



U.S. Department of the Interior
Bureau of Land Management

Application for Permit to Drill

APD Package Report

Date Printed:

APD ID:	Well Status:
APD Received Date:	Well Name:
Operator:	Well Number:

APD Package Report Contents

- Form 3160-3
- Operator Certification Report
- Application Report
- Application Attachments
 - Well Plat: 3 file(s)
- Drilling Plan Report
- Drilling Plan Attachments
 - Blowout Prevention Choke Diagram Attachment: 1 file(s)
 - Blowout Prevention BOP Diagram Attachment: 2 file(s)
 - Casing Taperd String Specs: 2 file(s)
 - Casing Design Assumptions and Worksheet(s): 8 file(s)
 - Hydrogen sulfide drilling operations plan: 2 file(s)
 - Proposed horizontal/directional/multi-lateral plan submission: 3 file(s)
 - Other Facets: 3 file(s)
 - Other Variances: 2 file(s)
- SUPO Report
- SUPO Attachments
 - Existing Road Map: 1 file(s)
 - Attach Well map: 1 file(s)
 - Production Facilities map: 1 file(s)
 - Water source and transportation map: 1 file(s)
 - Construction Materials source location attachment: 1 file(s)
 - Well Site Layout Diagram: 3 file(s)
 - Recontouring attachment: 1 file(s)
 - Other SUPO Attachment: 3 file(s)
- PWD Report
- PWD Attachments
 - None

- Bond Report
- Bond Attachments
 - None

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. 30-015-54103
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)

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 / 58 FNL / 1388 FWL / TWSP: 17S / RANGE: 28E / SECTION: 23 / LAT: 32.8273947 / LONG: -104.150675 (TVD: 0 feet, MD: 0 feet)

PPP: NWNW / 1 FNL / 1050 FWL / TWSP: 17S / RANGE: 28E / SECTION: 23 / LAT: 32.827479 / LONG: -104.151764 (TVD: 4319 feet, MD: 4883 feet)

PPP: NWNW / 100 FNL / 1050 FWL / TWSP: 17S / RANGE: 28E / SECTION: 23 / LAT: 32.8271944 / LONG: -104.1517673 (TVD: 4325 feet, MD: 4986 feet)

BHL: SWSW / 50 FSL / 1050 FWL / TWSP: 17S / RANGE: 28E / SECTION: 23 / LAT: 32.8131541 / LONG: -104.1519368 (TVD: 4275 feet, MD: 10095 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**
- ☒ **Special Requirements**
 - Watershed
 - 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

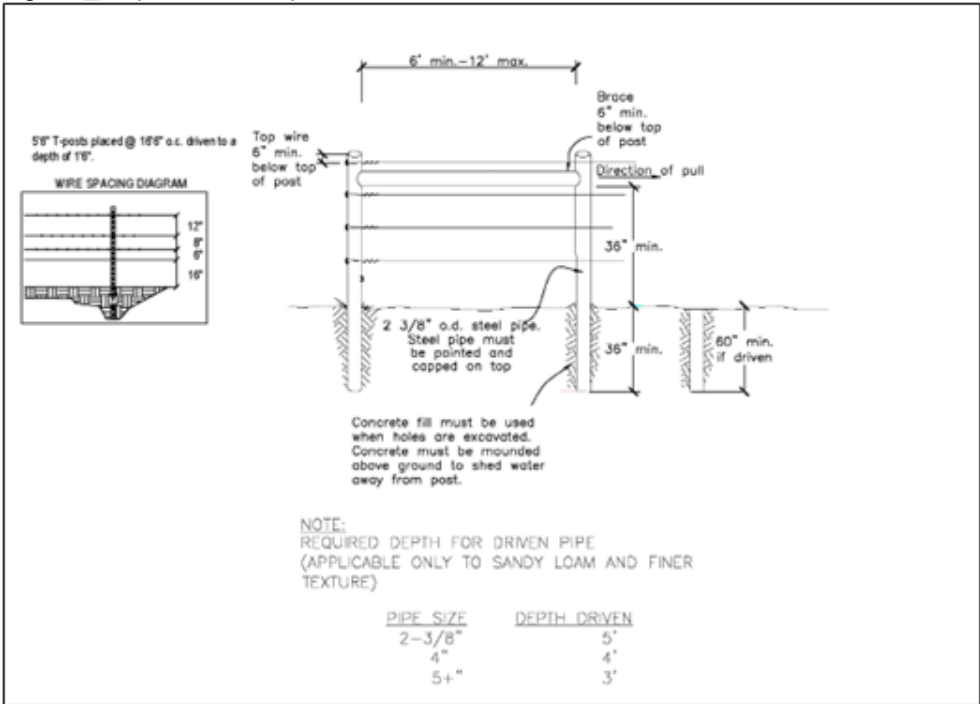
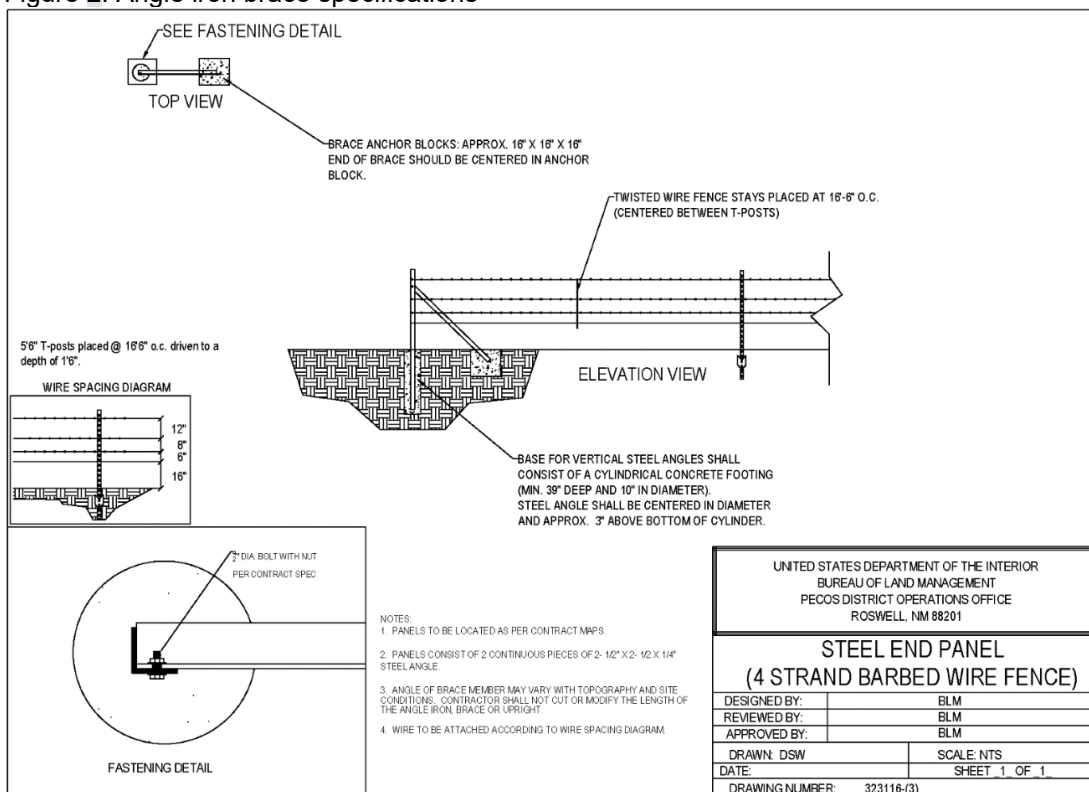


Figure 2. Angle iron brace specifications



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: 1,260 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.



U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Operator Certification Data Report

08/15/2023

Operator

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: SARAH CHAPMAN

Signed on: 07/11/2023

Title: Regulatory Directory

Street Address: 9655 KATY FREEWAY, SUITE 500

City: Houston

State: TX

Zip: 77024

Phone: (832)930-8613

Email address: SCHAPMAN@SPUREPLLC.COM

Field

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:



U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Application Data

08/15/2023

APD ID: 10400087620

Submission Date: 08/25/2022

Operator Name: SPUR ENERGY PARTNERS LLC

Well Name: SIERRA NEVADA 23 STATE COM

Well Number: 60H

Well Type: OIL WELL

Well Work Type: Drill

Highlighted data
reflects the most
recent changes
[Show Final Text](#)

Section 1 - General

APD ID: 10400087620

Tie to previous NOS?

Submission Date: 08/25/2022

BLM Office: Carlsbad

User: SARAH CHAPMAN

Title: Regulatory Directory

Federal/Indian APD: FED

Is the first lease penetrated for production Federal or Indian? FED

Lease number: NMNM118109

Lease Acres:

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? NO

Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? N

Permitting Agent? NO

APD Operator: SPUR ENERGY PARTNERS LLC

Operator letter of

Operator Info

Operator Organization Name: SPUR ENERGY PARTNERS LLC

Operator Address: 9655 KATY FREEWAY, SUITE 500

Zip: 77024

Operator PO Box:

Operator City: Houston

State: TX

Operator Phone: (832)930-8548

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO

Master Development Plan name:

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: SIERRA NEVADA 23 STATE COM

Well Number: 60H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: EMPIRE

Pool Name: GLORIETA-YESO

Operator Name: SPUR ENERGY PARTNERS LLC**Well Name:** SIERRA NEVADA 23 STATE COM**Well Number:** 60H**Is the proposed well in an area containing other mineral resources?** USEABLE WATER,NATURAL GAS,OIL**Is the proposed well in a Helium production area?** N**Use Existing Well Pad?** N**New surface disturbance?****Type of Well Pad:** MULTIPLE WELL**Multiple Well Pad Name:**
SIERRA NEVADA 23 FEDERAL
STATE COM
Number of Legs: 1**Number:** 10H, 60H, 61H**Well Class:** HORIZONTAL**Well Work Type:** Drill**Well Type:** OIL WELL**Describe Well Type:****Well sub-Type:** INFILL**Describe sub-type:****Distance to town:****Distance to nearest well:** 20 FT**Distance to lease line:** 0 FT**Reservoir well spacing assigned acres Measurement:** 160 Acres**Well plat:** SierraNevada23StateCom60H_Supplemental_20220823100659.pdf

SierraNevada23StateCom60H_SitePlan_20220823100659.pdf

SierraNevada23StateCom60H_C_102_20220823100659.pdf

Well work start Date: 05/18/2022**Duration:****Section 3 - Well Location Table****Survey Type:** RECTANGULAR**Describe Survey Type:****Datum:** NAD83**Vertical Datum:** NAVD88**Survey number:** 19680**Reference Datum:** GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this
SHL Leg #1	58	FNL	1388	FWL	17S	28E	23	Aliquot NENW	32.8273947	-104.150675	EDD Y	NEW MEXICO	NEW MEXICO	F	NMNM 01510	3633	0	0	N
KOP Leg #1	867	FSL	1147	FWL	17S	28E	14	Aliquot SWSW	32.8296205	-104.1514542	EDD Y	NEW MEXICO	NEW MEXICO	F	NMNM 118109	645	3136	2988	N

Operator Name: SPUR ENERGY PARTNERS LLC**Well Name:** SIERRA NEVADA 23 STATE COM**Well Number:** 60H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this
PPP Leg #1-1	1	FNL	1050	FWL	17S	28E	23	Aliquot NWNW	32.827479	-104.151764	EDD Y	NEW MEXICO	NEW MEXICO	S	STATE	-686	4883	4319	Y
PPP Leg #1-2	100	FNL	1050	FWL	17S	28E	23	Aliquot NWNW	32.8271944	-104.1517673	EDD Y	NEW MEXICO	NEW MEXICO	S	STATE	-692	4986	4325	Y
EXIT Leg #1	100	FSL	1050	FWL	17S	28E	23	Aliquot SWSW	32.8132914	-104.1519303	EDD Y	NEW MEXICO	NEW MEXICO	S	STATE	-642	10045	4275	Y
BHL Leg #1	50	FSL	1050	FWL	17S	28E	23	Aliquot SWSW	32.8131541	-104.1519368	EDD Y	NEW MEXICO	NEW MEXICO	S	STATE	-642	10095	4275	Y

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	

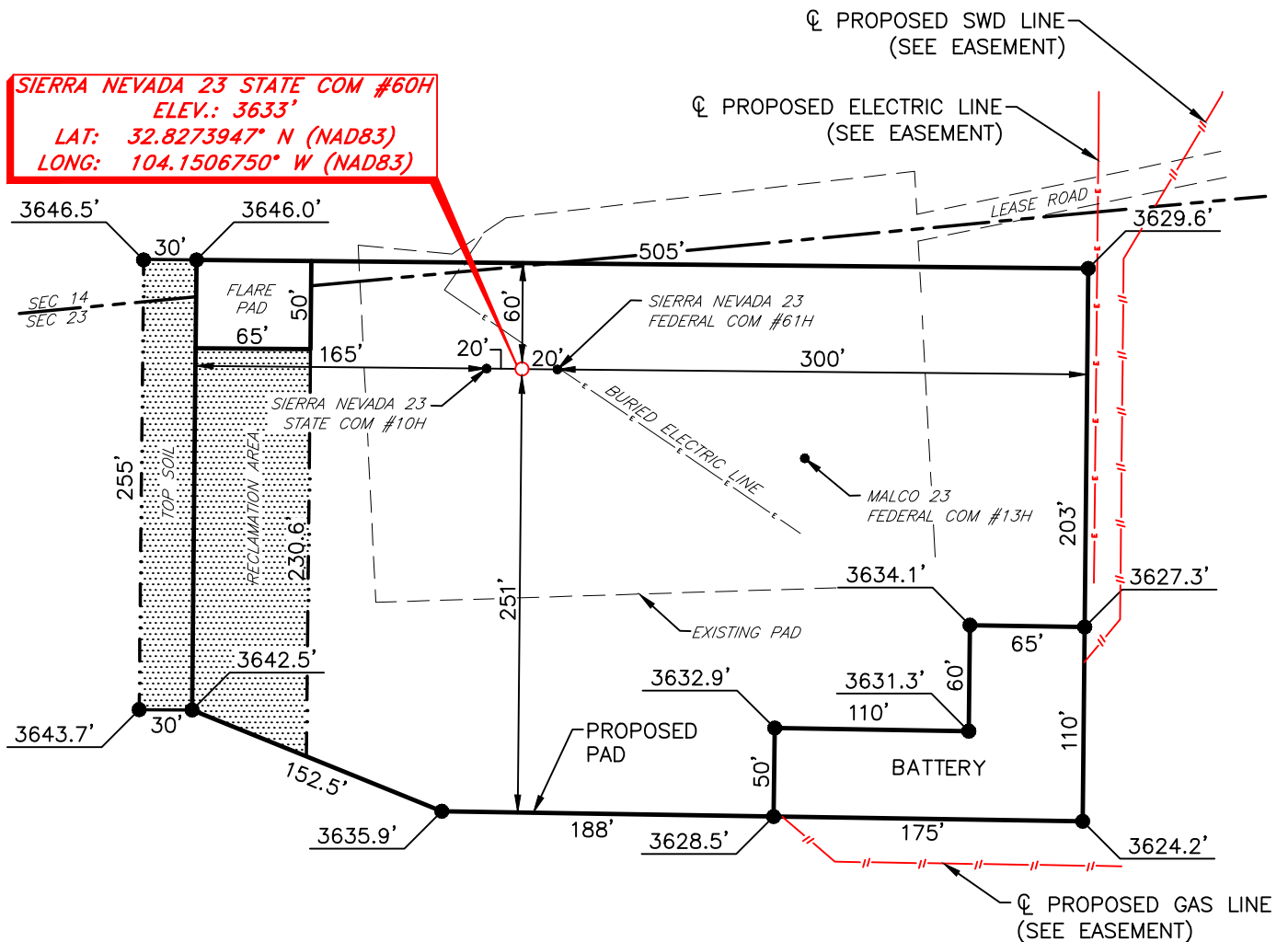
Is this well the defining well for the Horizontal Spacing Unit? ☐Is this well an infill well? ☐

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

SIERRA NEVADA 23 STATE COM #60H
ELEV.: 3633'
LAT: 32.8273947° N (NAD83)
LONG: 104.1506750° W (NAD83)



*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



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NO.	REVISION	DATE
JOB NO.: LS22060715		
DWG. NO.: 22060715-4		



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

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- 54103	² Pool Code 96210	³ Pool Name EMPIRE; GLORIETA-YESO
⁴ Property Code 334615	⁵ Property Name SIERRA NEVADA 23 STATE COM	⁶ Well Number 60H
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		58	NORTH	1388	WEST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	23	17S	28E		50	SOUTH	1050	WEST	EDDY
¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

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

(C) (E) 1388' 58' S.L. FTP GEODETIC DATA NAD 83 GRID - NM EAST SURFACE LOCATION N: 664787.5 - E: 597445.1 FIRST TAKE POINT (FTP) 100' FNL 1050' FWL N: 664714.1 - E: 597109.7 LAST TAKE POINT (LTP) 100' FSL 1050' FWL N: 659655.9 - E: 597068.3 BOTTOM HOLE LOCATION N: 659605.9 - E: 597066.4 1050' 50' B.H. LTP S 00°28'08" (GRID) W 5,059.69' (HORIZ) (FTP - LTP) 23 (B) (F) (H) (G)		17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Sarah Chapman</i> 08/18/2022 Signature Date SARAH CHAPMAN Printed Name SCHAPMAN@SPUREENERGY.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 REV: FTP, LTP, BH 08/11/2022 PROF. ROBERT M. HOWETT NEW MEXICO 19680 PROFESSIONAL SURVEYOR
(A) (D)		Job No.: LS22060715



U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Drilling Plan Data Report

08/15/2023

APD ID: 10400087620

Submission Date: 08/25/2022

Highlighted data
reflects the most
recent changes

Operator Name: SPUR ENERGY PARTNERS LLC

Well Name: SIERRA NEVADA 23 STATE COM

Well Number: 60H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
11959619	QUATERNARY	3363	0	0	ALLUVIUM	USEABLE WATER	N
11959620	TOP SALT	3113	250	250	ANHYDRITE	OTHER : SALT	N
11959621	TANSILL	2864	499	499	DOLOMITE, SANDSTONE	NONE	N
11959622	YATES	2766	597	597	DOLOMITE, LIMESTONE, SILTSTONE	NONE	N
11959623	SEVEN RIVERS	2505	858	858	DOLOMITE, LIMESTONE	NATURAL GAS, OIL	N
11959624	QUEEN	1948	1415	1415	ANHYDRITE, DOLOMITE, SANDSTONE	NATURAL GAS, OIL	N
11959625	GRAYBURG	1531	1832	1832	ANHYDRITE	NATURAL GAS, OIL	N
11959626	SAN ANDRES	1204	2159	2159	DOLOMITE, LIMESTONE	NATURAL GAS, OIL	N
11959627	GLORIETA	-185	3548	3600	DOLOMITE, SANDSTONE	NATURAL GAS, OIL	N
11959628	PADDOCK	-271	3634	3759	DOLOMITE, LIMESTONE	NATURAL GAS, OIL	Y
11959629	BLINEBRY	-727	4090	4200	DOLOMITE, LIMESTONE	NATURAL GAS, OIL	Y
11959630	TUBB	-1617	4980	5000	DOLOMITE, LIMESTONE	NATURAL GAS, OIL	N

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M

Rating Depth: 5000

Equipment: A 3000psi 5000' rated BOP stack consisting of an annular preventer and double (blind & pipe) ram will be used below surface casing to TD. See attached BOP and choke manifold diagrams.

