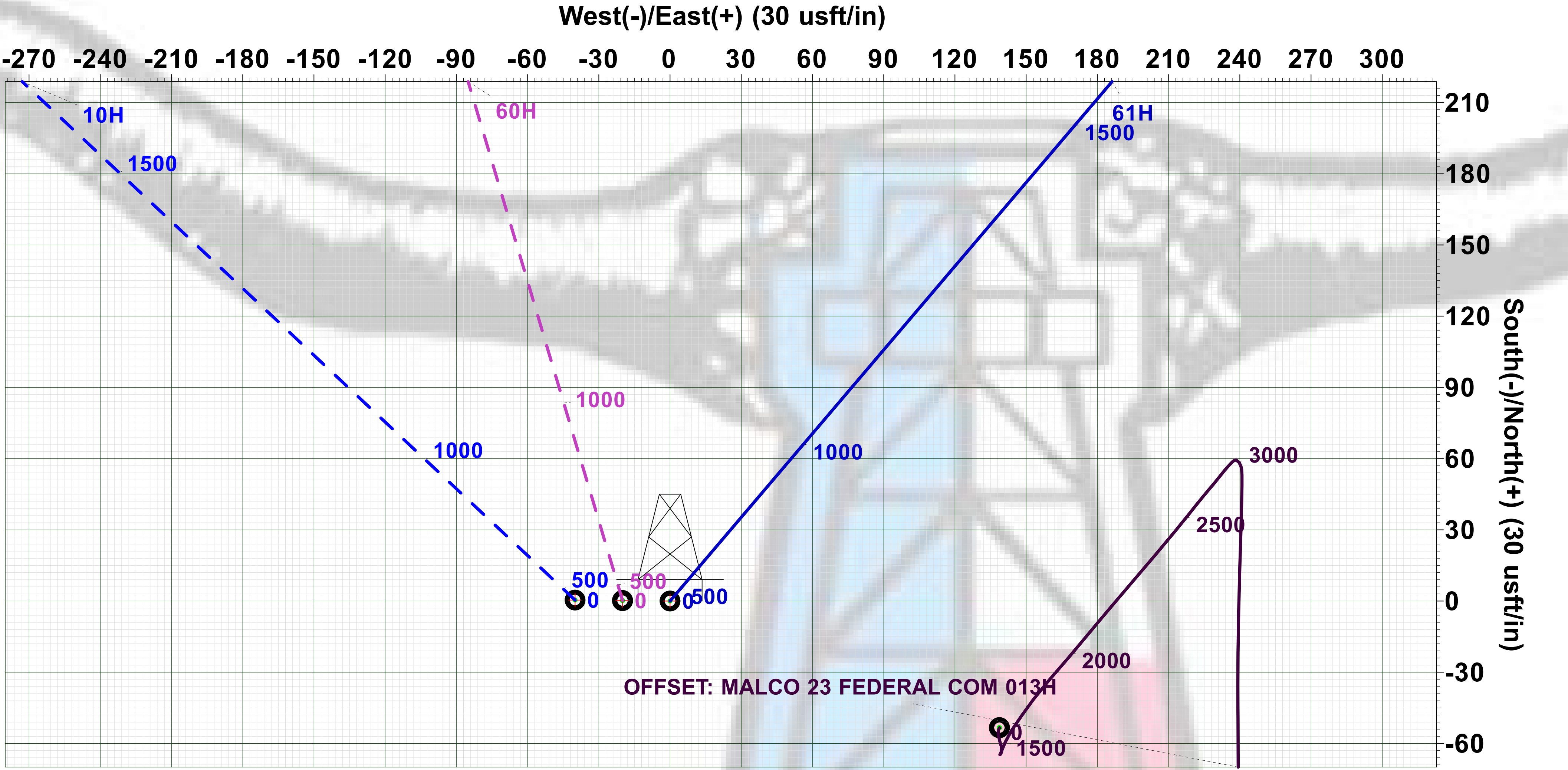
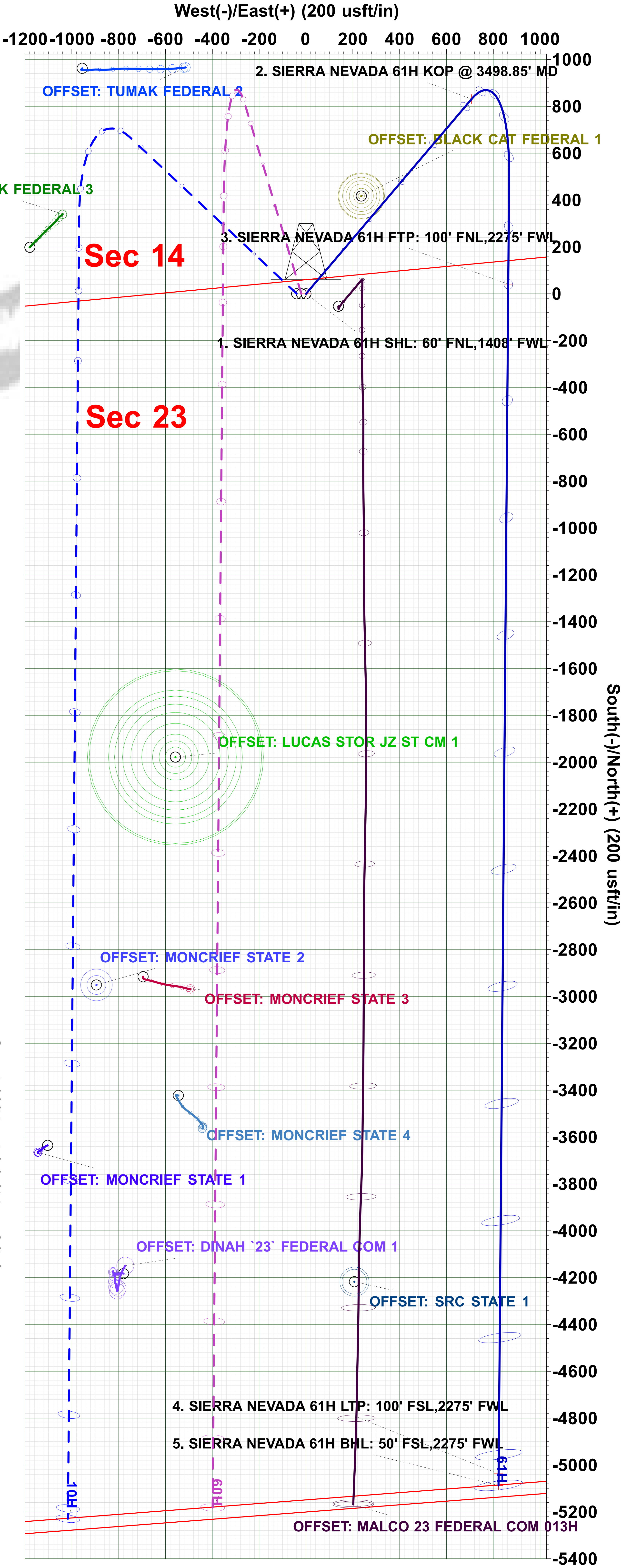
Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
9,300.00	90.28	180.46	4,279.05	-4,256.11	829.04	4,249.32	0.00	0.00	0.00	
9,400.00	90.28	180.46	4,278.56	-4,356.10	828.23	4,349.31	0.00	0.00	0.00	
9,500.00	90.28	180.46	4,278.08	-4,456.10	827.42	4,449.31	0.00	0.00	0.00	
9,600.00	90.28	180.46	4,277.59	-4,556.10	826.61	4,549.31	0.00	0.00	0.00	
9,700.00	90.28	180.46	4,277.10	-4,656.09	825.80	4,649.31	0.00	0.00	0.00	
9,800.00	90.28	180.46	4,276.61	-4,756.09	824.99	4,749.31	0.00	0.00	0.00	
9,900.00	90.28	180.46	4,276.13	-4,856.08	824.17	4,849.31	0.00	0.00	0.00	
10,000.00	90.28	180.46	4,275.64	-4,956.08	823.36	4,949.31	0.00	0.00	0.00	
10,081.02	90.28	180.46	4,275.24	-5,037.09	822.71	5,030.32	0.00	0.00	0.00	
10,100.00	90.28	180.46	4,275.15	-5,056.07	822.55	5,049.31	0.00	0.00	0.00	
10,131.03	90.28	180.46	4,275.00	-5,087.10	822.30	5,080.33	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
1. SIERRA NEVADA € - hit/miss target - Shape - Point	0.00	0.00	0.00	0.00	0.00	664,787.30	597,465.10	32.8273940	-104.1506098	
2. SIERRA NEVADA € - plan hits target center - Point	0.00	0.00	3,277.24	831.29	707.26	665,618.60	598,172.37	32.8296755	-104.1483026	
5. SIERRA NEVADA € - plan hits target center - Point	0.00	0.00	4,275.00	-5,087.10	822.30	659,700.20	598,287.40	32.8134075	-104.1479619	
4. SIERRA NEVADA € - plan misses target center by 0.01usft at 10081.02usft MD (4275.24 TVD, -5037.09 N, 822.71 E) - Point	0.00	0.00	4,275.24	-5,037.09	822.71	659,750.21	598,287.81	32.8135449	-104.1479603	
3. SIERRA NEVADA € - plan hits target center - Point	0.00	0.00	4,300.00	41.40	863.90	664,828.70	598,329.00	32.8275036	-104.1477972	