Requesting Variance? YES

Variance request: Spur Energy Partners LLC requests permission to adjust the BOP break testing requirements as per the verbal agreement reached over the phone between SPUR/BLM on September 7, 2020. A separate sundry will be sent prior to spud that reflects the pad-based break testing plan. Spur requests a variance to use a flex line from the BOP to the choke manifold. Documentation will be attached in

Operator Name: SPUR ENERGY PARTNERS LLC**Well Name:** SIERRA NEVADA 23 STATE COM**Well Number:** 60H

the APD and be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no bends).

Testing Procedure: 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.

Choke Diagram Attachment:

SierraNevada23StateCom60H_13.625ChokeBOPDiagramUpdate_20220823114235.pdf

BOP Diagram Attachment:

SierraNevada23StateCom60H_13.625ChokeBOPDiagramUpdate_20220823114243.pdf

SierraNevada23StateCom60H_FlexHoseCert_20220823114243.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	225	0	225	3633	3408	225	J-55	54.5	BUTT	1.125	1.2	DRY	1.4	DRY	1.4
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	1260	0	1260	3633	2373	1260	J-55	36	BUTT	1.125	1.2	DRY	1.4	DRY	1.4
3	PRODUCTION	8.75	7.0	NEW	API	Y	0	4750	0	4279	3633	-646	4750	L-80	32	OTHER - BK-HT	1.125	1.2	DRY	1.4	DRY	1.4
4	PRODUCTION	8.75	5.5	NEW	API	Y	4750	10095	4278	4275	-645	-642	5345	L-80	20	OTHER - BK-HT	1.125	1.2	DRY	1.4	DRY	1.4

Casing Attachments

Operator Name: SPUR ENERGY PARTNERS LLC**Well Name:** SIERRA NEVADA 23 STATE COM**Well Number:** 60H**Casing Attachments**

Casing ID: 1 **String** SURFACE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

SierraNevada23StateCom60H_CasingAssumptionsSheet_20220823114338.pdf

SierraNevada23StateCom60H_csg13.375_54.50_J55_20220823114338.pdf

Casing ID: 2 **String** INTERMEDIATE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

SierraNevada23StateCom60H_CasingAssumptionsSheet_20220823114418.pdf

SierraNevada23StateCom60H_csg9.625_36_J55_20220823114418.pdf

Casing ID: 3 **String** PRODUCTION**Inspection Document:****Spec Document:****Tapered String Spec:**

SierraNevada23StateCom60H_csg5.5_BKHT_20_HCL80_20220823114458.pdf

Casing Design Assumptions and Worksheet(s):

SierraNevada23StateCom60H_CasingAssumptionsSheet_20220823114513.pdf

SierraNevada23StateCom60H_csg7_BKHT_32_HCL80_20220823114513.pdf

Operator Name: SPUR ENERGY PARTNERS LLC**Well Name:** SIERRA NEVADA 23 STATE COM**Well Number:** 60H**Casing Attachments****Casing ID:** 4 **String** PRODUCTION**Inspection Document:****Spec Document:****Tapered String Spec:**

SierraNevada23StateCom60H_csg7_BKHT_32_HCL80_20220823114558.pdf

Casing Design Assumptions and Worksheet(s):

SierraNevada23StateCom60H_CasingAssumptionsSheet_20220823114619.pdf

SierraNevada23StateCom60H_csg5.5_BKHT_20_HCL80_20220823114619.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Lead		0	225	45	1.84	12.2	83	100	CLASS C PREMIUM PLUS	6% bentonite + 0.5% thixotropic agent + ¼ #/sk cello flake
INTERMEDIATE	Tail		225	1260	393	2.32	13.2	879	165	CLASS C PREMIUM PLUS	6% bentonite + 0.5% thixotropic agent + ¼ #/sk cello flake
SURFACE	Lead		0	225	167	2.32	13.2	387	165	CLASS C PREMIUM PLUD	6% bentonite + 0.5% thixotropic agent + ¼ #/sk cello flake

PRODUCTION	Lead		0	3750	446	2.54	11.8	1133	0	CLASS C PREMIUM PLUD	5% salt + 6% bentonite + 0.1% retarder + ¼ #/sk cello flake
PRODUCTION	Tail		3750	1009 5	1249	1.81	13.2	2261	50	CLASS C PREMIUM PLUS	0.3% fluid loss + 0.1% dispersant + 0.1% free water control + 0.4% defoamer + 0.1% retarder + ¼ #/sk cello flake
PRODUCTION	Lead		0	3750	446	2.54	11.8	1133	0	CLASS C PREMIUM PLUS	5% salt + 6% bentonite + 0.1% retarder + ¼ #/sk cello flake

Operator Name: SPUR ENERGY PARTNERS LLC**Well Name:** SIERRA NEVADA 23 STATE COM**Well Number:** 60H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Tail		3750	1009 5	1249	1.81	13.2	2261	50	CLASS C PREMIUM PLUS	0.3% fluid loss + 0.1% dispersant + 0.1% free water control + 0.4% defoamer + 0.1% retarder + ¼ #/sk cello flake

Section 5 - Circulating Medium

Mud System Type: Closed**Will an air or gas system be Used?** NO**Description of the equipment for the circulating system in accordance with Onshore Order #2:****Diagram of the equipment for the circulating system in accordance with Onshore Order #2:**

Describe what will be on location to control well or mitigate other conditions: Same type mud will be used for both casing strings. Necessary mud products (e. g., barite, bentonite, gypsum, lime, soda ash, caustic soda, nut plug, cedar bark fiber, cotton seed hulls, drilling paper, saltwater clay, CaCl₂) will be on site to handle any abnormal hole condition that may be encountered while drilling. High viscosity sweeps will be pumped as needed to clean the hole.

Describe the mud monitoring system utilized: Mud system will be monitored visually and electronically with a Pason PVT system or its equivalent.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	225	WATER-BASED MUD	8.6	8.9							
225	1260	OTHER : BRINE	10	10.5							
1260	1009 5	OTHER : BRINE	10	10.5							

Operator Name: SPUR ENERGY PARTNERS LLC**Well Name:** SIERRA NEVADA 23 STATE COM**Well Number:** 60H

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

A mud logger will be used from surface casing point to TD. A gamma ray log will be run from TD to the surface casing point. No other logs are planned at this time.

List of open and cased hole logs run in the well:

GAMMA RAY LOG,DIRECTIONAL SURVEY,MUD LOG/GEOLOGICAL LITHOLOGY LOG,

Coring operation description for the well:

No core or drill stem test is planned.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 1979**Anticipated Surface Pressure:** 1027**Anticipated Bottom Hole Temperature(F):** 115**Anticipated abnormal pressures, temperatures, or potential geologic hazards?** NO**Describe:****Contingency Plans geohazards description:****Contingency Plans geohazards****Hydrogen Sulfide drilling operations plan required?** YES**Hydrogen sulfide drilling operations**

SierraNevada23StateCom60H_EmergencyContactList_20220823115517.pdf

SierraNevada23StateCom60H_H2S_20220823115517.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

SierraNevada23StateCom60H_DirectPlan_20220823115528.pdf

SierraNevada23StateCom60H_DirectPlot_20220823115528.pdf

SierraNevada23StateCom60H_AC_20220823115528.pdf

Other proposed operations facets description:

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.

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).

Other proposed operations facets attachment:

SierraNevada23_NGMP_20220823115607.pdf

SierraNevada23StateCom60H_DrillPlan_20220823115624.pdf

Operator Name: SPUR ENERGY PARTNERS LLC

Well Name: SIERRA NEVADA 23 STATE COM

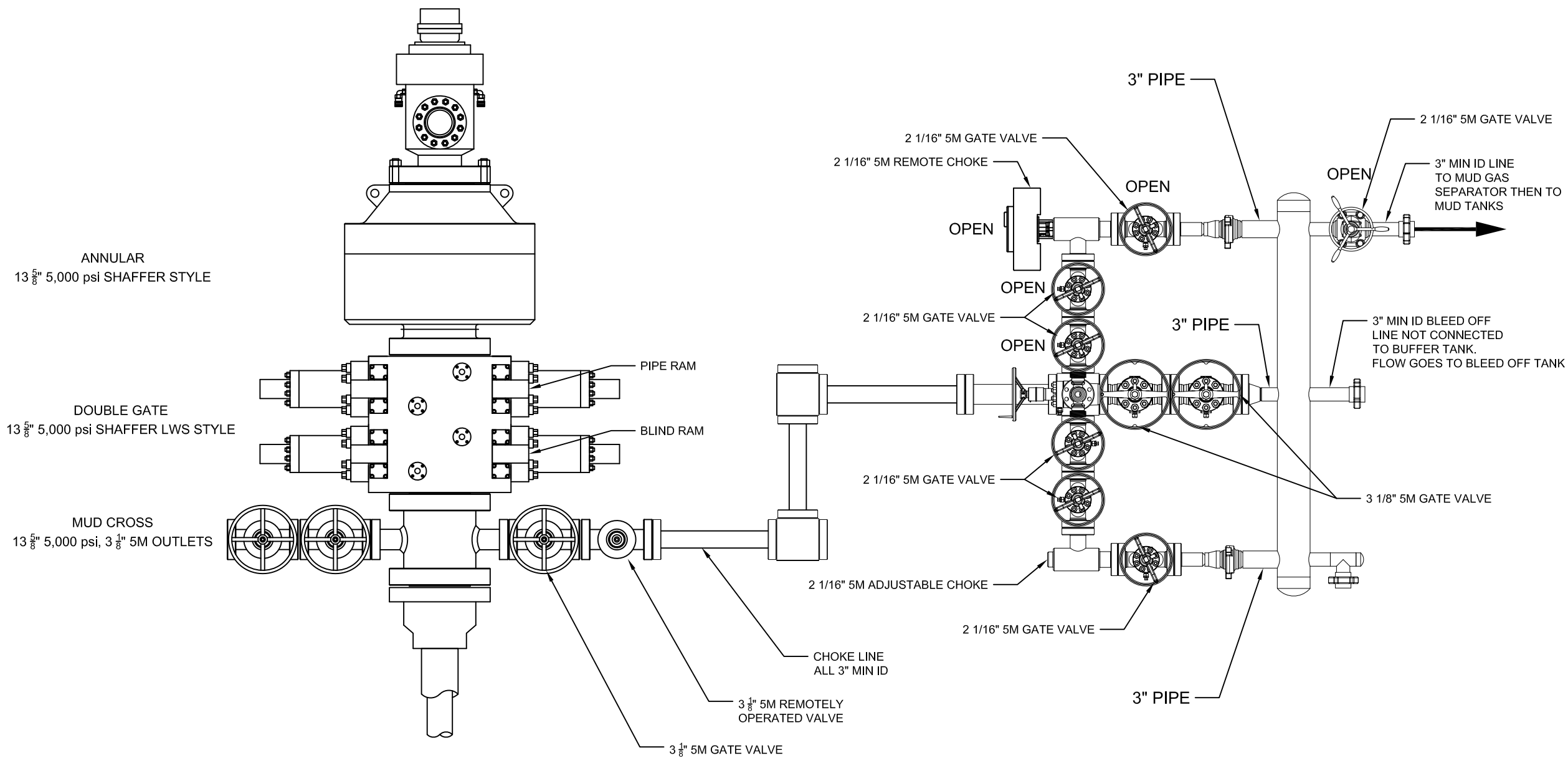
Well Number: 60H

SierraNevada23StateCom60H_SpudderRig_20220823115624.pdf

Other Variance attachment:

SierraNevada23StateCom60H_13.625ChokeBOPDiagramUpdate_20220823115632.pdf

SierraNevada23StateCom60H_FlexHoseCert_20220823115632.pdf



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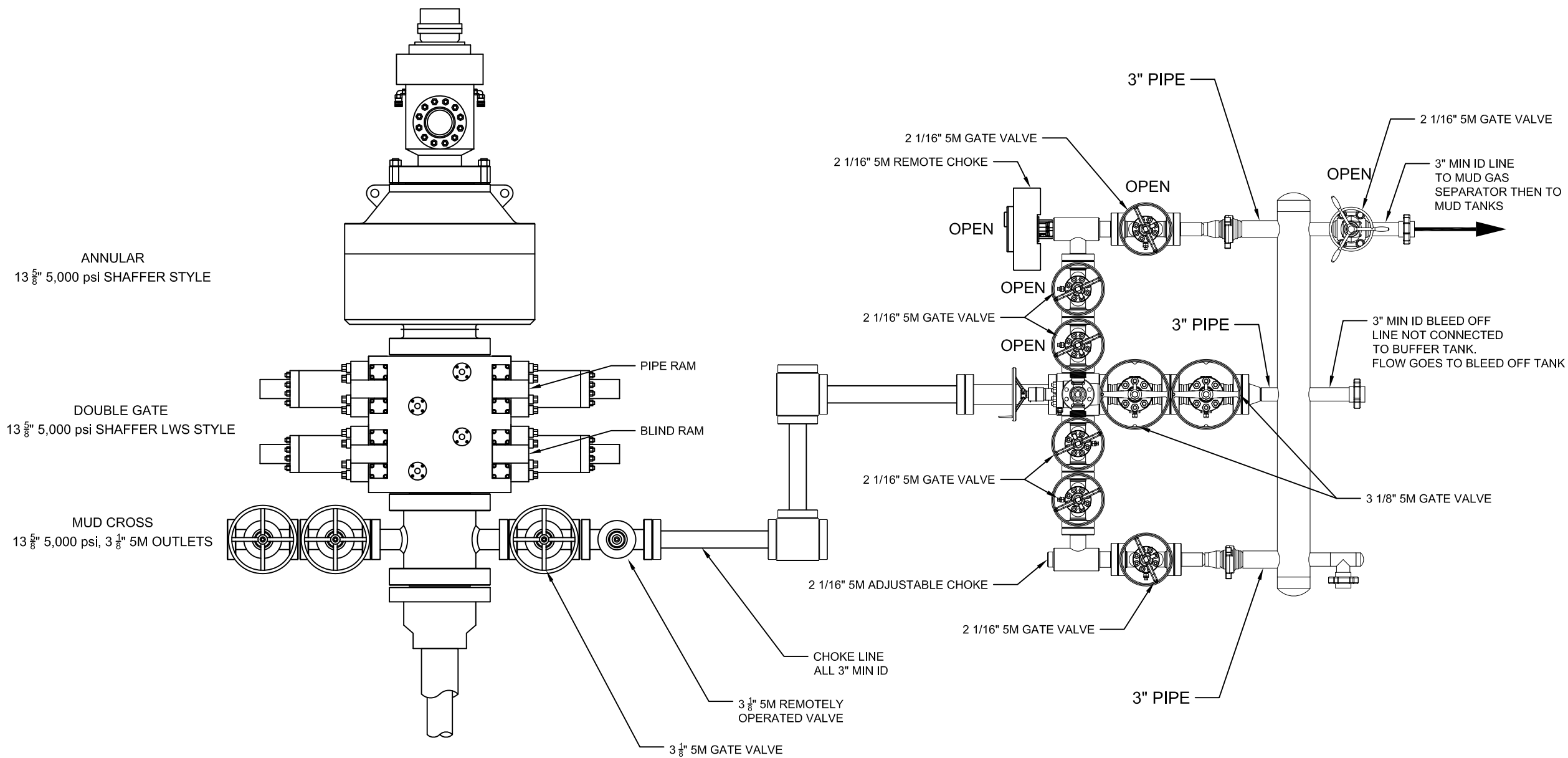
No.	Revision	Date
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AKITA
DRILLING LTD.
2302 8th Street, Nisku Alberta
T9E 7Z2 Tel: (780) 955-6700

The information contained in this drawing is the sole property of AKITA Drilling Ltd. Any reproduction in whole or part without the express written consent of AKITA Drilling Ltd. is prohibited.

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

RIG 57 BOP SCHEMATIC



Notes
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-
-

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

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

RIG 57 BOP SCHEMATIC



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 :

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

F-PRD-005B

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 "J. Rivera".

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**

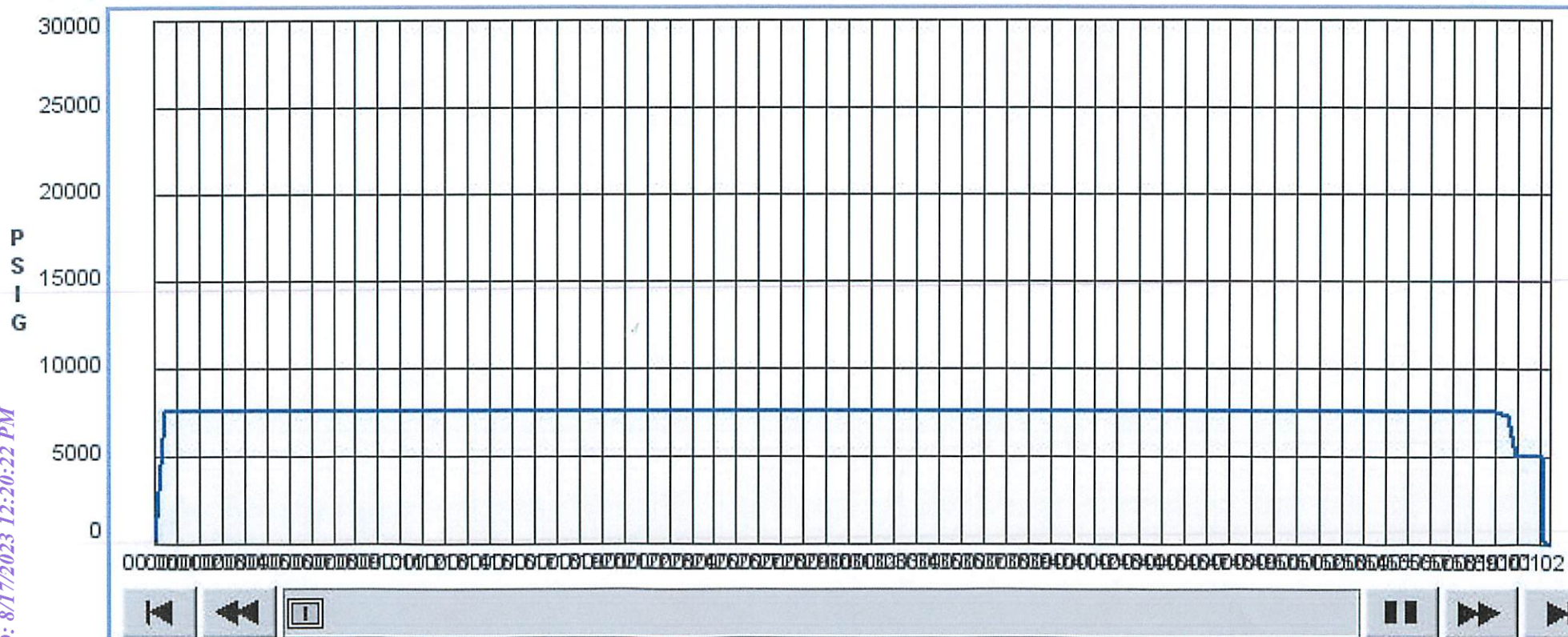
Serial # = **H-121917-13,-14**

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

Technician= **CHRIS OLIVO**

12/19/2017 16:53:26

17:55:52





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

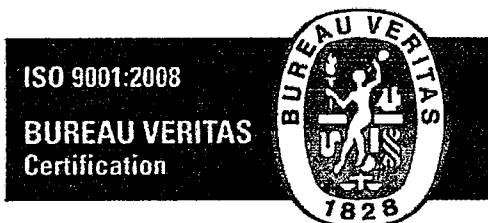
The Safety Clamp unit identified on this certificate has been load tested completely assembled; including the clamp body, (2) 3/4" shackles, 5/8" x 48" wire rope sling and anchor tab. Thus, all components are tested at the "Proof" load. Do not disassemble. Do not interchange any part or parts of this 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.



Edwards Fabrication, Inc.

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.	

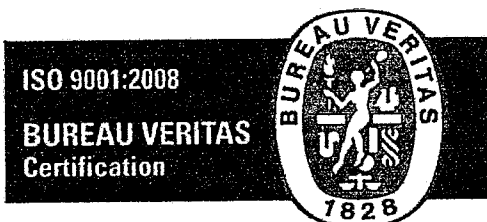
The Safety Clamp unit identified on this certificate has been load tested completely assembled; including the clamp body, (2) 3/4" shackles, 5/8" x 48" wire rope sling and anchor tab. Thus, all components are tested at the "Proof" load. Do not disassemble. Do not interchange any part or parts of this 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.

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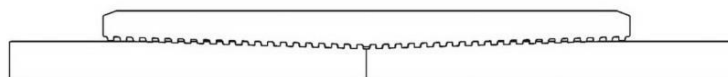


Edwards Fabrication L.L.C. is certified as
 having a Quality Management System.

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



Keeping You Connected.



SEMI
PREMIUMCONNECTIONS
FIELD TESTED. FIELD PROVEN.

Precision Connections BK-HT

7 in. 32 lb/ft HC-L80 with 7.875 in. Coupling OD

Pipe Body

Nominal OD	7.000	inches
Nominal Weight	32.00	lb/ft
Wall Thickness	0.453	inches
Plain End Weight	31.67	lb/ft
Drift	6.000	inches
Nominal ID	6.094	inches
Grade	HC-L80	
Min Yield	80,000	lbf/in ²
Min Tensile	95,000	lbf/in ²
Critical Section Area	9.317	in ²
Pipe Body Yield Strength	745	kips
Min Internal Yield Pressure	9,060	psi
Collapse Pressure	9,290	psi

Connection

Coupling OD	7.875	inches
Coupling Length	9.000	inches
Make Up Loss	4.500	inches
Critical Section Area	11.859	in ²
Internal Pressure Rating	100%	
External Pressure Rating	100%	
Tension Efficiency	100%	
Connection Strength	745	kips
Compression Efficiency	100%	
Uniaxial Bend Rating	46.5	° / 100 ft
Min Make Up Torque	9,250	ft-lbs
Yield Torque	35,650	ft-lbs

v1.2

7/26/2018

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Torque Data Sheet - Precision Connections BK-HT

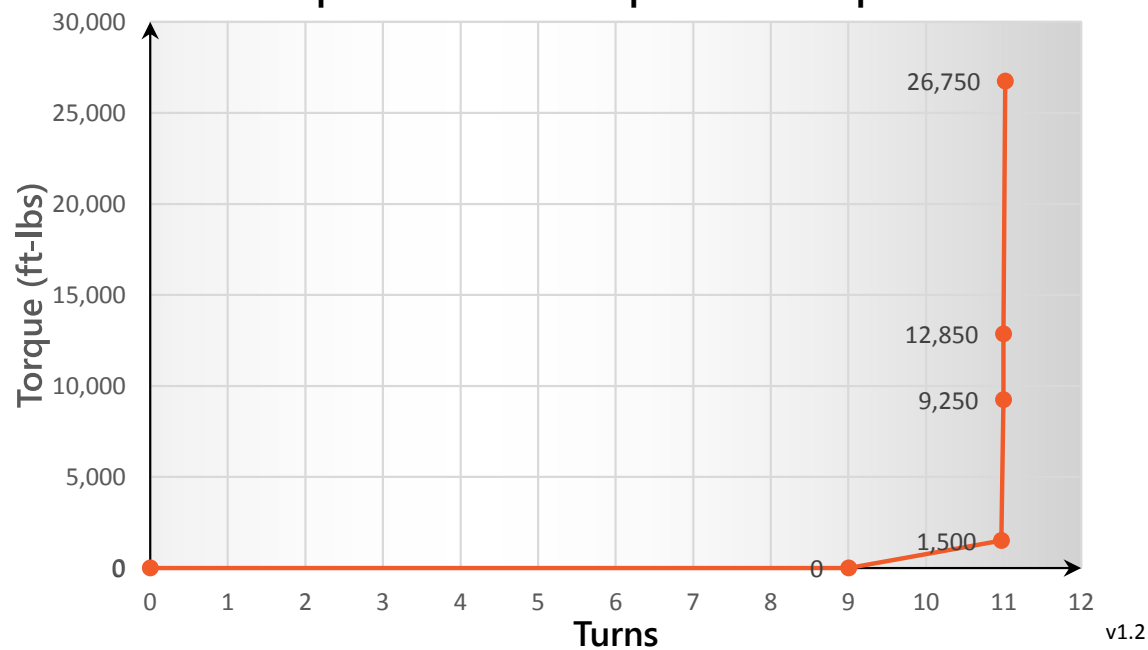
7 in. 32 lb/ft HC-L80 with 7.875 in. Coupling OD

Min Make Up Torque	9,250	ft-lbs
Max Make Up Torque	26,750	ft-lbs
Optimum Torque	12,850	ft-lbs

Max Operating Torque	30,300	ft-lbs
Yield Torque	35,650	ft-lbs

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FIELD TESTED. FIELD PROVEN.

Representative Torque Turn Graph

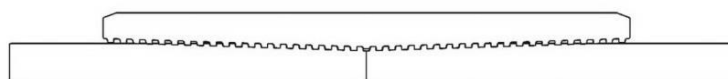


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Precision Connections BK-HT

5.5 in. 20 lb/ft HC-L80 with 6.3 in. Coupling OD

Pipe Body

Nominal OD	5.500	inches
Nominal Weight	20.00	lb/ft
Wall Thickness	0.361	inches
Plain End Weight	19.81	lb/ft
Drift	4.653	inches
Nominal ID	4.778	inches
Grade	HC-L80	
Min Yield	80,000	lbf/in ²
Min Tensile	95,000	lbf/in ²
Critical Section Area	5.828	in ²
Pipe Body Yield Strength	466	kips
Min Internal Yield Pressure	9,190	psi
Collapse Pressure	9,490	psi

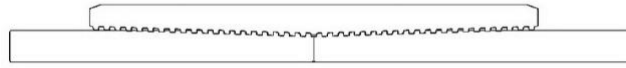
Connection

Coupling OD	6.300	inches
Coupling Length	8.250	inches
Make Up Loss	4.125	inches
Critical Section Area	8.456	in ²
Internal Pressure Rating	100%	
External Pressure Rating	100%	
Tension Efficiency	100%	
Connection Strength	466	kips
Compression Efficiency	100%	
Uniaxial Bend Rating	58.2	° / 100 ft
Min Make Up Torque	6,050	ft-lbs
Yield Torque	23,250	ft-lbs

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FIELD TESTED. FIELD PROVEN.

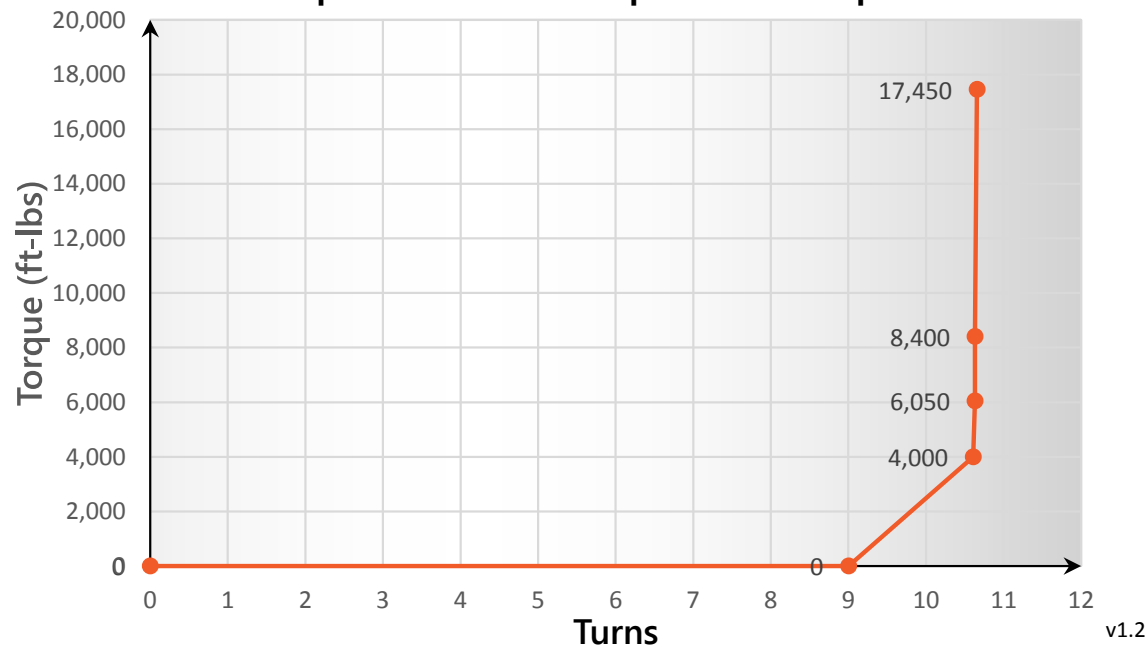
Torque Data Sheet - Precision Connections BK-HT

5.5 in. 20 lb/ft HC-L80 with 6.3 in. Coupling OD

Min Make Up Torque	6,050	ft-lbs
Max Make Up Torque	17,450	ft-lbs
Optimum Torque	8,400	ft-lbs

Max Operating Torque	19,800	ft-lbs
Yield Torque	23,250	ft-lbs

Representative Torque Turn Graph



v1.2

7/26/2018



Casing Design Criteria and Load Case Assumptions

1. Collapse: $DF_c=1.125$
 - a. Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.65 psi/ft). The effects of axial load on collapse will be considered.
 - b. Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and minimum mud gradient in which the casing will be run above that (0.65 psi/ft) and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft)
2. Burst: $DF_B=1.125$
 - a. Pressure Test: psi casing test with an external force equal to the mud gradient in which the casing will be run (0.65 psi/ft), which is a more conservative backup force than pore pressure.
 - b. Injection Down Casing: psi surface injection pressure plus an internal pressure gradient of 0.65 psi/ft with an external force equal to the mud gradient in which the casing will be run (0.65 psi/ft), which is a more conservative backup force than pore pressure.
3. Tensile: $DF_T=1.4$
 - a. Overpull: An overpull force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (8.5 ppg).

Surface Casing Program									
Casing Size (in)	Weight (ppf)	Grade	Connection	ID	ID (drift)	Collapse (psi)	Burst (psi)	Tension (1,000 lbs)	Capacity (bbl/ft)
9-5/8"	36	J-55	BTC	8.921	8.765	2,020	3,520	639	0.0773
Safety Factors									
	API Rec. SF	ACTUAL SF	Case	External Fluids		Internal Fluids			
Collapse	1.125	3.30	Lost Circulation	Mud		None			
Burst	1.125	1.46	Plug Bump	Green Cement + 2ksi surf pressure		Displacement Fluid/Mud			
Tension	1.4	2.8	100 klbs Overpull	Mud		Mud			

Buoyed Casing Weight: 40,798 lbs (assuming 8.4 ppg fluid and 1,300' casing-worst case scenario)

Production Casing Program									
Casing Size (in)	Weight (ppf)	Grade	Connection	ID	ID (drift)	Collapse (psi)	Burst (psi)	Tension (1,000 lbs)	Capacity (bbl/ft)
7"	32	HCL-80	BK-HT	6.094	6.000	11,890	12,460	1025	0.0361
Safety Factors									
	API Rec. SF	ACTUAL SF	Case	External Fluids		Internal Fluids			
Collapse	1.125	3.75	Lost Circulation	Mud		None			
Burst	1.125	2.47	Plug Bump	Green Cement + 2ksi surf pressure		Displacement Fluid/Mud			
Tension	1.4	2.29	100 klbs Overpull	Mud		Mud			

Buoyed Casing Weight: 90,662 lbs (assuming 8.4 ppg fluid and 3,250' TVD-worst case scenario)

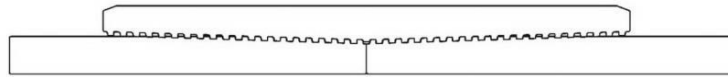


Production Casing Program									
Casing Size (in)	Weight (ppf)	Grade	Connection	ID	ID (drift)	Collapse (psi)	Burst (psi)	Tension (1,000 lbs)	Capacity (bbl/ft)
5-1/2"	20	L-80	BK-HT	4.778	4.653	9,490	9,190	466	0.0222
Safety Factors									
	API Rec. SF	ACTUAL SF	Case	External Fluids		Internal Fluids			
Collapse	1.125	3.75	Lost Circulation	Mud		None			
Burst	1.125	2.47	Plug Bump	Green Cement + 2ksi surf pressure		Displacement Fluid/Mud			
Tension	1.4	2.29	100 klbs Overpull	Mud		Mud			

Buoyed Casing Weight: 56,664 lbs (assuming 8.4 ppg fluid and 3,250' TVD-worst case scenario)



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FIELD TESTED. FIELD PROVEN.

Precision Connections BK-HT

5.5 in. 20 lb/ft HC-L80 with 6.3 in. Coupling OD

Pipe Body

Nominal OD	5.500	inches
Nominal Weight	20.00	lb/ft
Wall Thickness	0.361	inches
Plain End Weight	19.81	lb/ft
Drift	4.653	inches
Nominal ID	4.778	inches
Grade	HC-L80	
Min Yield	80,000	lbf/in ²
Min Tensile	95,000	lbf/in ²
Critical Section Area	5.828	in ²
Pipe Body Yield Strength	466	kips
Min Internal Yield Pressure	9,190	psi
Collapse Pressure	9,490	psi

Connection

Coupling OD	6.300	inches
Coupling Length	8.250	inches
Make Up Loss	4.125	inches
Critical Section Area	8.456	in ²
Internal Pressure Rating	100%	
External Pressure Rating	100%	
Tension Efficiency	100%	
Connection Strength	466	kips
Compression Efficiency	100%	
Uniaxial Bend Rating	58.2	° / 100 ft
Min Make Up Torque	6,050	ft-lbs
Yield Torque	23,250	ft-lbs

v1.2

7/26/2018

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PREMIUM CONNECTIONS
FIELD TESTED. FIELD PROVEN.

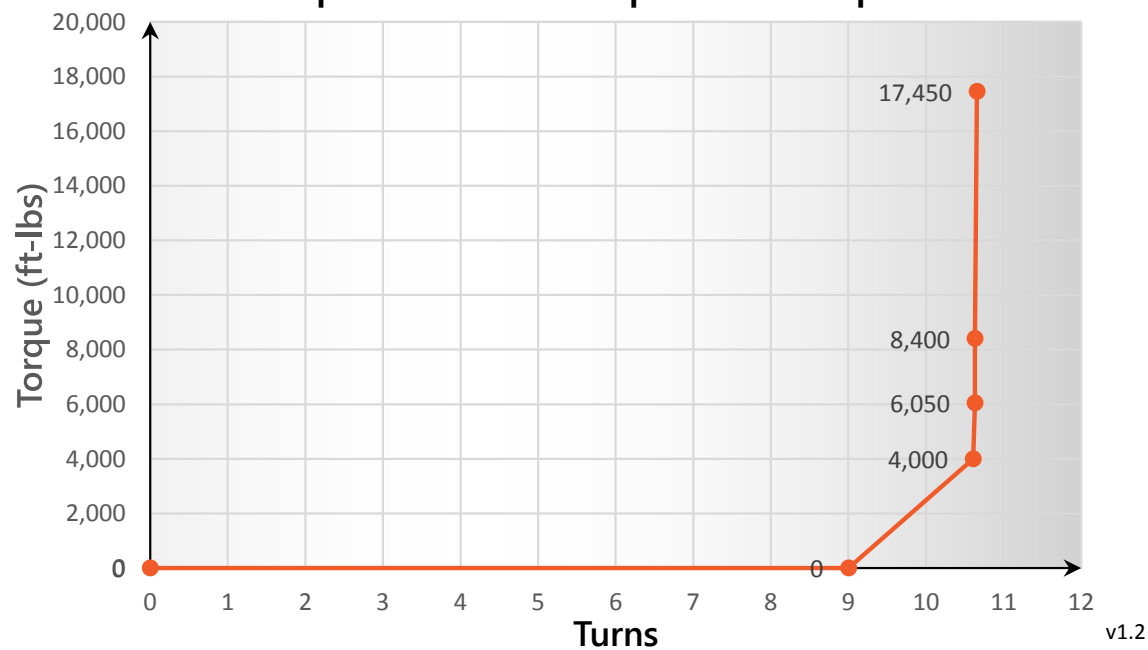
Torque Data Sheet - Precision Connections BK-HT

5.5 in. 20 lb/ft HC-L80 with 6.3 in. Coupling OD

Min Make Up Torque	6,050	ft-lbs
Max Make Up Torque	17,450	ft-lbs
Optimum Torque	8,400	ft-lbs

Max Operating Torque	19,800	ft-lbs
Yield Torque	23,250	ft-lbs

Representative Torque Turn Graph



v1.2

7/26/2018



Casing Design Criteria and Load Case Assumptions

1. Collapse: $DF_c=1.125$
 - a. Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.65 psi/ft). The effects of axial load on collapse will be considered.
 - b. Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and minimum mud gradient in which the casing will be run above that (0.65 psi/ft) and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft)
2. Burst: $DF_B=1.125$
 - a. Pressure Test: psi casing test with an external force equal to the mud gradient in which the casing will be run (0.65 psi/ft), which is a more conservative backup force than pore pressure.
 - b. Injection Down Casing: psi surface injection pressure plus an internal pressure gradient of 0.65 psi/ft with an external force equal to the mud gradient in which the casing will be run (0.65 psi/ft), which is a more conservative backup force than pore pressure.
3. Tensile: $DF_T=1.4$
 - a. Overpull: An overpull force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (8.5 ppg).