Company: Spur Energy Partners, LLC
Project: Eddy County, NM (NAD 83 - NME)
Site: SIERRA NEVADA 23 FEDERAL COM
Well: 61H
Wellbore: Wellbore #1
Rig: AKITA 57
Design: PERMIT / 14:13, August 12 2022

PROJECT DETAILS: Eddy County, NM (NAD 83 - NME)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level



WELL DETAILS: 61H						
RKB = 20' @ 3653.00usft (AKITA 57)						
3633.00						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	664787.30	597465.10	32.8273940	-104.1506098	

SECTION DETAILS								
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00
3	1549.06	24.98	40.39	1509.86	204.13	173.67	2.00	-205.52
4	3498.85	24.98	40.39	3277.24	831.29	707.26	0.00	-836.94
5	4499.51	60.00	180.46	4123.25	503.86	867.65	8.00	-510.81
6	4699.51	60.00	180.46	4223.25	330.66	866.25	0.00	-337.61
7	5002.30	90.28	180.46	4300.00	41.40	863.90	10.00	-48.33
8	10081.02	90.28	180.46	4275.24	-5037.09	822.71	0.00	5030.32
9	10131.03	90.28	180.46	4275.00	-5087.10	822.30	0.00	5080.33

DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude
1. SIERRA NEVADA 61H SHL: 60' FNL,1408' FWL	0.00	0.00	0.00	664787.30	597465.10	32.8273940
2. SIERRA NEVADA 61H KOP @ 3498.85' MD	3277.24	831.29	707.26	665618.59	598172.36	32.8296755
3. SIERRA NEVADA 61H FTP: 100' FNL,2275' FWL	4300.00	41.40	863.90	664828.70	598329.00	32.8275036
4. SIERRA NEVADA 61H LTP: 100' FSL,2275' FWL	4275.24	-5037.09	822.71	659750.21	598287.81	32.8135449
5. SIERRA NEVADA 61H BHL: 50' FSL,2275' FWL	4275.00	-5087.10	822.30	659700.20	598287.40	32.8134075

CORRECTION REFERENCE DATA:

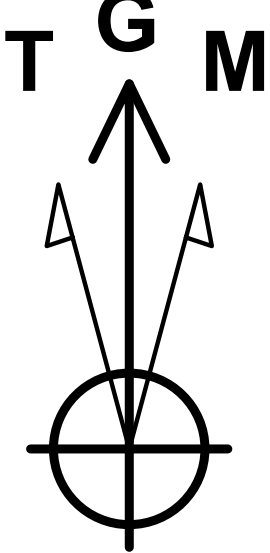
To convert a Magnetic Direction to a Grid Direction, Add 6.630°

Magnetic Declination: 6.729°

Grid Convergence: 0.099° West

Magnetic Dip Angle: 60.324°

Magnetic Field Strength: 47670.07946217nT



Azimuths to Grid North
True North: -0.10°
Magnetic North: 6.63°

Magnetic Field
Strength: 47670.1snT
Dip Angle: 60.32°
Date: 08/04/2022
Model: IGRF2020

Disclaimer:
All Plan Details, boundary
lines and offset well
location/ survey data is
provided by customer and
subject to customer
approval.



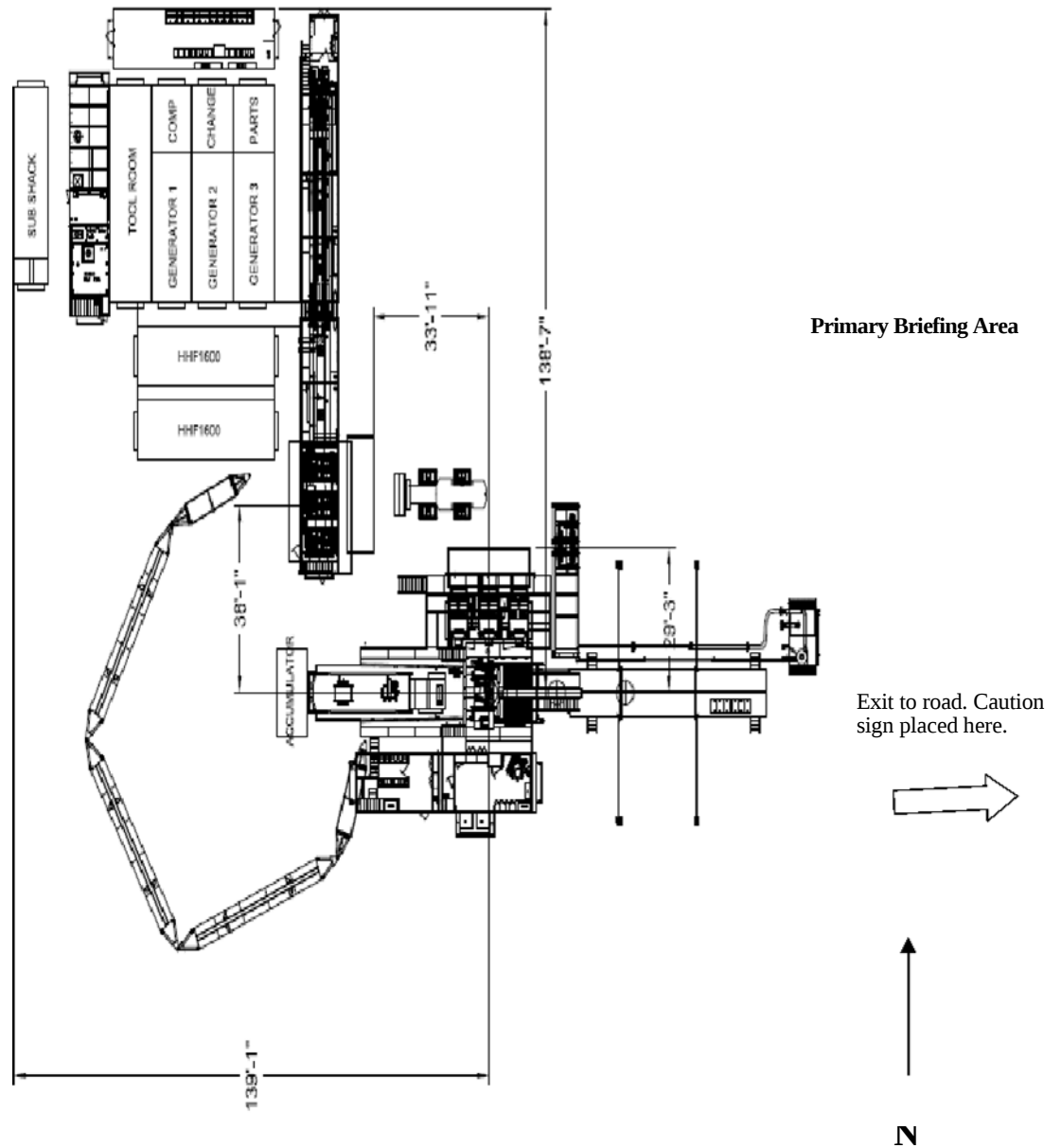
Permian Drilling Hydrogen Sulfide Drilling Operations Plan Sierra Nevada 23 Federal Com 61H

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

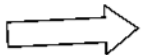
1. Escape

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

Secondary Briefing Area



Exit to road. Caution sign placed here.