Surface Casing Program									
Casing Size (in)	Weight (ppf)	Grade	Connection	ID	ID (drift)	Collapse (psi)	Burst (psi)	Tension (1,000 lbs)	Capacity (bbl/ft)
9-5/8"	36	J-55	BTC	8.921	8.765	2,020	3,520	639	0.0773
Safety Factors									
	API Rec. SF	ACTUAL SF	Case	External Fluids		Internal Fluids			
Collapse	1.125	3.30	Lost Circulation	Mud		None			
Burst	1.125	1.46	Plug Bump	Green Cement + 2ksi surf pressure		Displacement Fluid/Mud			
Tension	1.4	2.8	100 klbs Overpull	Mud		Mud			

Buoyed Casing Weight: 40,798 lbs (assuming 8.4 ppg fluid and 1,300' casing-worst case scenario)

Production Casing Program									
Casing Size (in)	Weight (ppf)	Grade	Connection	ID	ID (drift)	Collapse (psi)	Burst (psi)	Tension (1,000 lbs)	Capacity (bbl/ft)
7"	32	HCL-80	BK-HT	6.094	6.000	11,890	12,460	1025	0.0361
Safety Factors									
	API Rec. SF	ACTUAL SF	Case	External Fluids		Internal Fluids			
Collapse	1.125	3.75	Lost Circulation	Mud		None			
Burst	1.125	2.47	Plug Bump	Green Cement + 2ksi surf pressure		Displacement Fluid/Mud			
Tension	1.4	2.29	100 klbs Overpull	Mud		Mud			

Buoyed Casing Weight: 90,662 lbs (assuming 8.4 ppg fluid and 3,250' TVD-worst case scenario)



Production Casing Program									
Casing Size (in)	Weight (ppf)	Grade	Connection	ID	ID (drift)	Collapse (psi)	Burst (psi)	Tension (1,000 lbs)	Capacity (bbl/ft)
5-1/2"	20	L-80	BK-HT	4.778	4.653	9,490	9,190	466	0.0222
Safety Factors									
	API Rec. SF	ACTUAL SF	Case	External Fluids		Internal Fluids			
Collapse	1.125	3.75	Lost Circulation	Mud		None			
Burst	1.125	2.47	Plug Bump	Green Cement + 2ksi surf pressure		Displacement Fluid/Mud			
Tension	1.4	2.29	100 klbs Overpull	Mud		Mud			

Buoyed Casing Weight: 56,664 lbs (assuming 8.4 ppg fluid and 3,250' TVD-worst case scenario)



U. S. Steel Tubular Products

13.375 54.5/0.38 J55

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MECHANICAL PROPERTIES	Pipe	BTC	LTC	STC	
Minimum Yield Strength	55,000	--	--	--	psi
Maximum Yield Strength	80,000	--	--	--	psi
Minimum Tensile Strength	75,000	--	--	--	psi
DIMENSIONS	Pipe	BTC	LTC	STC	
Outside Diameter	13.375	14.375	--	14.375	in.
Wall Thickness	0.380	--	--	--	in.
Inside Diameter	12.615	12.615	--	12.615	in.
Standard Drift	12.459	12.459	--	12.459	in.
Alternate Drift	--	--	--	--	in.
Nominal Linear Weight, T&C	54.50	--	--	--	lbs/ft
Plain End Weight	52.79	--	--	--	lbs/ft
PERFORMANCE	Pipe	BTC	LTC	STC	
Minimum Collapse Pressure	1,130	1,130	--	1,130	psi
Minimum Internal Yield Pressure	2,740	2,740	--	2,740	psi
Minimum Pipe Body Yield Strength	853,000.00	--	--	--	lbs
Joint Strength	--	909	--	514	1000 lbs
Reference Length	--	11,125	--	6,290	ft
MAKE-UP DATA	Pipe	BTC	LTC	STC	
Make-Up Loss	--	4.81	--	3.50	in.
Minimum Make-Up Torque	--	--	--	3,860	ft-lbs
Maximum Make-Up Torque	--	--	--	6,430	ft-lbs

Legal Notice

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U. S. Steel Tubular Products
10343 Sam Houston Park Dr., #120
Houston, TX 77064

1-877-893-9461
connections@uss.com
www.usstubular.com



Casing Design Criteria and Load Case Assumptions

1. Collapse: $DF_c=1.125$
 - a. Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.65 psi/ft). The effects of axial load on collapse will be considered.
 - b. Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and minimum mud gradient in which the casing will be run above that (0.65 psi/ft) and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft)
2. Burst: $DF_B=1.125$
 - a. Pressure Test: psi casing test with an external force equal to the mud gradient in which the casing will be run (0.65 psi/ft), which is a more conservative backup force than pore pressure.
 - b. Injection Down Casing: psi surface injection pressure plus an internal pressure gradient of 0.65 psi/ft with an external force equal to the mud gradient in which the casing will be run (0.65 psi/ft), which is a more conservative backup force than pore pressure.
3. Tensile: $DF_T=1.4$
 - a. Overpull: An overpull force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (8.5 ppg).

Surface Casing Program									
Casing Size (in)	Weight (ppf)	Grade	Connection	ID	ID (drift)	Collapse (psi)	Burst (psi)	Tension (1,000 lbs)	Capacity (bbl/ft)
9-5/8"	36	J-55	BTC	8.921	8.765	2,020	3,520	639	0.0773
Safety Factors									
	API Rec. SF	ACTUAL SF	Case	External Fluids		Internal Fluids			
Collapse	1.125	3.30	Lost Circulation	Mud		None			
Burst	1.125	1.46	Plug Bump	Green Cement + 2ksi surf pressure		Displacement Fluid/Mud			
Tension	1.4	2.8	100 klbs Overpull	Mud		Mud			

Buoyed Casing Weight: 40,798 lbs (assuming 8.4 ppg fluid and 1,300' casing-worst case scenario)

Production Casing Program									
Casing Size (in)	Weight (ppf)	Grade	Connection	ID	ID (drift)	Collapse (psi)	Burst (psi)	Tension (1,000 lbs)	Capacity (bbl/ft)
7"	32	HCL-80	BK-HT	6.094	6.000	11,890	12,460	1025	0.0361
Safety Factors									
	API Rec. SF	ACTUAL SF	Case	External Fluids		Internal Fluids			
Collapse	1.125	3.75	Lost Circulation	Mud		None			
Burst	1.125	2.47	Plug Bump	Green Cement + 2ksi surf pressure		Displacement Fluid/Mud			
Tension	1.4	2.29	100 klbs Overpull	Mud		Mud			

Buoyed Casing Weight: 90,662 lbs (assuming 8.4 ppg fluid and 3,250' TVD-worst case scenario)



Production Casing Program									
Casing Size (in)	Weight (ppf)	Grade	Connection	ID	ID (drift)	Collapse (psi)	Burst (psi)	Tension (1,000 lbs)	Capacity (bbl/ft)
5-1/2"	20	L-80	BK-HT	4.778	4.653	9,490	9,190	466	0.0222
Safety Factors									
	API Rec. SF	ACTUAL SF	Case	External Fluids		Internal Fluids			
Collapse	1.125	3.75	Lost Circulation	Mud		None			
Burst	1.125	2.47	Plug Bump	Green Cement + 2ksi surf pressure		Displacement Fluid/Mud			
Tension	1.4	2.29	100 klbs Overpull	Mud		Mud			

Buoyed Casing Weight: 56,664 lbs (assuming 8.4 ppg fluid and 3,250' TVD-worst case scenario)



U. S. Steel Tubular Products

9.625 36/0.352 J55

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MECHANICAL PROPERTIES	Pipe	BTC	LTC	STC	
Minimum Yield Strength	55,000	--	--	--	psi
Maximum Yield Strength	80,000	--	--	--	psi
Minimum Tensile Strength	75,000	--	--	--	psi
DIMENSIONS	Pipe	BTC	LTC	STC	
Outside Diameter	9.625	10.625	10.625	10.625	in.
Wall Thickness	0.352	--	--	--	in.
Inside Diameter	8.921	8.921	8.921	8.921	in.
Standard Drift	8.765	8.765	8.765	8.765	in.
Alternate Drift	--	--	--	--	in.
Nominal Linear Weight, T&C	36.00	--	--	--	lbs/ft
Plain End Weight	34.89	--	--	--	lbs/ft
PERFORMANCE	Pipe	BTC	LTC	STC	
Minimum Collapse Pressure	2,020	2,020	2,020	2,020	psi
Minimum Internal Yield Pressure	3,520	3,520	3,520	3,520	psi
Minimum Pipe Body Yield Strength	564,000	--	--	--	lbs
Joint Strength	--	639	453	394	lbs
Reference Length	--	11,835	8,389	7,288	ft
MAKE-UP DATA	Pipe	BTC	LTC	STC	
Make-Up Loss	--	4.81	4.75	3.38	in.
Minimum Make-Up Torque	--	--	3,400	2,960	ft-lbs
Maximum Make-Up Torque	--	--	5,660	4,930	ft-lbs

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Burst	1.125	2.47	Plug Bump	Green Cement + 2ksi surf pressure		Displacement Fluid/Mud			
Tension	1.4	2.29	100 klbs Overpull	Mud		Mud			

Buoyed Casing Weight: 90,662 lbs (assuming 8.4 ppg fluid and 3,250' TVD-worst case scenario)

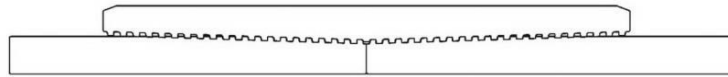


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Casing Size (in)	Weight (ppf)	Grade	Connection	ID	ID (drift)	Collapse (psi)	Burst (psi)	Tension (1,000 lbs)	Capacity (bbl/ft)
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Tension	1.4	2.29	100 klbs Overpull	Mud		Mud			

Buoyed Casing Weight: 56,664 lbs (assuming 8.4 ppg fluid and 3,250' TVD-worst case scenario)



Keeping You Connected.



SEMI
PREMIUMCONNECTIONS
FIELD TESTED. FIELD PROVEN.

Precision Connections BK-HT

7 in. 32 lb/ft HC-L80 with 7.875 in. Coupling OD

Pipe Body

Nominal OD	7.000	inches
Nominal Weight	32.00	lb/ft
Wall Thickness	0.453	inches
Plain End Weight	31.67	lb/ft
Drift	6.000	inches
Nominal ID	6.094	inches
Grade	HC-L80	
Min Yield	80,000	lbf/in ²
Min Tensile	95,000	lbf/in ²
Critical Section Area	9.317	in ²
Pipe Body Yield Strength	745	kips
Min Internal Yield Pressure	9,060	psi
Collapse Pressure	9,290	psi

Connection

Coupling OD	7.875	inches
Coupling Length	9.000	inches
Make Up Loss	4.500	inches
Critical Section Area	11.859	in ²
Internal Pressure Rating	100%	
External Pressure Rating	100%	
Tension Efficiency	100%	
Connection Strength	745	kips
Compression Efficiency	100%	
Uniaxial Bend Rating	46.5	° / 100 ft
Min Make Up Torque	9,250	ft-lbs
Yield Torque	35,650	ft-lbs

v1.2

7/26/2018

This documentation contains confidential and proprietary information not to be reproduced or divulged in whole or in part to anyone outside of your company without prior written authorization from Precision Connections, LLC, and such documentation and information is provided to you upon such conditions of confidentiality.



Torque Data Sheet - Precision Connections BK-HT

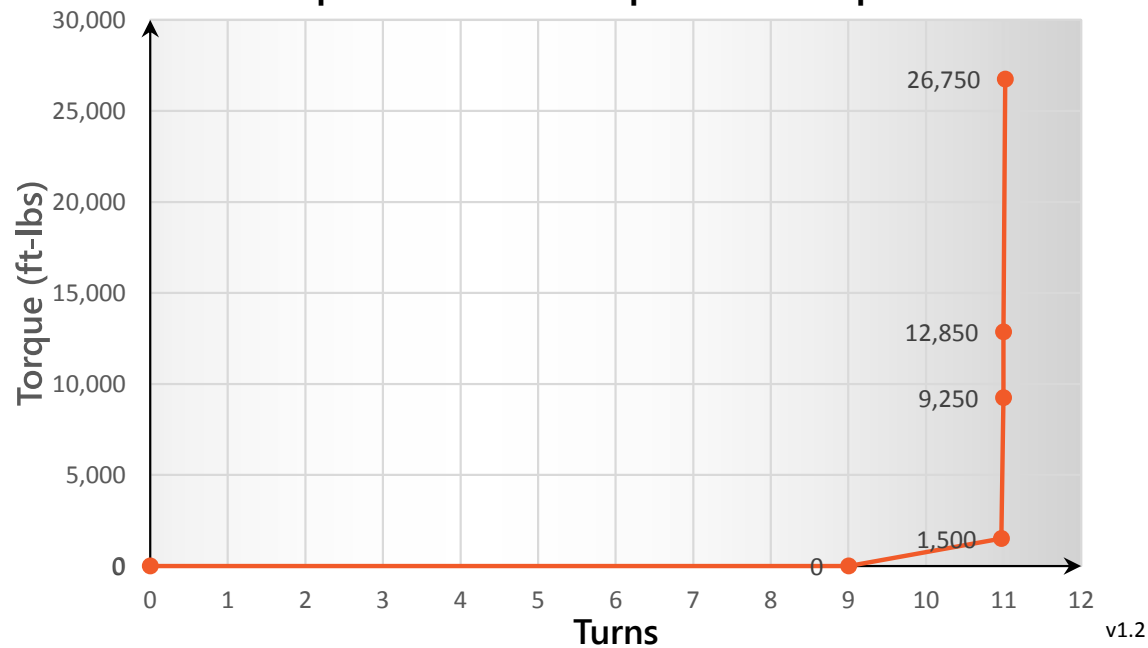
7 in. 32 lb/ft HC-L80 with 7.875 in. Coupling OD

Min Make Up Torque	9,250	ft-lbs
Max Make Up Torque	26,750	ft-lbs
Optimum Torque	12,850	ft-lbs

Max Operating Torque	30,300	ft-lbs
Yield Torque	35,650	ft-lbs

SEMI
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Representative Torque Turn Graph



v1.2

7/26/2018

Spur Energy Partners LLC Emergency Contact List			
Person	Location	Office Phone	Cell Phone
Drilling and Completions Department			
Drilling Manager - Chris Hollis	Houston	832-930-8629	713-380-7754
Completions Manager - Theresa Voss	Houston	832-930-8614	832-849-8635
VP of Operations - Seth Ireland	Houston	832-930-8527	940-704-6375
Senior VP of Operations - John Nabors	Houston	832-930-8526	281-904-8811
Executive VP of Operations - Todd Mucha	Houston	832-930-8515	281-795-2286
HES/Environmental and Regulatory Department			
EHS Manager - Braidy Moulder	Artestia	575-616-5400	713-264-2517
Superintendent - Jerry Mathews	Artestia	575-616-5400	575-748-5234
Asst. Superintendent - Kenny Kidd	Artestia	575-616-5400	575-703-5851
Regulatory Director - Sarah Chapman	Houston	832-930-8613	281-642-5503
Regulatory Agencies			
Bureau of Land Management	Carlsbad	575-886-6544	
Bureau of Land Management	Hobbs	575-393-3612	
Bureau of Land Management	Roswell	575-622-5335	
Bureau of Land Management	Santa Fe	505-954-2000	
DOT Judicial Pipelines - Incident Reporting NM Public Regulation Commission	Santa Fe	505-827-3549 505-490-2375	
EPA Hotline	Dallas	214-665-6444	
Federal OSHA, Area Office	Lubbock	806-472-7681	
National Response Center	Washington, D.C.	800-424-8803	
National Infrastructure Coordinator Center	Washington, D.C.	202-282-2901	
New Mexico Air Quality Bureau	Santa Fe	505-827-1494	
New Mexico Oil Conservation Division	Artestia	575-748-1283	After Hours 575-370-7545
New Mexico Oil Conservation Division	Hobbs	575-393-6161	
New Mexico Oil Conservation Division	Santa Fe	505-476-3770	
New Mexico OCD Environmental Bureau	Santa Fe	505-827-7152 505-476-3470	
New Mexico Environmental Department	Hobbs	575-827-9329	
NM State Emergency Response Center	Santa Fe	505-476-9600	
Medical Facilities			
Artesia General Hospital	Artesia	575-748-3333	
Covenant Medical Center	Lubbock	806-725-1011	
Covenant Medical Center Lakeside	Lubbock	806-725-6000	
Guadalupe County Hospital	Carlsbad	575-887-6633	
Lea Regional Hospital	Hobbs	575-492-5000	
Medical Center Hospital	Odessa	432-640-4000	
Midland Memorial Hospital	Midland	432-685-1111	
Nor-Lea General Hospital	Lovington	575-396-6611	
Odessa Regional Hospital	Odessa	432-334-8200	
Union County General Hospital	Clayton	575-374-2585	
University Medical Center	Lubbock	806-725-8200	
Law Enforcement - Sheriff			
Ector County Sheriff's Department	Odessa	432-335-3050	
Ector County Sheriff's Department	Artesia	575-746-2704	

Ector County Sheriff's Department	Carlsbad	575-887-7551	
Lea County Sherrif's Department	Eunice	575-384-2020	
Lea County Sherrif's Department	Hobbs	575-393-2515	
Lea County Sherrif's Department	Lovington	575-396-3611	
Lubbock County Sheriff's Department	Abernathy	806-296-2724	
Midland County Sheriff's Department	Midland	432-688-1277	
Union County Sheriff's Department	Clayton	575-374-2583	
Law Enforcement - Police			
Abernathy Police Department	Abernathy	806-298-2545	
Artesia City Police	Artesia	575-746-2704	
Carlsbad City Police	Carlsbad	575-885-2111	
Clayton City Police	Clayton	575-374-2504	
Eunice City Police	Eunice	575-394-2112	
Hobbs City Police	Hobbs	575-397-9265 575-393-2677	
Jal City Police	Jal	575-395-2501	
Lovington City Police	Lovington	575-396-2811	
Midland City Police	Midland	432-685-7113	
Odessa City Police	Odessa	432-335-3378	
Law Enforcement - FBI			
FBI	Albuquerque	505-224-2000	
FBI	Midland	432-570-0255	
Law Enforcement - DPS (911)			
NM State Police	Artesia	575-746-2704	
NM State Police	Carlsbad	575-885-3137	
NM State Police	Eunice	575-392-5588	
NM State Police	Hobbs	575-392-5588	
NM State Police	Clayton	575-374-2473	
Firefighting and Rescue (911)			
Abernathy	Abernathy	806-298-2022	
Amistad/Rosebud	Amistad/Rosebud	575-633-9113	
Artesia	Artesia	575-746-5751	
Carlsbad	Carlsbad	575-885-3125	
Clayton	Clayton	575-374-2435	
Eunice	Eunice	575-394-2111	
Hobbs	Hobbs	575-397-9308	
Jal	Jal	575-395-2221	
Lovington	Lovington	575-396-2359	
Maljamar	Maljamar	575-676-4100	
Midland	Midland	432-685-7346	
Nara Visa	Nara Visa	575-461-3300	
Odessa	Odessa	432-335-4659	
Tucumcari	Tucumcari	911	
West Odessa	Odessa	432-381-3033	