N

Secondary Egress



WIND: Prevailing winds are from the Southwest





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

SUBSTRUCTURE

One Piece Step Down

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

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

Rotary Capacity: 400,000 lbf

Max Pipe Setback: 400,000 lbf

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

MAST

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

Static Hook Load: 440,000 lbf

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

DRAWWORKS

TSM 850 425,000lbs w/ 10 Lines

Input Power: 1,150 hp AC traction motor

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

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

TOP DRIVE

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

Continuous Drill Torque: 30,000 ft-lbs

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

600 hp AC induction motor & drive system with PLC

250 Ton 5 x 36" Becket Block Assembly

IRON ROUGHNECK

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

Spin Speed: 75 rpm nominal on 5" drill pipe

Spin Torque: 1,750 ft-lbs

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

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

ROTARY TABLE

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

27 1/2" Diameter opening

POWER SYSTEM

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

sets, 1220 BHP.

MUD PUMP #1

HHF1600 Triplex Rated Power: 1600 hp

Stroke: 12"

Input Power: 1500 hp AC traction motor

Pressure Rating: 5000 psi

MUD PUMP #2

HHF1600 Triplex Rated Power: 1600 hp

Stroke: 12"

Input Power: 1500 hp AC traction motor

Pressure Rating: 5000 psi

MUD TANKS

Two Tank system w/ 1200 bbls total capacity

Shakers: Three MI Swaco Mongoose 4 panel dual motion

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

Pill Tank: 54 bbls

MUD SYSTEM

5000 psi Max Pressure

5" Main plumbing and standpipe

SCALPING TANK

Main Tank: 186 bbls capacity

Trip Tank: 24 bbls capacity

Shakers: Three NOV Venom shakers dual motion

BOP (NACE)

11" x 5000 psi WP Spherical Annular

11" x 5000 psi WP Double Ram

11" x 5000 psi WP Single Ram (Optional)

MANIFOLD

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

ACCUMULATOR

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

CATWALK

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

TUBULARS

Drill Pipe: Supplied as needed, per availability

Drill Collars & heavywate: Supplied as needed, per availability

MISC.

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

Boiler: 125 hp with Full Winterization

MOVING SYSTEM:

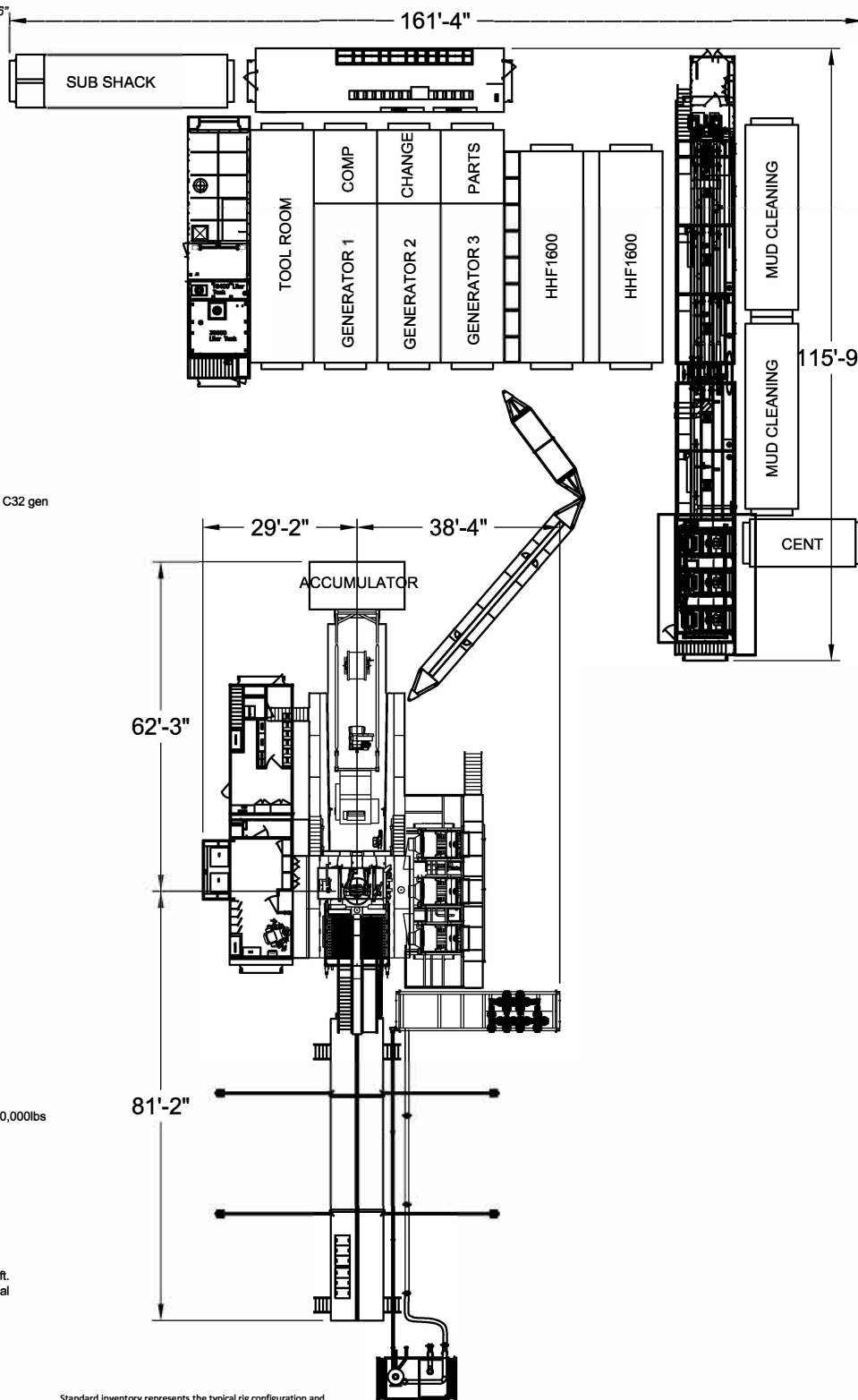
Walking beam hydraulic pony sub moving system for linear motion & side shift.