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



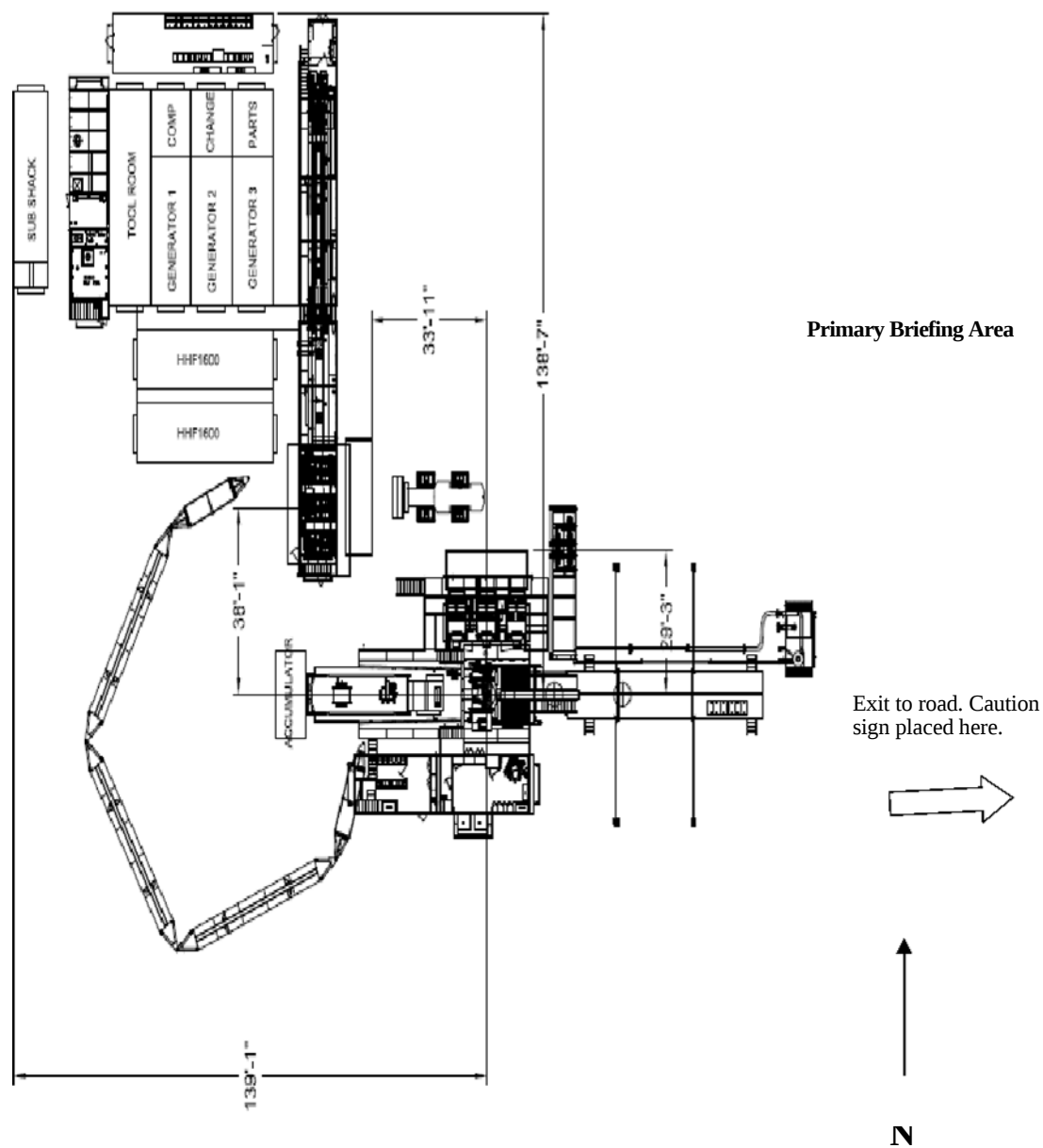
Permian Drilling Hydrogen Sulfide Drilling Operations Plan Sierra Nevada 23 State Com 60H

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

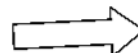
1. Escape

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





Spur Energy Partners, LLC

**Eddy County, NM (NAD 83 - NME)
SIERRA NEVADA 23 STATE COM
60H**

Wellbore #1

Plan: PERMIT

Standard Planning Report

12 August, 2022





Planning Report



Database:	WBDS_SQL_2	Local Co-ordinate Reference:	Well 60H
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 STATE COM	North Reference:	Grid
Well:	60H	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 STATE 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	60H					
Well Position	+N/-S	-0.20 usft	Northing:	664,787.50 usft	Latitude:	32.8273946
	+E/-W	20.00 usft	Easting:	597,445.10 usft	Longitude:	-104.1506749
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	47,670.07301192

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	180.49

Plan Survey Tool Program	Date	08/12/22		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	10,094.57	PERMIT (Wellbore #1)	MWD+IFR1+SAG+FDIR OWSG MWD + IFR1 + Sag

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	
1,374.75	21.50	343.43	1,349.72	190.98	-56.81	2.00	2.00	0.00	343.434	
3,135.57	21.50	343.43	2,988.07	809.40	-240.77	0.00	0.00	0.00	0.000	
4,480.34	60.00	180.49	4,148.27	391.87	-331.46	6.00	2.86	-12.12	-165.088	
4,680.34	60.00	180.49	4,248.27	218.68	-332.92	0.00	0.00	0.00	0.000	
4,985.94	90.56	180.49	4,325.00	-73.40	-335.40	10.00	10.00	0.00	0.000	3. SIERRA NEVAD,
10,044.55	90.56	180.49	4,275.49	-5,131.59	-378.28	0.00	0.00	0.00	0.000	4. SIERRA NEVAD,
10,094.57	90.56	180.49	4,275.00	-5,181.60	-378.70	0.00	0.00	0.00	0.000	5. SIERRA NEVAD,



Planning Report



Database:	WBDS_SQL_2	Local Co-ordinate Reference:	Well 60H
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 STATE COM	North Reference:	Grid
Well:	60H	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	343.43	399.98	1.67	-0.50	-1.67	2.00	2.00	0.00
500.00	4.00	343.43	499.84	6.69	-1.99	-6.67	2.00	2.00	0.00
600.00	6.00	343.43	599.45	15.04	-4.47	-15.00	2.00	2.00	0.00
700.00	8.00	343.43	698.70	26.72	-7.95	-26.65	2.00	2.00	0.00
800.00	10.00	343.43	797.47	41.72	-12.41	-41.61	2.00	2.00	0.00
900.00	12.00	343.43	895.62	60.00	-17.85	-59.85	2.00	2.00	0.00
1,000.00	14.00	343.43	993.06	81.56	-24.26	-81.35	2.00	2.00	0.00
1,100.00	16.00	343.43	1,089.64	106.37	-31.64	-106.10	2.00	2.00	0.00
1,200.00	18.00	343.43	1,185.27	134.39	-39.98	-134.05	2.00	2.00	0.00
1,300.00	20.00	343.43	1,279.82	165.60	-49.26	-165.17	2.00	2.00	0.00
1,374.75	21.50	343.43	1,349.72	190.98	-56.81	-190.49	2.00	2.00	0.00
1,400.00	21.50	343.43	1,373.21	199.85	-59.45	-199.33	0.00	0.00	0.00
1,500.00	21.50	343.43	1,466.25	234.97	-69.89	-234.36	0.00	0.00	0.00
1,600.00	21.50	343.43	1,559.30	270.09	-80.34	-269.39	0.00	0.00	0.00
1,700.00	21.50	343.43	1,652.34	305.21	-90.79	-304.42	0.00	0.00	0.00
1,800.00	21.50	343.43	1,745.39	340.33	-101.24	-339.45	0.00	0.00	0.00
1,900.00	21.50	343.43	1,838.43	375.45	-111.68	-374.48	0.00	0.00	0.00
2,000.00	21.50	343.43	1,931.48	410.57	-122.13	-409.51	0.00	0.00	0.00
2,100.00	21.50	343.43	2,024.52	445.69	-132.58	-444.54	0.00	0.00	0.00
2,200.00	21.50	343.43	2,117.57	480.82	-143.03	-479.57	0.00	0.00	0.00
2,300.00	21.50	343.43	2,210.61	515.94	-153.47	-514.61	0.00	0.00	0.00
2,400.00	21.50	343.43	2,303.66	551.06	-163.92	-549.64	0.00	0.00	0.00
2,500.00	21.50	343.43	2,396.70	586.18	-174.37	-584.67	0.00	0.00	0.00
2,600.00	21.50	343.43	2,489.75	621.30	-184.81	-619.70	0.00	0.00	0.00
2,700.00	21.50	343.43	2,582.79	656.42	-195.26	-654.73	0.00	0.00	0.00
2,800.00	21.50	343.43	2,675.84	691.54	-205.71	-689.76	0.00	0.00	0.00
2,900.00	21.50	343.43	2,768.88	726.66	-216.16	-724.79	0.00	0.00	0.00
3,000.00	21.50	343.43	2,861.93	761.79	-226.60	-759.82	0.00	0.00	0.00
3,100.00	21.50	343.43	2,954.97	796.91	-237.05	-794.85	0.00	0.00	0.00
3,135.57	21.50	343.43	2,988.07	809.40	-240.77	-807.31	0.00	0.00	0.00
3,150.00	20.66	342.80	3,001.53	814.37	-242.27	-812.26	6.00	-5.79	-4.38
3,200.00	17.79	340.18	3,048.74	829.98	-247.47	-827.83	6.00	-5.75	-5.25
3,250.00	14.96	336.59	3,096.71	843.09	-252.63	-840.90	6.00	-5.65	-7.18
3,300.00	12.22	331.41	3,145.31	853.66	-257.72	-851.42	6.00	-5.49	-10.37
3,350.00	9.62	323.39	3,194.40	861.66	-262.75	-859.38	6.00	-5.19	-16.04
3,400.00	7.34	310.03	3,243.86	867.07	-267.69	-864.75	6.00	-4.56	-26.72
3,450.00	5.76	287.38	3,293.54	869.87	-272.53	-867.51	6.00	-3.17	-45.30
3,500.00	5.51	256.54	3,343.31	870.06	-277.26	-867.66	6.00	-0.50	-61.67
3,550.00	6.74	230.57	3,393.03	867.64	-281.86	-865.20	6.00	2.47	-51.93
3,600.00	8.86	214.75	3,442.57	862.61	-286.32	-860.13	6.00	4.24	-31.65
3,650.00	11.38	205.41	3,491.79	854.98	-290.64	-852.47	6.00	5.04	-18.67
3,700.00	14.09	199.52	3,540.56	844.79	-294.79	-842.23	6.00	5.42	-11.79
3,750.00	16.90	195.52	3,588.74	832.04	-298.77	-829.46	6.00	5.61	-8.00
3,800.00	19.76	192.64	3,636.20	816.79	-302.56	-814.18	6.00	5.72	-5.76
3,850.00	22.65	190.47	3,682.81	799.07	-306.16	-796.43	6.00	5.79	-4.34
3,900.00	25.57	188.77	3,728.44	778.93	-309.56	-776.26	6.00	5.84	-3.40
3,950.00	28.51	187.39	3,772.97	756.43	-312.74	-753.73	6.00	5.87	-2.75
4,000.00	31.45	186.26	3,816.27	731.63	-315.70	-728.90	6.00	5.89	-2.27
4,050.00	34.41	185.30	3,858.24	704.59	-318.42	-701.84	6.00	5.91	-1.92
4,100.00	37.37	184.48	3,898.74	675.39	-320.91	-672.62	6.00	5.92	-1.65



Planning Report



Database:	WBDS_SQL_2	Local Co-ordinate Reference:	Well 60H
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 STATE COM	North Reference:	Grid
Well:	60H	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)
4,150.00	40.33	183.76	3,937.67	644.10	-323.16	-641.32	6.00	5.93	-1.44
4,200.00	43.30	183.12	3,974.93	610.83	-325.15	-608.03	6.00	5.94	-1.27
4,250.00	46.28	182.55	4,010.41	575.65	-326.89	-572.83	6.00	5.95	-1.14
4,300.00	49.25	182.03	4,044.02	538.66	-328.36	-535.84	6.00	5.95	-1.03
4,350.00	52.23	181.56	4,075.66	499.97	-329.57	-497.14	6.00	5.96	-0.94
4,400.00	55.21	181.12	4,105.24	459.68	-330.51	-456.84	6.00	5.96	-0.87
4,450.00	58.19	180.72	4,132.69	417.90	-331.18	-415.05	6.00	5.96	-0.81
4,480.34	60.00	180.49	4,148.27	391.87	-331.46	-389.03	6.00	5.96	-0.77
4,500.00	60.00	180.49	4,158.10	374.85	-331.60	-372.00	0.00	0.00	0.00
4,600.00	60.00	180.49	4,208.10	288.25	-332.33	-285.39	0.00	0.00	0.00
4,680.34	60.00	180.49	4,248.27	218.68	-332.92	-215.82	0.00	0.00	0.00
4,700.00	61.97	180.49	4,257.80	201.48	-333.07	-198.63	10.00	10.00	0.00
4,750.00	66.97	180.49	4,279.35	156.38	-333.45	-153.52	10.00	10.00	0.00
4,800.00	71.97	180.49	4,296.88	109.57	-333.85	-106.71	10.00	10.00	0.00
4,850.00	76.97	180.49	4,310.27	61.42	-334.26	-58.56	10.00	10.00	0.00
4,900.00	81.97	180.49	4,319.40	12.28	-334.67	-9.41	10.00	10.00	0.00
4,950.00	86.97	180.49	4,324.22	-37.47	-335.10	40.34	10.00	10.00	0.00
4,985.94	90.56	180.49	4,325.00	-73.40	-335.40	76.27	10.00	10.00	0.00
5,000.00	90.56	180.49	4,324.86	-87.46	-335.52	90.32	0.00	0.00	0.00
5,100.00	90.56	180.49	4,323.88	-187.45	-336.37	190.32	0.00	0.00	0.00
5,200.00	90.56	180.49	4,322.91	-287.44	-337.21	290.31	0.00	0.00	0.00
5,300.00	90.56	180.49	4,321.93	-387.43	-338.06	390.31	0.00	0.00	0.00
5,400.00	90.56	180.49	4,320.95	-487.42	-338.91	490.30	0.00	0.00	0.00
5,500.00	90.56	180.49	4,319.97	-587.41	-339.76	590.30	0.00	0.00	0.00
5,600.00	90.56	180.49	4,318.99	-687.41	-340.60	690.29	0.00	0.00	0.00
5,700.00	90.56	180.49	4,318.01	-787.40	-341.45	790.29	0.00	0.00	0.00
5,800.00	90.56	180.49	4,317.03	-887.39	-342.30	890.28	0.00	0.00	0.00
5,900.00	90.56	180.49	4,316.05	-987.38	-343.15	990.28	0.00	0.00	0.00
6,000.00	90.56	180.49	4,315.08	-1,087.37	-344.00	1,090.27	0.00	0.00	0.00
6,100.00	90.56	180.49	4,314.10	-1,187.36	-344.84	1,190.27	0.00	0.00	0.00
6,200.00	90.56	180.49	4,313.12	-1,287.36	-345.69	1,290.26	0.00	0.00	0.00
6,300.00	90.56	180.49	4,312.14	-1,387.35	-346.54	1,390.26	0.00	0.00	0.00
6,400.00	90.56	180.49	4,311.16	-1,487.34	-347.39	1,490.26	0.00	0.00	0.00
6,500.00	90.56	180.49	4,310.18	-1,587.33	-348.23	1,590.25	0.00	0.00	0.00
6,600.00	90.56	180.49	4,309.20	-1,687.32	-349.08	1,690.25	0.00	0.00	0.00
6,700.00	90.56	180.49	4,308.22	-1,787.31	-349.93	1,790.24	0.00	0.00	0.00
6,800.00	90.56	180.49	4,307.25	-1,887.31	-350.78	1,890.24	0.00	0.00	0.00
6,900.00	90.56	180.49	4,306.27	-1,987.30	-351.62	1,990.23	0.00	0.00	0.00
7,000.00	90.56	180.49	4,305.29	-2,087.29	-352.47	2,090.23	0.00	0.00	0.00
7,100.00	90.56	180.49	4,304.31	-2,187.28	-353.32	2,190.22	0.00	0.00	0.00
7,200.00	90.56	180.49	4,303.33	-2,287.27	-354.17	2,290.22	0.00	0.00	0.00
7,300.00	90.56	180.49	4,302.35	-2,387.26	-355.01	2,390.21	0.00	0.00	0.00
7,400.00	90.56	180.49	4,301.37	-2,487.25	-355.86	2,490.21	0.00	0.00	0.00
7,500.00	90.56	180.49	4,300.39	-2,587.25	-356.71	2,590.20	0.00	0.00	0.00
7,600.00	90.56	180.49	4,299.42	-2,687.24	-357.56	2,690.20	0.00	0.00	0.00
7,700.00	90.56	180.49	4,298.44	-2,787.23	-358.40	2,790.19	0.00	0.00	0.00
7,800.00	90.56	180.49	4,297.46	-2,887.22	-359.25	2,890.19	0.00	0.00	0.00
7,900.00	90.56	180.49	4,296.48	-2,987.21	-360.10	2,990.18	0.00	0.00	0.00
8,000.00	90.56	180.49	4,295.50	-3,087.20	-360.95	3,090.18	0.00	0.00	0.00
8,100.00	90.56	180.49	4,294.52	-3,187.20	-361.79	3,190.17	0.00	0.00	0.00
8,200.00	90.56	180.49	4,293.54	-3,287.19	-362.64	3,290.17	0.00	0.00	0.00
8,300.00	90.56	180.49	4,292.56	-3,387.18	-363.49	3,390.16	0.00	0.00	0.00
8,400.00	90.56	180.49	4,291.59	-3,487.17	-364.34	3,490.16	0.00	0.00	0.00
8,500.00	90.56	180.49	4,290.61	-3,587.16	-365.18	3,590.15	0.00	0.00	0.00



Planning Report



Database:	WBDS_SQL_2	Local Co-ordinate Reference:	Well 60H
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 STATE COM	North Reference:	Grid
Well:	60H	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)	
8,600.00	90.56	180.49	4,289.63	-3,687.15	-366.03	3,690.15	0.00	0.00	0.00	
8,700.00	90.56	180.49	4,288.65	-3,787.15	-366.88	3,790.15	0.00	0.00	0.00	
8,800.00	90.56	180.49	4,287.67	-3,887.14	-367.73	3,890.14	0.00	0.00	0.00	
8,900.00	90.56	180.49	4,286.69	-3,987.13	-368.57	3,990.14	0.00	0.00	0.00	
9,000.00	90.56	180.49	4,285.71	-4,087.12	-369.42	4,090.13	0.00	0.00	0.00	
9,100.00	90.56	180.49	4,284.73	-4,187.11	-370.27	4,190.13	0.00	0.00	0.00	
9,200.00	90.56	180.49	4,283.76	-4,287.10	-371.12	4,290.12	0.00	0.00	0.00	
9,300.00	90.56	180.49	4,282.78	-4,387.10	-371.97	4,390.12	0.00	0.00	0.00	
9,400.00	90.56	180.49	4,281.80	-4,487.09	-372.81	4,490.11	0.00	0.00	0.00	
9,500.00	90.56	180.49	4,280.82	-4,587.08	-373.66	4,590.11	0.00	0.00	0.00	
9,600.00	90.56	180.49	4,279.84	-4,687.07	-374.51	4,690.10	0.00	0.00	0.00	
9,700.00	90.56	180.49	4,278.86	-4,787.06	-375.36	4,790.10	0.00	0.00	0.00	
9,800.00	90.56	180.49	4,277.88	-4,887.05	-376.20	4,890.09	0.00	0.00	0.00	
9,900.00	90.56	180.49	4,276.90	-4,987.05	-377.05	4,990.09	0.00	0.00	0.00	
10,000.00	90.56	180.49	4,275.93	-5,087.04	-377.90	5,090.08	0.00	0.00	0.00	
10,044.55	90.56	180.49	4,275.49	-5,131.59	-378.28	5,134.63	0.00	0.00	0.00	
10,094.57	90.56	180.49	4,275.00	-5,181.60	-378.70	5,184.65	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	664,787.50	597,445.10	32.8273946	-104.1506749	
2. SIERRA NEVADA € - plan hits target center - Point	0.00	0.00	2,988.07	809.40	-240.77	665,596.90	597,204.34	32.8296205	-104.1514542	
5. SIERRA NEVADA € - plan hits target center - Point	0.00	0.01	4,275.00	-5,181.60	-378.70	659,605.90	597,066.40	32.8131541	-104.1519367	
4. SIERRA NEVADA € - plan misses target center by 1.48usft at 10044.55usft MD (4275.49 TVD, -5131.59 N, -378.28 E) - Point	0.00	0.01	4,275.49	-5,131.60	-376.80	659,655.90	597,068.30	32.8132915	-104.1519303	
3. SIERRA NEVADA € - plan hits target center - Point	0.00	0.01	4,325.00	-73.40	-335.40	664,714.10	597,109.70	32.8271945	-104.1517672	



Company: Spur Energy Partners, LLC
Project: Eddy County, NM (NAD 83 - NME)
Site: SIERRA NEVADA 23 STATE COM
Well: 60H
Wellbore: Wellbore #1
Rig: AKITA 57
Design: PERMIT / 10:02, 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