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

TOOL/ STORAGE/ CAMP

Parts Storage Room and Tool House Room

Rig Manage Trailer: 14' x 44' skid mounted



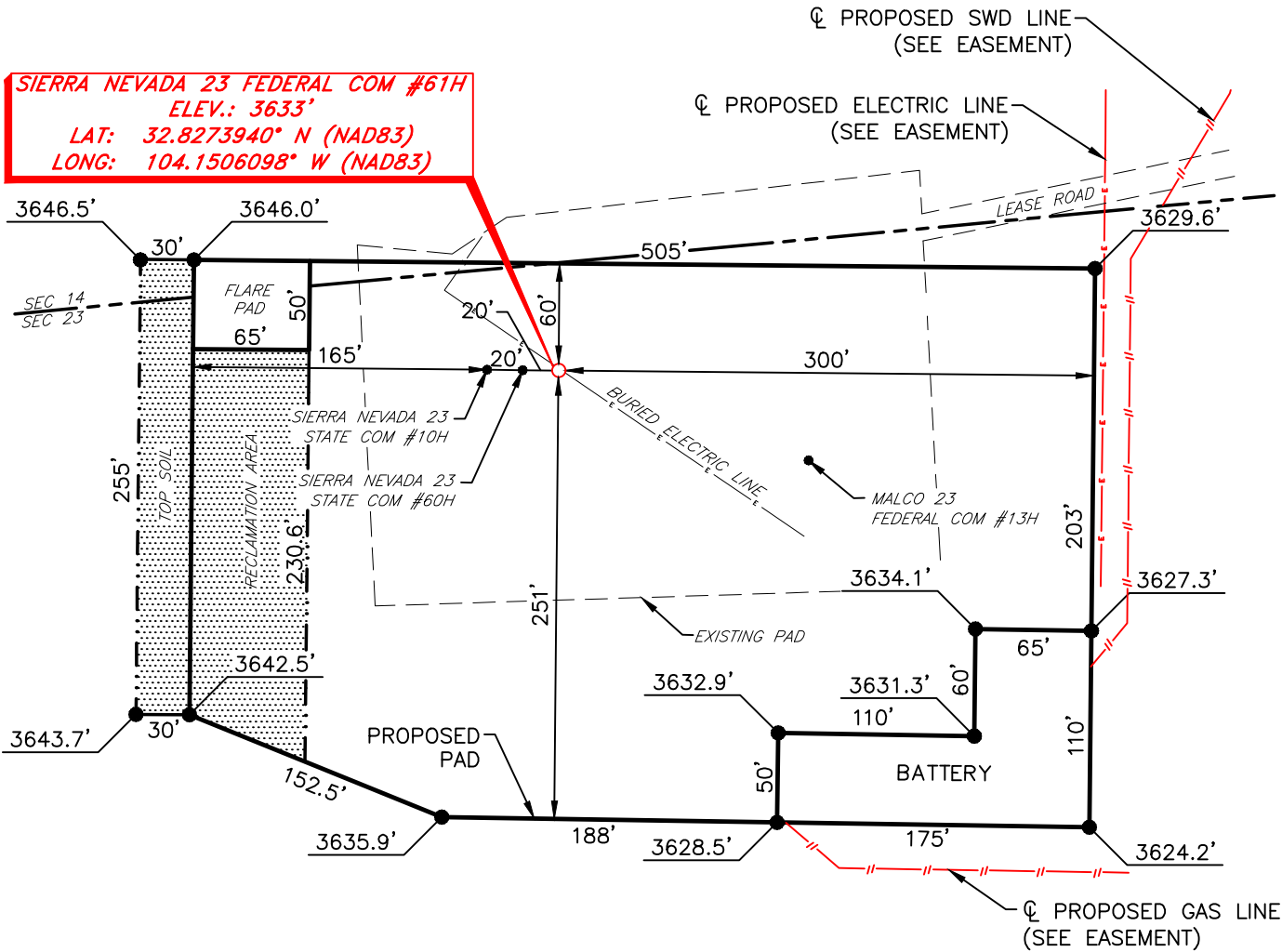
Standard inventory represents the typical rig configuration and inventory available, but specifications are subject to slight modifications from time to time due to customer requirements.

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

© AKITA DRILLING August, 2020

SPUR ENERGY PARTNERS LLC.
SIERRA NEVADA 23 FEDERAL COM #61H
(56' FNL & 1368' FWL)
SECTION 23, T17S, R28E
N. M. P. M., EDDY COUNTY, NEW MEXICO

SIERRA NEVADA 23 FEDERAL COM #61H
ELEV.: 3633'
LAT: 32.8273940° N (NAD83)
LONG: 104.1506098° W (NAD83)



DIRECTIONS TO LOCATION

From the intersection of U.S. Hwy 82 and CR #209 (Turkey Tract Rd.);
Go North on CR #209 approx. 2.3 miles to a lease road on the left;
Turn left and go West approx. 0.2 miles to a lease road on the left;
Turn left and go South approx. 0.4 miles to location on the left.

THIS IS NOT A BOUNDARY SURVEY, APPARENT PROPERTY CORNERS AND PROPERTY LINES ARE SHOWN FOR INFORMATION ONLY. BOUNDARY DATA IS SHOWN FROM A PREVIOUS SURVEY REFERENCED HEREON.