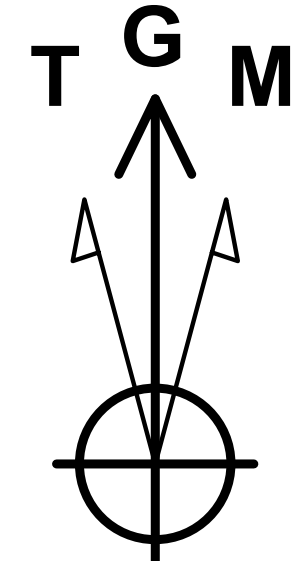
WELL DETAILS: 60H					
RKB =20' @ 3653.00usft (AKITA 57)					
3633.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	664787.50	597445.10	32.8273946	-104.1506749

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	1374.75	21.50	343.43	1349.72	190.98	-56.81	2.00	-190.49
4	3135.57	21.50	343.43	2988.07	809.40	-240.77	0.00	-807.31
5	4480.34	60.00	180.49	4148.27	391.87	-331.46	6.00	-389.03
6	4680.34	60.00	180.49	4248.27	218.68	-332.92	0.00	-215.82
7	4985.94	90.56	180.49	4325.00	-73.40	-335.40	10.00	76.27
8	10044.55	90.56	180.49	4275.49	-5131.59	-378.28	0.00	5134.63
9	10094.57	90.56	180.49	4275.00	-5181.60	-378.70	0.00	5184.65

DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude
1. SIERRA NEVADA 60H SHL: 58' FNL,1388' FWL	0.00	0.00	0.00	664787.50	597445.10	32.8273946
2. SIERRA NEVADA 60H KOP @ 3135.57' MD	2988.07	809.40	-240.77	665596.90	597204.33	32.8296205
3. SIERRA NEVADA 60H FTP: 100' FNL,1050' FWL	4325.00	-73.40	-335.40	664714.10	597109.70	32.8271945
4. SIERRA NEVADA 60H LTP: 100' FSL,1050' FWL	4275.49	-5131.60	-376.80	659655.90	597068.30	32.8132915
5. SIERRA NEVADA 60H BHL: 50' FSL,1050' FWL	4275.00	-5181.60	-378.70	659605.90	597066.40	32.8131541

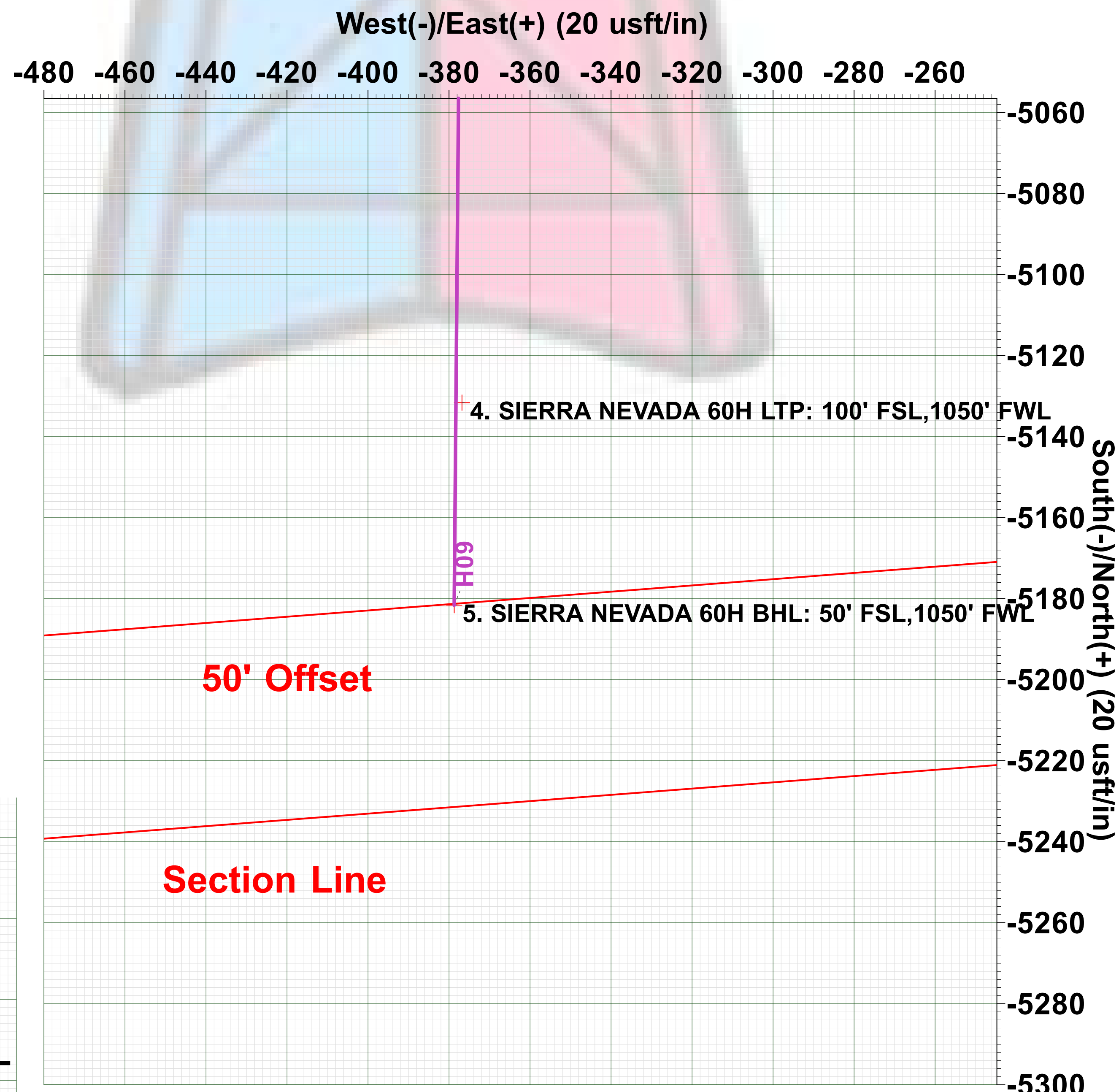
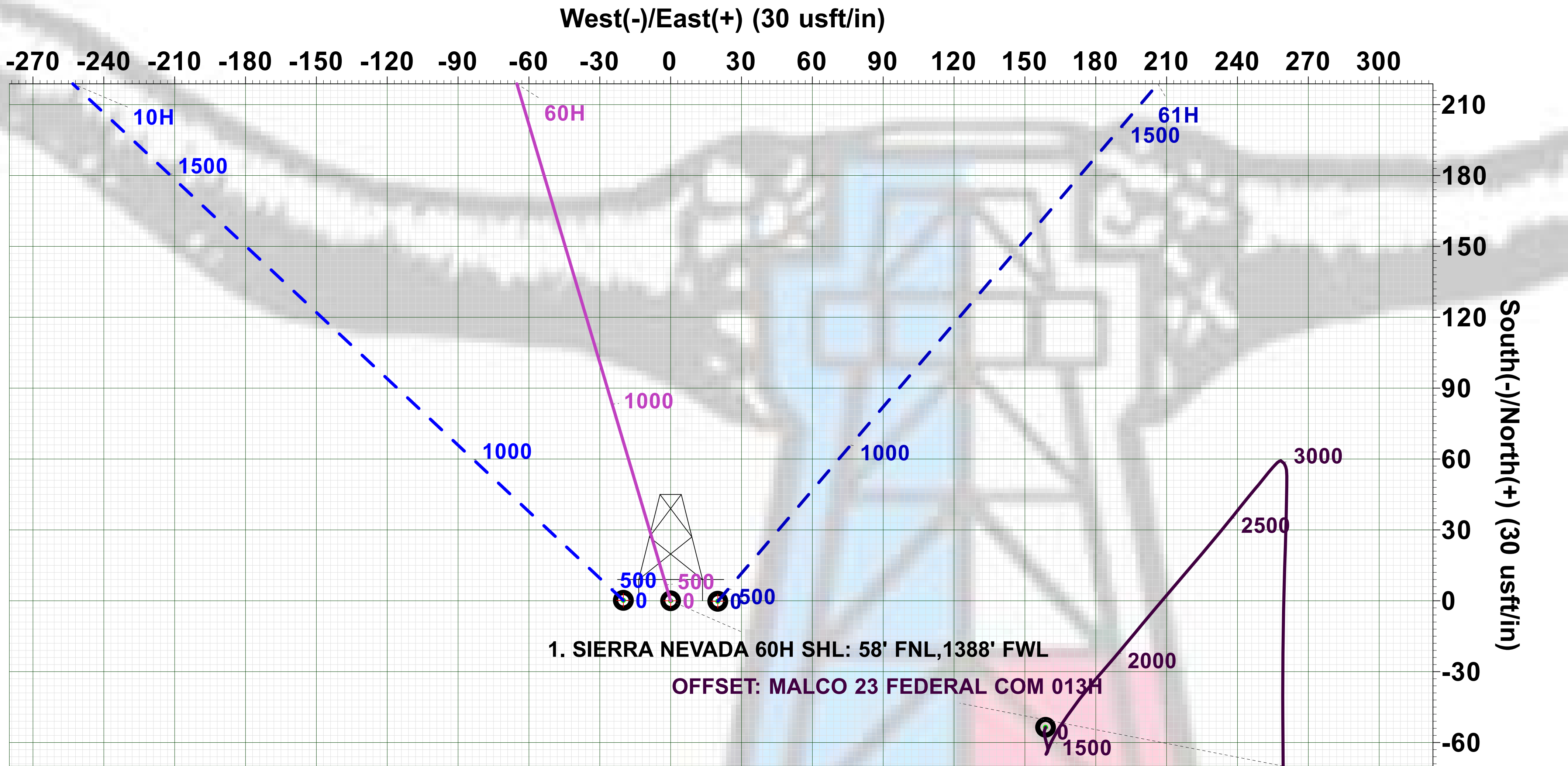
CORRECTION REFERENCE DATA:

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: 47670.07301192nT



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



OFFSET: TUMAK FEDERAL 3

OFFSET: TUMAK FEDERAL 2

OFFSET: BLACK CAT FEDERAL 1

1. SIERRA NEVADA 60H SHL: 58' FNL,1388' FWL

3. SIERRA NEVADA 60H FTP: 100' FNL,1050' FWL

OFFSET: LUCAS STOR JZ ST CM 1

OFFSET: MONCRIEF STATE 2

OFFSET: MONCRIEF STATE 3

OFFSET: MONCRIEF STATE 4

OFFSET: MONCRIEF STATE 1

OFFSET: DINAH '23' FEDERAL COM 1

OFFSET: SRC STATE 1

4. SIERRA NEVADA 60H LTP: 100' FSL,1050' FWL

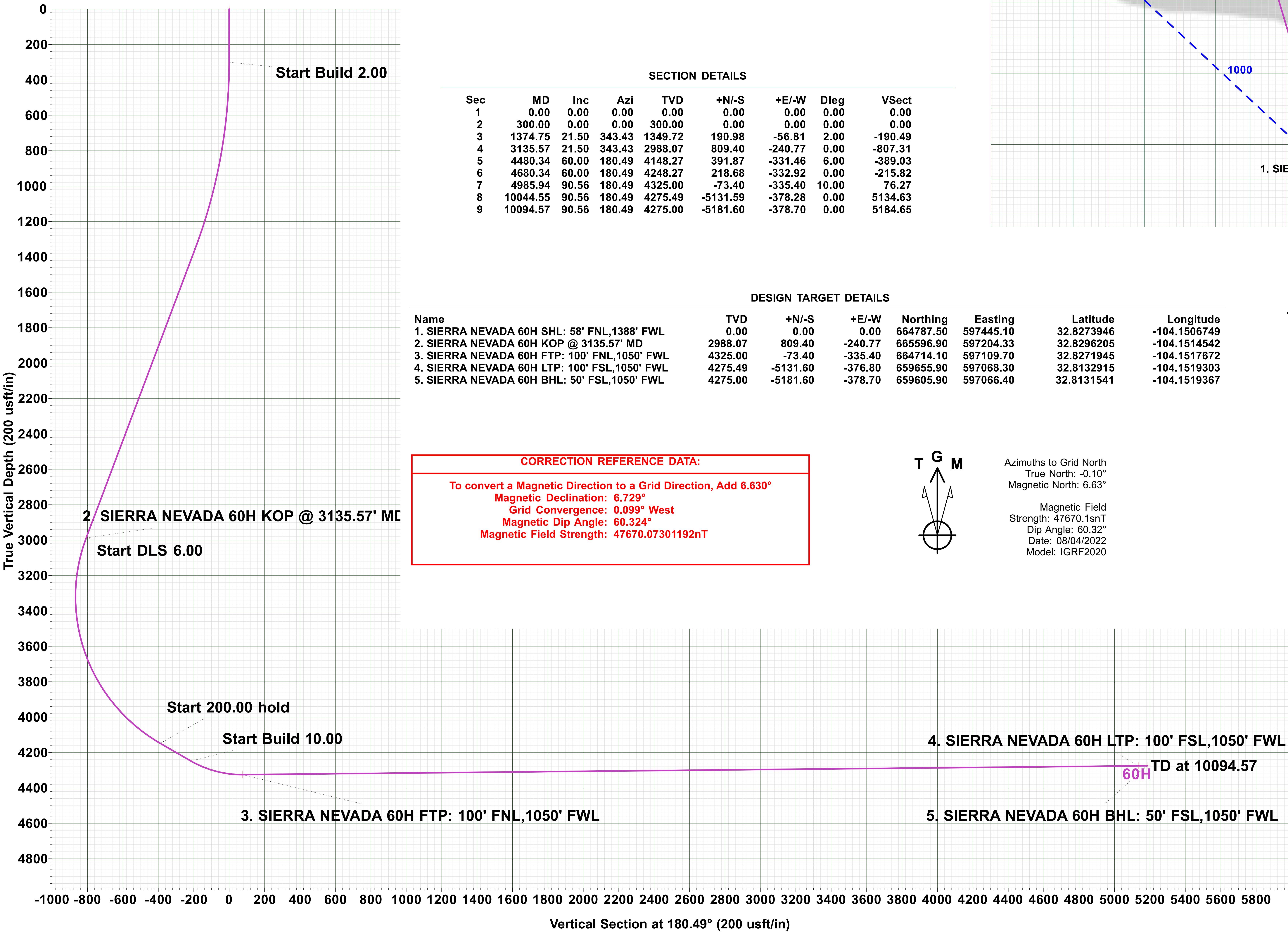
OFFSET: MALCO 23 FEDERAL COM 013H

5. SIERRA NEVADA 60H BHL: 50' FSL,1050' FWL

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

Plan: PERMIT (60H/Wellbore #1) AKITA 57

Created By: Derek Stephens Date: 10:02, August 12 2022





Spur Energy Partners, LLC

Eddy County, NM (NAD 83 - NME)

SIERRA NEVADA 23 STATE COM

60H

Wellbore #1

PERMIT

Anticollision Report

12 August, 2022





Anticollision Report



Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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	08/12/22		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	10,094.57	PERMIT (Wellbore #1)	MWD+IFR1+SAG+FDIR	OWSG MWD + IFR1 + Sag + FDIR Correction	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
MAYARO 22 STATE COM						
11H - Wellbore #1 - PERMIT	200.00	289.00	1,965.53	1,964.20	1,485.927	CC
11H - Wellbore #1 - PERMIT	250.00	328.38	1,965.63	1,963.99	1,196.297	ES
11H - Wellbore #1 - PERMIT	2,950.00	2,754.45	1,999.45	1,975.17	82.372	SF
71H - Wellbore #1 - PERMIT PLAN #2	4,614.92	4,564.81	1,419.06	1,388.19	45.976	CC
71H - Wellbore #1 - PERMIT PLAN #2	10,094.57	10,136.87	1,425.48	1,322.91	13.897	ES, SF
OFFSET: BLACK CAT FEDERAL 1 - Wellbore #1 - Wellb	1,724.27	1,671.17	364.66	329.16	10.272	CC
OFFSET: BLACK CAT FEDERAL 1 - Wellbore #1 - Wellb	1,800.00	1,741.68	365.72	328.52	9.832	ES
OFFSET: BLACK CAT FEDERAL 1 - Wellbore #1 - Wellb	4,550.00	4,202.51	594.49	499.09	6.231	SF
OFFSET: BLACK CAT FEDERAL 2 - Wellbore #1 - Wellb	3,109.58	2,984.97	1,184.63	1,118.83	18.005	CC
OFFSET: BLACK CAT FEDERAL 2 - Wellbore #1 - Wellb	3,200.00	3,033.88	1,185.53	1,118.46	17.675	ES
OFFSET: BLACK CAT FEDERAL 2 - Wellbore #1 - Wellb	4,200.00	4,017.90	1,331.66	1,244.29	15.241	SF
OFFSET: COLLIER 22 STATE COM 043H - Wellbore #1	6,679.37	7,831.00	1,647.77	1,600.33	34.729	CC
OFFSET: COLLIER 22 STATE COM 043H - Wellbore #1	6,700.00	7,831.00	1,647.90	1,600.16	34.515	ES
OFFSET: COLLIER 22 STATE COM 043H - Wellbore #1	7,800.00	7,831.00	1,992.73	1,894.12	20.210	SF
OFFSET: COLLIER STATE 16 - Wellbore #1 - Wellbore	7,211.75	3,565.00	1,783.86	1,698.56	20.913	CC, ES
OFFSET: COLLIER STATE 16 - Wellbore #1 - Wellbore	7,450.00	3,565.00	1,799.70	1,712.58	20.660	SF
OFFSET: DINAH '23' FEDERAL COM 1 - Wellbore #1 -	9,092.69	4,236.91	434.59	376.70	7.507	CC
OFFSET: DINAH '23' FEDERAL COM 1 - Wellbore #1 -	9,100.00	4,236.78	434.65	376.69	7.498	ES, SF
OFFSET: LUCAS STOR JZ ST CM 1 - Wellbore #1 - We	6,892.37	4,421.37	185.92	24.90	1.155	SF = 1.25, CC, ES, SF
OFFSET: MALCO 23 FEDERAL COM 013H - Wellbore #	116.83	118.84	167.51	167.09	399.733	CC
OFFSET: MALCO 23 FEDERAL COM 013H - Wellbore #	300.00	300.83	168.16	166.43	97.276	ES
OFFSET: MALCO 23 FEDERAL COM 013H - Wellbore #	10,094.57	8,701.00	841.38	732.20	7.707	SF
OFFSET: MARACAS 22 STATE 1 - Wellbore #1 - Wellbo	7,094.12	4,258.57	1,586.31	1,484.69	15.610	CC
OFFSET: MARACAS 22 STATE 1 - Wellbore #1 - Wellbo	7,100.00	4,258.52	1,586.32	1,484.65	15.603	ES
OFFSET: MARACAS 22 STATE 1 - Wellbore #1 - Wellbo	7,250.00	4,257.05	1,593.95	1,491.23	15.517	SF
OFFSET: MARACAS 22 STATE 12 - Wellbore #1 - Wellb	5,327.53	4,390.20	1,531.04	1,429.10	15.018	CC, ES
OFFSET: MARACAS 22 STATE 12 - Wellbore #1 - Wellb	5,400.00	4,389.93	1,532.75	1,430.54	14.995	SF
OFFSET: MAYARO 22 STATE 3 - Wellbore #1 - Wellbore	8,416.20	4,240.58	1,376.42	1,263.71	12.213	CC, ES
OFFSET: MAYARO 22 STATE 3 - Wellbore #1 - Wellbore	8,550.00	4,239.27	1,382.90	1,269.19	12.161	SF
OFFSET: MONCRIEF STATE 1 - Wellbore #1 - Wellbore	8,586.48	4,222.72	757.99	704.17	14.084	CC
OFFSET: MONCRIEF STATE 1 - Wellbore #1 - Wellbore	8,600.00	4,222.54	758.11	704.17	14.053	ES
OFFSET: MONCRIEF STATE 1 - Wellbore #1 - Wellbore	8,650.00	4,221.87	760.65	706.33	14.003	SF
OFFSET: MONCRIEF STATE 2 - Wellbore #1 - Wellbore	7,870.03	4,025.00	559.69	465.26	5.927	CC, ES
OFFSET: MONCRIEF STATE 2 - Wellbore #1 - Wellbore	7,900.00	4,025.00	560.49	465.75	5.916	SF
OFFSET: MONCRIEF STATE 3 - Wellbore #1 - Wellbore	7,881.43	4,264.73	113.46	65.06	2.344	CC, ES, SF
OFFSET: MONCRIEF STATE 4 - Wellbore #1 - Wellbore	8,467.62	4,268.60	53.41	0.35	1.007	SF = 1.25, CC, ES, SF
OFFSET: SRC STATE 1 - Wellbore #1 - Wellbore #1	9,133.40	3,495.00	1,014.26	945.04	14.651	CC, ES