I, R. M. Howett, a N. M. Professional Surveyor, hereby certify that I prepared this unclassified survey of a well location from an actual survey made on the ground under my direct supervision, said survey and plat meet the Min. Stds. for Land Surveying in the State of N. M. and are true and correct to the best of my knowledge and belief.

Robert M. Howett
Robert M. Howett NM PS 19680



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

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NO.	REVISION	DATE
JOB NO.:	LS22060716	
DWG. NO.:	22060716-4	



701 S. CECIL ST., HOBBS, NM 88240 (575) 964-8200

SCALE: 1" = 100'
DATE: 06/23/2022
SURVEYED BY: JF/JM
DRAWN BY: BL
APPROVED BY: RMH
SHEET: 1 OF 1

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

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)

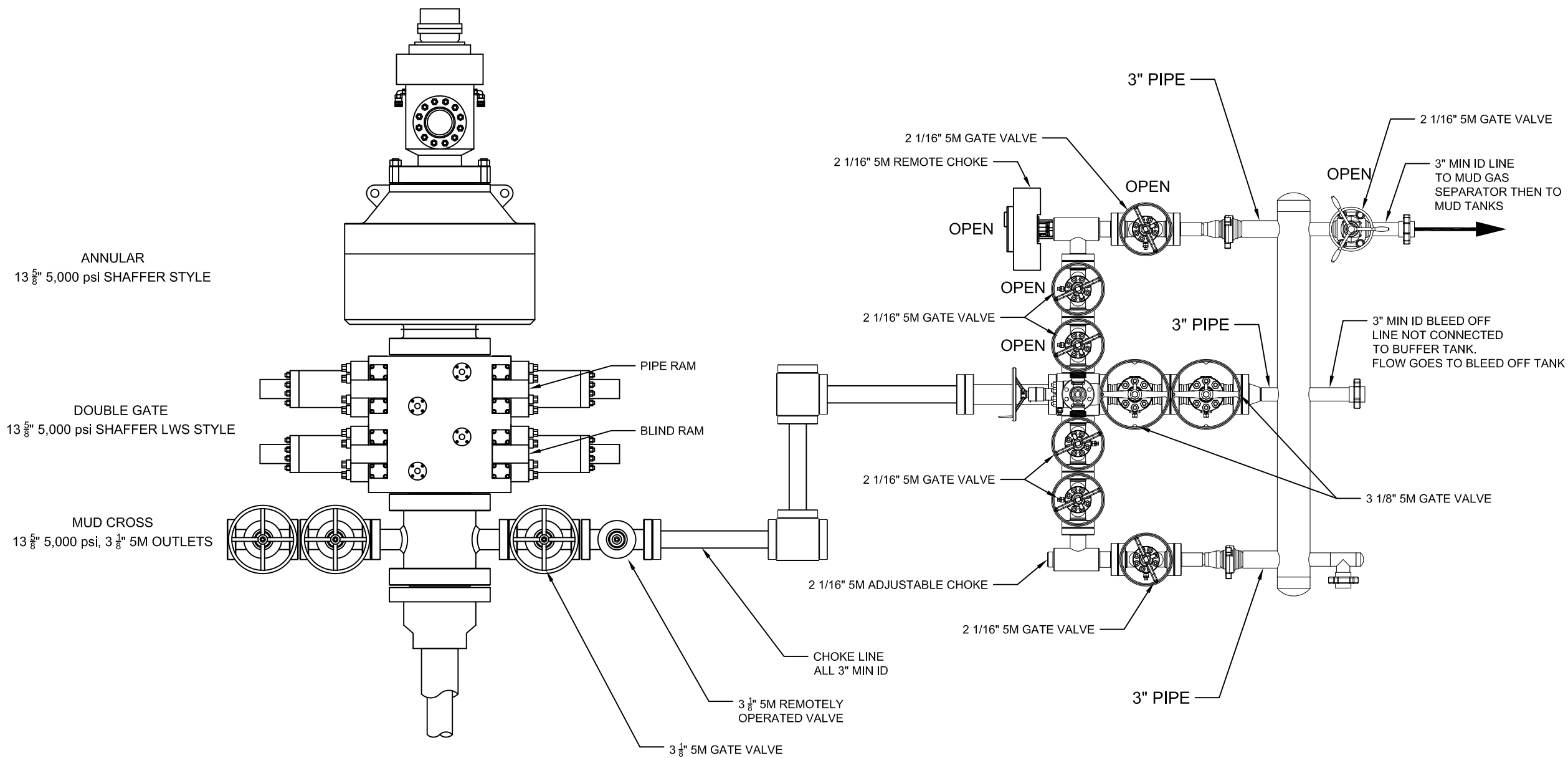
UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

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



POWERING PROGRESS™

MTR DATA BOOK

CL2013

CUSTOMER: GATES CANADA INC**DATE:** 12/19/2017**Purchase Order:** D235455 (PO 45750)**Sales Order #:** 509128**Product Description:** 5K 3 1/2 in. 17 FT. Fire Rated Choke & Kill Gates Hose Assembly c/w 3 1/8
5K Flange with Safety Clamps & Slings Attached**Hose S/N:** H-121917-14**PART NUMBER:** FR5K3.517.0CK31/85KFLG S/C**CONTENTS INCLUDED****GMCO FITTINGS**

17-309-1

INSERT STEM

15-095-1A

FERRULE

3 1/8 in. 5K FIXED FLANGE X 3 1/8 in. 5K FLOAT FLANGE

V4131

FIXED FLANGE

V5054

FLOAT FLANGE

WELDING SPECIFICATIONS

Certification and Procedure for welding

NDE RESULTS

1622371-03/1622371-01 Ultrasonic Test Results and Imaging

Safety Clamps

34145/34144

TEST CHART

Chart Recording of Hydrostatic Test

TEST CERTIFICATE

Document Product Details & Positive Results of Hydrostatic Testing

CERTIFICATE OF CONFORMANCE

A Declaration of the conformity with the type approval

IMAGES

Images of the product prior to shipping.

PACKING LIST

Details of Shipping Contents, Dimensions and Weights



GATES ENGINEERING & SERVICES NORTH AMERICA
7603 Prairie Oak Dr. Suite 190
Houston, TX. 77086

PHONE: +1 (281) 602-4100
FAX: +1 (281) 602-4147
EMAIL: gesna.quality@gates.com
WEB: www.gates.com/ollandgas

PRESSURE TEST CERTIFICATE

Customer:	GATES CANADA INC	Test Date:	12/19/2017
Customer Ref.:	D235455 (PO 45750)	Hose Serial No.:	H-121917-14
Invoice No.:	509128	Created By:	Cristian Rivera

Product Description: 5K 3 1/2 in. 17 FT. Fire Rated Choke & Kill c/w 3 1/8 5K Flange with Safety Clamps & Slings Attached

End Fitting 1:	3 1/8 in. 5K FIXED FLG	End Fitting 2:	3 1/8 in. 5K FLOAT FLG
Oracle Star No.:	68903550-9725917	Assembly Code:	15M5019042016H-121917-14
CUSTOMER P/N:	FR5K3.517.0CK31/85KFLG S/C	Test Pressure:	7,500 psi.
		Working Pressure:	5,000 psi.

Gates Engineering & Services North America certifies that:

The following hose assembly has successfully passed all pressure testing requirements set forth in Gates specifications: GTS-04-052 (for 5K assemblies) or GTS-04-053 (10K assemblies) or GTS-04-048 (15K assemblies), which include reference to Specification API 16C (2nd Edition); sections 7.5.4, 7.5.9, and 10.8.7. A test graph will accompany this test certificate to illustrate conformity to test requirements. This hose assembly was pressure tested using equipment and instrumentation that has been calibrated in accordance with the requirements set-forth in the GESNA management system.

Quality:	QUALITY
Date :	8/5/2021
Signature :	

F-PRD-005B

Production:	PRODUCTION
Date :	8/5/2021
Signature :	

Revision 6_05032021

**BLACK GOLD®**

GATES ENGINEERING & SERVICES NORTH AMERICA
7603 Prairie Oak Dr.
Houston, TX. 77086

PHONE: +1 (281) 602-4100
FAX: +1 (281) 602-4147
EMAIL: gesna.quality@gates.com
WEB: www.gates.com/ollandgas

CERTIFICATE OF CONFORMANCE

This is to certify that all parts and materials included in this shipment have manufactured and/or processed in accordance with various Gates and API assembly and test specifications. Records of required tests are on-file and subject to examination. Test reports and subsequent test graphs have been made available with this shipment. Additional supporting documentation related to materials, welding, weld inspections, and heat-treatment activities are available upon request.

CUSTOMER: GATES CANADA INC
CUSTOMER P.O.#: D235455 (PO 45750)
PART DESCRIPTION: FR5K3.517.0CK31/85KFLG S/C

PART DESCRIPTION: 5K 3 1/2 in. 17 FT. Fire Rated Choke & Kill c/w 3 1/8 5K Flange with Safety Clamps & Slings Attached

SALES ORDER #: 509128
QUANTITY: 1
SERIAL #: H-121917-14

SIGNATURE: _____

A handwritten signature in black ink, appearing to read "O. Rivera", written over a horizontal line.