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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: SRC STATE 1 - Wellbore #1 - Wellbore #1	9,350.00	3,495.00	1,037.13	965.45	14.469	SF
OFFSET: TUMAK FEDERAL 2 - Wellbore #1 - Wellbore	3,843.11	3,782.92	389.60	362.66	14.461	CC
OFFSET: TUMAK FEDERAL 2 - Wellbore #1 - Wellbore	3,850.00	3,789.31	389.63	362.65	14.446	ES
OFFSET: TUMAK FEDERAL 2 - Wellbore #1 - Wellbore	3,900.00	3,834.59	391.14	363.95	14.386	SF
OFFSET: TUMAK FEDERAL 3 - Wellbore #1 - Wellbore	4,600.09	4,283.80	717.93	687.40	23.514	CC, ES
OFFSET: TUMAK FEDERAL 3 - Wellbore #1 - Wellbore	4,700.00	4,329.50	723.38	692.49	23.418	SF
SIERRA NEVADA 23 STATE COM						
10H - Wellbore #1 - PERMIT	300.00	300.00	20.00	18.28	11.624	CC
10H - Wellbore #1 - PERMIT	350.00	349.74	20.19	18.12	9.721	ES
10H - Wellbore #1 - PERMIT	600.00	598.25	27.23	23.37	7.067	SF
61H - Wellbore #1 - PERMIT	300.00	300.00	20.00	18.28	11.624	CC, ES
61H - Wellbore #1 - PERMIT	10,094.57	10,131.03	1,224.64	1,070.70	7.955	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
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	89.00	0.00	0.00	0.13	-85.366	158.80	-1,959.10	1,965.53					
50.00	50.00	139.00	50.00	0.05	0.28	-85.366	158.80	-1,959.10	1,965.53	1,965.19	0.34	5,833.052		
100.00	100.00	189.00	100.00	0.14	0.46	-85.366	158.80	-1,959.10	1,965.53	1,964.92	0.61	3,244.420		
150.00	150.00	239.00	150.00	0.32	0.64	-85.366	158.80	-1,959.10	1,965.53	1,964.56	0.96	2,038.316		
200.00	200.00	289.00	200.00	0.50	0.82	-85.366	158.80	-1,959.10	1,965.53	1,964.20	1.32	1,485.927	CC	
250.00	250.00	328.38	239.38	0.68	0.96	-85.362	158.92	-1,959.17	1,965.63	1,963.99	1.64	1,196.297	ES	
300.00	300.00	364.76	275.75	0.86	1.09	-85.348	159.44	-1,959.45	1,966.07	1,964.12	1.95	1,006.800		
350.00	350.00	400.00	310.98	1.04	1.22	-68.754	160.34	-1,959.93	1,966.71	1,964.45	2.26	871.063		
400.00	399.98	437.49	348.43	1.22	1.36	-68.730	161.70	-1,960.67	1,967.37	1,964.80	2.57	765.084		
450.00	449.93	473.84	384.73	1.40	1.49	-68.712	163.44	-1,961.61	1,968.06	1,965.18	2.88	683.239		
500.00	499.84	510.19	421.00	1.58	1.62	-68.699	165.58	-1,962.77	1,968.78	1,965.59	3.19	617.211		
550.00	549.68	546.54	457.24	1.76	1.75	-68.692	168.13	-1,964.14	1,969.53	1,966.03	3.50	562.446		
600.00	599.45	582.89	493.43	1.95	1.89	-68.690	171.08	-1,965.74	1,970.32	1,966.50	3.81	516.733		
650.00	649.13	619.23	529.57	2.13	2.03	-68.694	174.43	-1,967.55	1,971.13	1,967.00	4.13	477.559		
700.00	698.70	655.57	565.66	2.31	2.17	-68.703	178.18	-1,969.58	1,971.97	1,967.52	4.44	443.727		
750.00	748.15	691.91	601.69	2.49	2.31	-68.717	182.34	-1,971.83	1,972.84	1,968.07	4.76	414.339		
800.00	797.47	728.26	637.66	2.67	2.46	-68.737	186.90	-1,974.30	1,973.73	1,968.65	5.08	388.215		
850.00	846.63	764.60	673.57	2.85	2.61	-68.762	191.87	-1,976.98	1,974.66	1,969.25	5.41	365.026		
900.00	895.62	800.00	708.47	3.03	2.76	-68.791	197.08	-1,979.80	1,975.62	1,969.89	5.73	344.738		
950.00	944.44	837.30	745.16	3.21	2.93	-68.828	202.99	-1,983.00	1,976.61	1,970.54	6.07	325.561		
1,000.00	993.06	873.66	780.83	3.40	3.09	-68.868	209.15	-1,986.33	1,977.63	1,971.23	6.41	308.664		
1,050.00	1,041.46	910.02	816.42	3.58	3.26	-68.915	215.71	-1,989.88	1,978.69	1,971.94	6.75	293.201		
1,100.00	1,089.64	946.39	851.92	3.77	3.43	-68.966	222.67	-1,993.64	1,979.77	1,972.67	7.10	278.953		
1,150.00	1,137.58	982.77	887.32	3.96	3.61	-69.023	230.03	-1,997.62	1,980.89	1,973.44	7.45	265.978		
1,200.00	1,185.27	1,021.10	924.51	4.15	3.81	-69.089	238.20	-2,002.04	1,982.04	1,974.22	7.81	253.647		
1,250.00	1,232.68	1,070.88	972.75	4.34	4.07	-69.203	249.00	-2,007.88	1,983.00	1,974.76	8.25	240.460		
1,300.00	1,279.82	1,120.58	1,020.92	4.53	4.33	-69.345	259.78	-2,013.71	1,983.68	1,975.00	8.68	228.499		
1,350.00	1,326.65	1,170.19	1,069.00	4.73	4.60	-69.515	270.54	-2,019.53	1,984.06	1,974.94	9.12	217.490		
1,400.00	1,373.21	1,219.71	1,116.99	4.93	4.86	-69.711	281.28	-2,025.34	1,984.19	1,974.63	9.57	207.412		
1,450.00	1,419.73	1,269.22	1,164.97	5.13	5.13	-69.911	292.02	-2,031.15	1,984.32	1,974.30	10.02	198.114		
1,500.00	1,466.25	1,318.73	1,212.95	5.33	5.40	-70.111	302.76	-2,036.96	1,984.47	1,974.00	10.47	189.583		