TITLE: _____

QUALITY ASSURANCE

DATE: _____

8/5/2021

Gates E&S

North America

7603 Prairie Oak dr.

Houston, TX

Hydrostatic Test

Customer= **GATES CANADA**

Date of test= **12/19/17**

Serial # = **H-121917-13,-14**

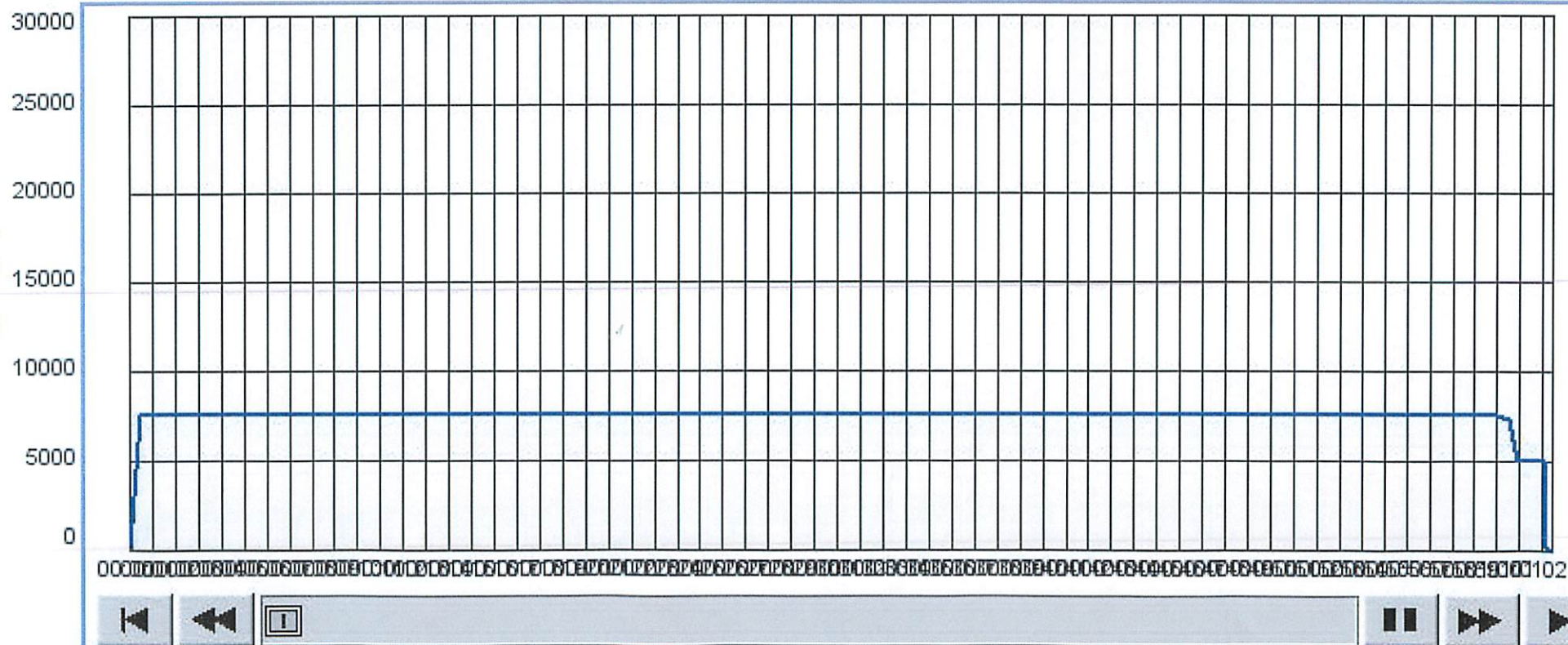
Description = **3.5 5K 3 1/8 FLG 5K**

Technician= **CHRIS OLIVO**

12/19/2017 16:53:26

17:55:52

P
S
I
G





1385 Hwy. 35 Bypass S. O: (361) 790-7910
 P.O. Box 2350 F: (361) 790-7927
 Rockport, TX 78381

tedwards@edwardsfabrication.com
 www.edwardsfabrication.com

CERTIFICATE OF TEST

Client:
 Gates E & S North America
 134 44th Street
 Corpus Christi, TX 78405

Purchase Order: 1592198/0

Certificate Number			Date of Examination	
34145			04/27/17	
ID#	Part Number	Description	SWL*	Proofload
34145	E3.5S	3.5" E Safety Clamp	6016 lbs.	12031 lbs.

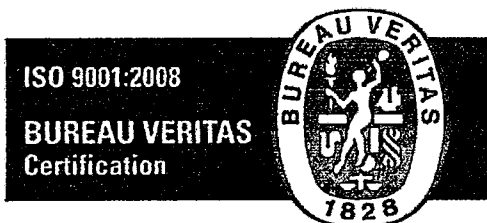
The Safety Clamp unit identified on this certificate has been load tested completely assembled; including the clamp body, (2) 3/4" shackles, 5/8" x 48" wire rope sling and anchor tab. Thus, all components are tested at the "Proof" load. Do not disassemble. Do not interchange any part or parts of this tested unit with parts of other Safety Clamp units. DO NOT WELD, CUT, ADD-TO, TAKE AWAY ANY COMPONENTS OR MAKE ANY MODIFICATION TO THIS CLAMP UNIT. Doing so voids this test certificate.

Cutting/Removing either one or both stainless steel Tamper-proof hardware cables renders this Test Certificate VOID.

* Safe Work Load

THIS PRODUCT IS MANUFACTURED IN THE U.S.A.

We hereby verify that the above information is correct
 as contained in the records of Edwards Fabrication L.L.C.



Edwards Fabrication L.L.C. is certified as
 having a Quality Management System.

Thomas F. Edwards
 President
 Edwards Fabrication L.L.C.



1385 Hwy. 35 Bypass S. O: (361) 790-7910
 P.O. Box 2350 F: (361) 790-7927
 Rockport, TX 78381

tedwards@edwardsfabrication.com
 www.edwardsfabrication.com

CERTIFICATE OF TEST

Client:
 Gates E & S North America
 134 44th Street
 Corpus Christi, TX 78405

Purchase Order: 1592198/0

Certificate Number				Date of Examination	
34144				04/27/17	
ID#	Part Number	Description	SWL*	Proofload	
34144	E3.5S	3.5" E Safety Clamp	6014 lbs.	12027 lbs.	
The Safety Clamp unit identified on this certificate has been load tested completely assembled; including the clamp body, (2) 3/4" shackles, 5/8" x 48" wire rope sling and anchor tab. Thus, all components are tested at the "Proof" load. Do not disassemble. Do not interchange any part or parts of this tested unit with parts of other Safety Clamp units. DO NOT WELD, CUT, ADD-TO, TAKE AWAY ANY COMPONENTS OR MAKE ANY MODIFICATION TO THIS CLAMP UNIT. Doing so voids this test certificate. Cutting/Removing either one or both stainless steel Tamper-proof hardware cables renders this Test Certificate VOID. * Safe Work Load					

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We hereby verify that the above information is correct
 as contained in the records of Edwards Fabrication L.L.C.



Edwards Fabrication L.L.C. is certified as
 having a Quality Management System.

Thomas F. Edwards
 President
 Edwards Fabrication L.L.C.

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 247435

CONDITIONS

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID: 328947
	Action Number: 247435
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Notify OCD 24 hours prior to casing & cement	8/3/2023
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	8/3/2023
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	8/3/2023
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	8/3/2023
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	8/3/2023