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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 - 11H - Wellbore #1 - PERMIT													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis			Distance								Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
1,550.00	1,512.78	1,368.24	1,260.93	5.53	5.68	-70.311	313.50	-2,042.77	1,984.64	1,973.72	10.92	181.692		
1,600.00	1,559.30	1,417.74	1,308.91	5.74	5.95	-70.511	324.24	-2,048.58	1,984.84	1,973.46	11.38	174.413		
1,650.00	1,605.82	1,467.25	1,356.88	5.94	6.23	-70.711	334.98	-2,054.38	1,985.06	1,973.22	11.84	167.651		
1,700.00	1,652.34	1,516.76	1,404.86	6.14	6.50	-70.911	345.72	-2,060.19	1,985.31	1,973.00	12.30	161.380		
1,750.00	1,698.87	1,566.27	1,452.84	6.35	6.78	-71.110	356.46	-2,066.00	1,985.58	1,972.81	12.77	155.531		
1,800.00	1,745.39	1,615.78	1,500.82	6.55	7.06	-71.310	367.20	-2,071.81	1,985.87	1,972.64	13.23	150.082		
1,850.00	1,791.91	1,665.28	1,548.80	6.76	7.34	-71.510	377.94	-2,077.62	1,986.19	1,972.49	13.70	144.980		
1,900.00	1,838.43	1,714.79	1,596.78	6.97	7.62	-71.710	388.68	-2,083.42	1,986.54	1,972.37	14.17	140.207		
1,950.00	1,884.96	1,764.30	1,644.75	7.17	7.90	-71.909	399.42	-2,089.23	1,986.91	1,972.27	14.64	135.723		
2,000.00	1,931.48	1,813.81	1,692.73	7.38	8.18	-72.109	410.16	-2,095.04	1,987.30	1,972.19	15.11	131.512		
2,050.00	1,978.00	1,863.31	1,740.71	7.59	8.46	-72.308	420.90	-2,100.85	1,987.72	1,972.14	15.58	127.543		
2,100.00	2,024.52	1,912.82	1,788.69	7.80	8.74	-72.508	431.64	-2,106.66	1,988.17	1,972.11	16.06	123.803		
2,150.00	2,071.05	1,962.33	1,836.67	8.01	9.03	-72.707	442.38	-2,112.47	1,988.63	1,972.10	16.54	120.268		
2,200.00	2,117.57	2,011.84	1,884.65	8.22	9.31	-72.906	453.12	-2,118.27	1,989.13	1,972.12	17.01	116.927		
2,250.00	2,164.09	2,061.34	1,932.63	8.42	9.59	-73.105	463.86	-2,124.08	1,989.64	1,972.15	17.49	113.760		
2,300.00	2,210.61	2,110.85	1,980.60	8.63	9.87	-73.304	474.60	-2,129.89	1,990.19	1,972.22	17.97	110.759		
2,350.00	2,257.14	2,160.36	2,028.58	8.84	10.16	-73.503	485.34	-2,135.70	1,990.75	1,972.30	18.45	107.907		
2,400.00	2,303.66	2,209.87	2,076.56	9.05	10.44	-73.702	496.08	-2,141.51	1,991.34	1,972.41	18.93	105.198		
2,450.00	2,350.18	2,259.38	2,124.54	9.26	10.72	-73.900	506.82	-2,147.32	1,991.96	1,972.55	19.41	102.617		
2,500.00	2,396.70	2,308.88	2,172.52	9.47	11.01	-74.099	517.56	-2,153.12	1,992.60	1,972.70	19.89	100.161		
2,550.00	2,443.23	2,358.39	2,220.50	9.68	11.29	-74.297	528.30	-2,158.93	1,993.26	1,972.88	20.38	97.816		
2,600.00	2,489.75	2,407.90	2,268.48	9.89	11.58	-74.495	539.03	-2,164.74	1,993.95	1,973.09	20.86	95.578		
2,650.00	2,536.27	2,457.41	2,316.45	10.10	11.86	-74.694	549.77	-2,170.55	1,994.66	1,973.31	21.35	93.439		
2,700.00	2,582.79	2,506.91	2,364.43	10.32	12.15	-74.892	560.51	-2,176.36	1,995.40	1,973.57	21.83	91.394		
2,750.00	2,629.32	2,556.42	2,412.41	10.53	12.43	-75.089	571.25	-2,182.16	1,996.16	1,973.84	22.32	89.435		
2,800.00	2,675.84	2,605.93	2,460.39	10.74	12.72	-75.287	581.99	-2,187.97	1,996.95	1,974.14	22.81	87.559		
2,850.00	2,722.36	2,655.44	2,508.37	10.95	13.00	-75.485	592.73	-2,193.78	1,997.75	1,974.46	23.30	85.758		
2,900.00	2,768.88	2,704.94	2,556.35	11.16	13.29	-75.682	603.47	-2,199.59	1,998.59	1,974.80	23.78	84.031		
2,950.00	2,815.41	2,754.45	2,604.32	11.37	13.57	-75.879	614.21	-2,205.40	1,999.45	1,975.17	24.27	82.372 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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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	-85.943	138.90	-1,958.60	1,963.52				
50.00	50.00	139.00	50.00	0.05	0.28	-85.943	138.90	-1,958.60	1,963.52	1,963.18	0.34	5,827.098	
100.00	100.00	189.00	100.00	0.14	0.46	-85.943	138.90	-1,958.60	1,963.52	1,962.91	0.61	3,241.108	
150.00	150.00	239.00	150.00	0.32	0.64	-85.943	138.90	-1,958.60	1,963.52	1,962.55	0.96	2,036.236	
200.00	200.00	289.00	200.00	0.50	0.82	-85.943	138.90	-1,958.60	1,963.52	1,962.20	1.32	1,484.410	
250.00	250.00	345.16	256.16	0.68	1.02	-85.933	139.24	-1,958.50	1,963.46	1,961.75	1.70	1,152.929	
300.00	300.00	403.02	314.00	0.86	1.23	-85.891	140.68	-1,958.10	1,963.20	1,961.11	2.09	939.656	
350.00	350.00	460.82	371.74	1.04	1.44	-69.274	143.25	-1,957.39	1,962.59	1,960.12	2.47	793.054	
400.00	399.98	518.55	429.34	1.22	1.65	-69.226	146.93	-1,956.37	1,961.48	1,958.62	2.86	685.792	
450.00	449.93	576.21	486.78	1.40	1.86	-69.183	151.72	-1,955.03	1,959.86	1,956.61	3.25	603.879	
500.00	499.84	633.77	544.02	1.58	2.07	-69.143	157.61	-1,953.40	1,957.73	1,954.10	3.63	539.180	
550.00	549.68	691.23	601.02	1.76	2.28	-69.106	164.60	-1,951.45	1,955.11	1,951.09	4.02	486.784	
600.00	599.45	748.58	657.75	1.95	2.48	-69.074	172.67	-1,949.21	1,951.98	1,947.58	4.40	443.385	
650.00	649.13	805.79	714.17	2.13	2.69	-69.044	181.81	-1,946.67	1,948.36	1,943.57	4.79	406.863	
700.00	698.70	862.87	770.26	2.31	2.90	-69.019	192.00	-1,943.83	1,944.24	1,939.07	5.18	375.622	
750.00	748.15	919.80	825.98	2.49	3.10	-68.997	203.24	-1,940.70	1,939.63	1,934.07	5.56	348.604	
800.00	797.47	976.57	881.30	2.67	3.31	-68.979	215.51	-1,937.29	1,934.53	1,928.58	5.95	325.016	
850.00	846.63	1,025.31	928.72	2.85	3.48	-68.996	226.38	-1,934.27	1,929.06	1,922.74	6.31	305.542	
900.00	895.62	1,074.93	976.99	3.03	3.66	-69.042	237.46	-1,931.19	1,923.27	1,916.59	6.68	287.961	
950.00	944.44	1,124.54	1,025.25	3.21	3.85	-69.118	248.53	-1,928.11	1,917.18	1,910.14	7.05	272.082	
1,000.00	993.06	1,174.13	1,073.49	3.40	4.03	-69.223	259.59	-1,925.03	1,910.78	1,903.37	7.41	257.720	
1,050.00	1,041.46	1,223.67	1,121.68	3.58	4.22	-69.360	270.65	-1,921.96	1,904.08	1,896.29	7.78	244.611	
1,100.00	1,089.64	1,273.17	1,169.83	3.77	4.41	-69.528	281.69	-1,918.89	1,897.07	1,888.91	8.15	232.641	
1,150.00	1,137.58	1,322.59	1,217.91	3.96	4.59	-69.726	292.72	-1,915.82	1,889.75	1,881.23	8.53	221.611	
1,200.00	1,185.27	1,371.93	1,265.91	4.15	4.78	-69.956	303.73	-1,912.76	1,882.15	1,873.25	8.90	211.489	
1,250.00	1,232.68	1,421.17	1,313.81	4.34	4.96	-70.218	314.72	-1,909.70	1,874.25	1,864.98	9.27	202.083	
1,300.00	1,279.82	1,470.29	1,361.59	4.53	5.15	-70.512	325.68	-1,906.65	1,866.07	1,856.42	9.65	193.387	
1,350.00	1,326.65	1,519.29	1,409.26	4.73	5.33	-70.838	336.61	-1,903.61	1,857.62	1,847.59	10.03	185.273	
1,400.00	1,373.21	1,568.16	1,456.80	4.93	5.52	-71.108	347.52	-1,900.58	1,848.93	1,838.53	10.40	177.722	
1,450.00	1,419.73	1,617.01	1,504.32	5.13	5.71	-71.301	358.42	-1,897.55	1,840.24	1,829.45	10.78	170.667	
1,500.00	1,466.25	1,665.86	1,551.84	5.33	5.89	-71.495	369.32	-1,894.51	1,831.56	1,820.40	11.16	164.091	
1,550.00	1,512.78	1,714.71	1,599.37	5.53	6.08	-71.691	380.22	-1,891.48	1,822.90	1,811.36	11.54	157.920	
1,600.00	1,559.30	1,763.56	1,646.89	5.74	6.26	-71.889	391.13	-1,888.45	1,814.27	1,802.35	11.92	152.142	
1,650.00	1,605.82	1,812.41	1,694.41	5.94	6.45	-72.089	402.03	-1,885.42	1,805.66	1,793.35	12.31	146.703	
1,700.00	1,652.34	1,861.27	1,741.94	6.14	6.63	-72.291	412.93	-1,882.39	1,797.07	1,784.38	12.69	141.593	
1,750.00	1,698.87	1,910.12	1,789.46	6.35	6.82	-72.495	423.83	-1,879.35	1,788.50	1,775.42	13.08	136.769	
1,800.00	1,745.39	1,958.97	1,836.98	6.55	7.00	-72.700	434.73	-1,876.32	1,779.95	1,766.49	13.46	132.220	
1,850.00	1,791.91	2,007.82	1,884.51	6.76	7.19	-72.908	445.63	-1,873.29	1,771.43	1,757.58	13.85	127.916	
1,900.00	1,838.43	2,056.67	1,932.03	6.97	7.38	-73.117	456.53	-1,870.26	1,762.93	1,748.69	14.24	123.844	
1,950.00	1,884.96	2,105.53	1,979.55	7.17	7.56	-73.329	467.43	-1,867.23	1,754.45	1,739.83	14.62	119.982	
2,000.00	1,931.48	2,154.38	2,027.08	7.38	7.75	-73.542	478.34	-1,864.19	1,746.00	1,730.99	15.01	116.319	
2,050.00	1,978.00	2,203.23	2,074.60	7.59	7.94	-73.758	489.24	-1,861.16	1,737.57	1,722.17	15.40	112.835	
2,100.00	2,024.52	2,252.08	2,122.12	7.80	8.12	-73.976	500.14	-1,858.13	1,729.17	1,713.38	15.79	109.524	
2,150.00	2,071.05	2,300.93	2,169.65	8.01	8.31	-74.195	511.04	-1,855.10	1,720.79	1,704.61	16.18	106.368	
2,200.00	2,117.57	2,349.78	2,217.17	8.22	8.49	-74.417	521.94	-1,852.07	1,712.43	1,695.87	16.57	103.361	
2,250.00	2,164.09	2,401.36	2,264.69	8.42	8.69	-74.641	532.84	-1,849.03	1,704.11	1,687.14	16.97	100.429	
2,300.00	2,210.61	2,447.49	2,312.22	8.63	8.87	-74.867	543.74	-1,846.00	1,695.80	1,678.46	17.35	97.749	
2,350.00	2,257.14	2,503.66	2,359.74	8.84	9.08	-75.095	554.65	-1,842.97	1,687.53	1,669.76	17.77	94.978	
2,400.00	2,303.66	2,545.19	2,407.26	9.05	9.24	-75.326	565.55	-1,839.94	1,679.28	1,661.15	18.13	92.619	
2,450.00	2,350.18	2,605.96	2,454.79	9.26	9.47	-75.559	576.45	-1,836.91	1,671.06	1,652.49	18.57	89.995	
2,500.00	2,396.70	2,642.90	2,502.31	9.47	9.61	-75.794	587.35	-1,833.87	1,662.86	1,643.95	18.91	87.913	
2,550.00	2,443.23	2,708.25	2,549.83	9.68	9.86	-76.031	598.25	-1,830.84	1,654.70	1,635.33	19.37	85.425	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
2,600.00	2,489.75	2,740.60	2,597.36	9.89	9.99	-76.270	609.15	-1,827.81	1,646.56	1,626.86	19.70	83.582	
2,650.00	2,536.27	2,789.45	2,644.88	10.10	10.17	-76.512	620.05	-1,824.78	1,638.45	1,618.36	20.09	81.543	
2,700.00	2,582.79	2,838.30	2,692.40	10.32	10.36	-76.757	630.96	-1,821.75	1,630.37	1,609.89	20.49	79.584	
2,750.00	2,629.32	2,887.15	2,739.93	10.53	10.55	-77.003	641.86	-1,818.71	1,622.32	1,601.44	20.88	77.698	
2,800.00	2,675.84	2,936.01	2,787.45	10.74	10.74	-77.252	652.76	-1,815.68	1,614.30	1,593.03	21.27	75.884	
2,850.00	2,722.36	2,984.86	2,834.97	10.95	10.92	-77.504	663.66	-1,812.65	1,606.31	1,584.65	21.67	74.135	
2,900.00	2,768.88	3,033.71	2,882.50	11.16	11.11	-77.758	674.56	-1,809.62	1,598.36	1,576.30	22.06	72.450	
2,950.00	2,815.41	3,082.56	2,930.02	11.37	11.30	-78.014	685.46	-1,806.59	1,590.43	1,567.98	22.46	70.825	
3,000.00	2,861.93	3,131.41	2,977.54	11.58	11.48	-78.273	696.36	-1,803.56	1,582.54	1,559.69	22.85	69.257	
3,050.00	2,908.45	3,180.26	3,025.07	11.79	11.67	-78.534	707.27	-1,800.52	1,574.67	1,551.43	23.25	67.742	
3,100.00	2,954.97	3,229.12	3,072.59	12.01	11.86	-78.798	718.17	-1,797.49	1,566.85	1,543.21	23.64	66.280	
3,150.00	3,001.53	3,277.98	3,120.13	12.22	12.04	-78.335	729.07	-1,794.46	1,559.04	1,535.01	24.03	64.868	
3,200.00	3,048.74	3,327.07	3,167.88	12.42	12.23	-75.571	740.03	-1,791.41	1,551.14	1,526.72	24.42	63.508	
3,250.00	3,096.71	3,373.15	3,212.74	12.62	12.41	-71.743	750.12	-1,788.56	1,543.11	1,518.31	24.80	62.227	
3,300.00	3,145.31	3,415.43	3,254.24	12.81	12.57	-66.287	757.80	-1,785.98	1,535.13	1,509.98	25.15	61.038	
3,350.00	3,194.40	3,457.69	3,296.02	13.00	12.72	-57.987	763.64	-1,783.47	1,527.26	1,501.77	25.49	59.913	
3,400.00	3,243.86	3,499.97	3,338.03	13.17	12.87	-44.340	767.61	-1,781.02	1,519.51	1,493.70	25.82	58.854	
3,450.00	3,293.54	3,542.26	3,380.20	13.34	13.02	-21.400	769.73	-1,778.63	1,511.91	1,485.78	26.13	57.862	
3,500.00	3,343.31	3,584.58	3,422.45	13.49	13.15	9.733	769.97	-1,776.32	1,504.48	1,478.06	26.42	56.937	
3,550.00	3,393.03	3,626.95	3,464.73	13.63	13.29	35.998	768.34	-1,774.08	1,497.23	1,470.53	26.70	56.074	
3,600.00	3,442.57	3,669.39	3,506.96	13.77	13.41	52.124	764.83	-1,771.91	1,490.20	1,463.23	26.96	55.265	
3,650.00	3,491.79	3,711.90	3,549.07	13.89	13.53	61.761	759.43	-1,769.83	1,483.39	1,456.17	27.22	54.505	
3,700.00	3,540.56	3,754.50	3,590.99	14.01	13.65	67.953	752.14	-1,767.84	1,476.82	1,449.37	27.46	53.790	
3,750.00	3,588.74	3,797.20	3,632.65	14.12	13.76	72.248	742.97	-1,765.94	1,470.53	1,442.84	27.68	53.118	
3,800.00	3,636.20	3,840.02	3,673.98	14.23	13.87	75.418	731.91	-1,764.13	1,464.52	1,436.61	27.90	52.487	
3,850.00	3,682.81	3,882.97	3,714.89	14.33	13.98	77.876	718.97	-1,762.42	1,458.81	1,430.70	28.11	51.894	
3,900.00	3,728.44	3,926.06	3,755.32	14.42	14.08	79.856	704.15	-1,760.81	1,453.43	1,425.12	28.31	51.337	
3,950.00	3,772.97	3,969.30	3,795.18	14.51	14.18	81.499	687.46	-1,759.31	1,448.38	1,419.88	28.50	50.814	
4,000.00	3,816.27	4,012.71	3,834.39	14.59	14.28	82.895	668.91	-1,757.92	1,443.70	1,415.01	28.69	50.323	
4,050.00	3,858.24	4,056.30	3,872.89	14.67	14.37	84.103	648.51	-1,756.64	1,439.38	1,410.51	28.87	49.861	
4,100.00	3,898.74	4,100.07	3,910.57	14.75	14.46	85.163	626.27	-1,755.48	1,435.45	1,406.41	29.04	49.427	
4,150.00	3,937.67	4,144.05	3,947.37	14.82	14.55	86.105	602.22	-1,754.44	1,431.93	1,402.72	29.21	49.019	
4,200.00	3,974.93	4,188.23	3,983.19	14.89	14.64	86.949	576.38	-1,753.53	1,428.82	1,399.44	29.38	48.633	
4,250.00	4,010.41	4,232.64	4,017.95	14.96	14.72	87.710	548.77	-1,752.74	1,426.13	1,396.58	29.55	48.268	
4,300.00	4,044.02	4,277.27	4,051.57	15.02	14.81	88.398	519.42	-1,752.09	1,423.88	1,394.17	29.71	47.922	
4,350.00	4,075.66	4,322.15	4,083.95	15.09	14.89	89.022	488.36	-1,751.58	1,422.08	1,392.20	29.88	47.593	
4,400.00	4,105.24	4,367.28	4,115.01	15.16	14.98	89.589	455.63	-1,751.20	1,420.73	1,390.68	30.05	47.279	
4,450.00	4,132.69	4,412.66	4,144.66	15.24	15.07	90.103	421.27	-1,750.97	1,419.84	1,389.62	30.22	46.979	
4,500.00	4,158.10	4,458.34	4,172.82	15.31	15.16	90.483	385.31	-1,750.88	1,419.40	1,389.00	30.40	46.690	
4,550.00	4,183.10	4,504.48	4,199.48	15.41	15.25	90.656	347.67	-1,750.95	1,419.16	1,388.57	30.60	46.381	
4,600.00	4,208.10	4,550.92	4,224.47	15.50	15.35	90.739	308.53	-1,751.16	1,419.06	1,388.27	30.80	46.074	
4,614.92	4,215.56	4,564.81	4,231.57	15.53	15.38	90.746	296.59	-1,751.25	1,419.06	1,388.19	30.87	45.976 CC	
4,650.00	4,233.10	4,600.52	4,248.92	15.61	15.46	90.747	266.57	-1,751.52	1,419.07	1,388.04	31.03	45.733	
4,700.00	4,257.80	4,649.48	4,273.91	15.73	15.58	90.759	223.27	-1,751.90	1,419.09	1,387.81	31.28	45.374	
4,750.00	4,279.35	4,700.69	4,298.83	15.85	15.71	90.909	180.12	-1,752.28	1,419.16	1,387.63	31.53	45.012	
4,800.00	4,296.88	4,748.61	4,323.48	15.97	15.84	91.219	137.42	-1,752.65	1,419.33	1,387.54	31.78	44.656	
4,850.00	4,310.27	4,799.17	4,348.12	16.09	15.99	91.669	93.28	-1,753.04	1,419.65	1,387.61	32.04	44.305	
4,900.00	4,319.40	4,852.20	4,370.06	16.21	16.14	92.141	45.03	-1,753.47	1,420.08	1,387.77	32.31	43.956	
4,950.00	4,324.22	4,906.54	4,387.82	16.32	16.30	92.603	-6.30	-1,753.92	1,420.59	1,388.02	32.57	43.619	
5,000.00	4,324.86	4,962.29	4,400.91	16.44	16.46	93.061	-60.47	-1,754.40	1,421.17	1,388.34	32.83	43.292	
5,050.00	4,324.37	5,019.92	4,408.83	16.57	16.62	93.403	-117.53	-1,754.90	1,421.61	1,388.50	33.11	42.938	
5,100.00	4,323.88	5,078.71	4,410.98	16.70	16.78	93.512	-176.25	-1,755.42	1,421.76	1,388.37	33.40	42.574	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
5,150.00	4,323.39	5,128.44	4,410.39	16.85	16.93	93.508	-225.98	-1,755.85	1,421.77	1,388.08	33.69	42.202	
5,200.00	4,322.91	5,178.44	4,409.80	17.00	17.08	93.504	-275.97	-1,756.29	1,421.78	1,387.79	33.99	41.828	
5,250.00	4,322.42	5,228.44	4,409.21	17.17	17.24	93.500	-325.97	-1,756.73	1,421.79	1,387.47	34.32	41.424	
5,300.00	4,321.93	5,278.44	4,408.62	17.34	17.41	93.496	-375.96	-1,757.17	1,421.80	1,387.14	34.66	41.018	
5,350.00	4,321.44	5,328.44	4,408.04	17.53	17.59	93.492	-425.95	-1,757.61	1,421.81	1,386.78	35.03	40.588	
5,400.00	4,320.95	5,378.44	4,407.45	17.72	17.78	93.488	-475.95	-1,758.05	1,421.82	1,386.42	35.41	40.158	
5,450.00	4,320.46	5,428.44	4,406.86	17.92	17.98	93.484	-525.94	-1,758.49	1,421.83	1,386.03	35.81	39.708	
5,500.00	4,319.97	5,478.44	4,406.27	18.13	18.19	93.480	-575.94	-1,758.93	1,421.84	1,385.63	36.22	39.260	
5,550.00	4,319.48	5,528.44	4,405.68	18.35	18.40	93.476	-625.93	-1,759.37	1,421.85	1,385.21	36.65	38.796	
5,600.00	4,318.99	5,578.44	4,405.09	18.57	18.62	93.472	-675.93	-1,759.81	1,421.87	1,384.78	37.09	38.336	
5,650.00	4,318.50	5,628.44	4,404.50	18.81	18.85	93.468	-725.92	-1,760.25	1,421.88	1,384.32	37.55	37.863	
5,700.00	4,318.01	5,678.44	4,403.91	19.04	19.09	93.463	-775.92	-1,760.69	1,421.89	1,383.86	38.02	37.396	
5,750.00	4,317.52	5,728.44	4,403.32	19.29	19.33	93.459	-825.91	-1,761.13	1,421.90	1,383.38	38.51	36.920	
5,800.00	4,317.03	5,778.44	4,402.73	19.54	19.58	93.455	-875.91	-1,761.57	1,421.91	1,382.90	39.01	36.451	
5,850.00	4,316.54	5,828.44	4,402.14	19.81	19.83	93.451	-925.90	-1,762.01	1,421.92	1,382.39	39.52	35.975	
5,900.00	4,316.05	5,878.44	4,401.55	20.07	20.09	93.447	-975.89	-1,762.45	1,421.93	1,381.88	40.05	35.507	
5,950.00	4,315.56	5,928.44	4,400.96	20.34	20.36	93.443	-1,025.89	-1,762.89	1,421.94	1,381.35	40.59	35.036	
6,000.00	4,315.08	5,978.44	4,400.37	20.62	20.63	93.439	-1,075.88	-1,763.34	1,421.95	1,380.82	41.13	34.572	
6,050.00	4,314.59	6,028.44	4,399.78	20.90	20.91	93.435	-1,125.88	-1,763.78	1,421.96	1,380.27	41.69	34.107	
6,100.00	4,314.10	6,078.44	4,399.19	21.18	21.20	93.431	-1,175.87	-1,764.22	1,421.97	1,379.71	42.26	33.651	
6,150.00	4,313.61	6,128.44	4,398.60	21.48	21.48	93.427	-1,225.87	-1,764.66	1,421.98	1,379.14	42.84	33.195	
6,200.00	4,313.12	6,178.44	4,398.02	21.77	21.78	93.423	-1,275.86	-1,765.10	1,421.99	1,378.57	43.42	32.747	
6,250.00	4,312.63	6,228.44	4,397.43	22.07	22.07	93.419	-1,325.86	-1,765.54	1,422.00	1,377.98	44.02	32.301	
6,300.00	4,312.14	6,278.44	4,396.84	22.38	22.38	93.415	-1,375.85	-1,765.98	1,422.01	1,377.38	44.63	31.865	
6,350.00	4,311.65	6,328.44	4,396.25	22.69	22.68	93.411	-1,425.84	-1,766.42	1,422.02	1,376.78	45.24	31.431	
6,400.00	4,311.16	6,378.44	4,395.66	23.00	22.99	93.407	-1,475.84	-1,766.86	1,422.03	1,376.17	45.86	31.006	
6,450.00	4,310.67	6,428.44	4,395.07	23.32	23.31	93.403	-1,525.83	-1,767.30	1,422.04	1,375.54	46.50	30.585	
6,500.00	4,310.18	6,478.44	4,394.48	23.64	23.62	93.398	-1,575.83	-1,767.74	1,422.05	1,374.92	47.13	30.172	
6,550.00	4,309.69	6,528.44	4,393.89	23.96	23.95	93.394	-1,625.82	-1,768.18	1,422.06	1,374.28	47.78	29.764	
6,600.00	4,309.20	6,578.44	4,393.30	24.29	24.27	93.390	-1,675.82	-1,768.62	1,422.07	1,373.64	48.43	29.365	
6,650.00	4,308.71	6,628.44	4,392.71	24.62	24.60	93.386	-1,725.81	-1,769.06	1,422.08	1,372.99	49.09	28.970	
6,700.00	4,308.22	6,678.44	4,392.12	24.95	24.93	93.382	-1,775.81	-1,769.50	1,422.09	1,372.34	49.75	28.584	
6,750.00	4,307.73	6,728.44	4,391.53	25.29	25.27	93.378	-1,825.80	-1,769.94	1,422.10	1,371.68	50.42	28.203	
6,800.00	4,307.25	6,778.44	4,390.94	25.63	25.60	93.374	-1,875.80	-1,770.38	1,422.11	1,371.01	51.10	27.831	
6,850.00	4,306.76	6,828.44	4,390.35	25.97	25.94	93.370	-1,925.79	-1,770.82	1,422.12	1,370.34	51.78	27.464	
6,900.00	4,306.27	6,878.44	4,389.76	26.32	26.29	93.366	-1,975.78	-1,771.26	1,422.13	1,369.67	52.47	27.105	
6,950.00	4,305.78	6,928.44	4,389.17	26.67	26.63	93.362	-2,025.78	-1,771.70	1,422.14	1,368.98	53.16	26.751	
7,000.00	4,305.29	6,978.44	4,388.58	27.01	26.98	93.358	-2,075.77	-1,772.14	1,422.15	1,368.30	53.86	26.406	
7,050.00	4,304.80	7,028.44	4,387.99	27.37	27.33	93.354	-2,125.77	-1,772.58	1,422.16	1,367.60	54.56	26.065	
7,100.00	4,304.31	7,078.44	4,387.41	27.72	27.68	93.350	-2,175.76	-1,773.02	1,422.18	1,366.91	55.27	25.732	
7,150.00	4,303.82	7,128.44	4,386.82	28.08	28.04	93.346	-2,225.76	-1,773.46	1,422.19	1,366.21	55.98	25.405	
7,200.00	4,303.33	7,178.44	4,386.23	28.44	28.40	93.342	-2,275.75	-1,773.90	1,422.20	1,365.50	56.70	25.085	
7,250.00	4,302.84	7,228.44	4,385.64	28.80	28.76	93.337	-2,325.75	-1,774.34	1,422.21	1,364.79	57.42	24.770	
7,300.00	4,302.35	7,278.44	4,385.05	29.16	29.12	93.333	-2,375.74	-1,774.78	1,422.22	1,364.08	58.14	24.462	
7,350.00	4,301.86	7,328.44	4,384.46	29.53	29.48	93.329	-2,425.73	-1,775.22	1,422.23	1,363.36	58.87	24.160	
7,400.00	4,301.37	7,378.44	4,383.87	29.89	29.84	93.325	-2,475.73	-1,775.66	1,422.24	1,362.64	59.60	23.864	
7,450.00	4,300.88	7,419.01	4,383.39	30.26	30.14	93.322	-2,516.30	-1,776.08	1,422.34	1,362.08	60.26	23.602	
7,500.00	4,300.39	7,452.44	4,383.00	30.63	30.39	93.318	-2,549.72	-1,776.79	1,422.98	1,362.10	60.87	23.376	
7,550.00	4,299.90	7,485.85	4,382.60	31.00	30.63	93.314	-2,583.11	-1,777.89	1,424.19	1,362.71	61.48	23.165	
7,600.00	4,299.42	7,519.24	4,382.21	31.38	30.88	93.308	-2,616.46	-1,779.38	1,425.99	1,363.91	62.08	22.969	
7,650.00	4,298.93	7,552.59	4,381.81	31.75	31.13	93.302	-2,649.76	-1,781.25	1,428.37	1,365.69	62.68	22.788	
7,700.00	4,298.44	7,585.91	4,381.42	32.13	31.37	93.294	-2,682.99	-1,783.51	1,431.32	1,368.05	63.27	22.623	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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		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	
7,750.00	4,297.95	7,619.17	4,381.02	32.51	31.62	93.286	-2,716.15	-1,786.15	1,434.86	1,371.00	63.86	22.471	
7,800.00	4,297.46	7,652.37	4,380.63	32.88	31.86	93.277	-2,749.21	-1,789.18	1,438.97	1,374.54	64.43	22.333	
7,850.00	4,296.97	7,703.80	4,380.11	33.26	32.24	93.264	-2,792.81	-1,793.57	1,443.55	1,378.37	65.18	22.149	
7,900.00	4,296.48	7,745.98	4,379.52	33.65	32.55	93.249	-2,842.34	-1,798.59	1,448.15	1,382.28	65.87	21.985	
7,950.00	4,295.99	7,804.23	4,378.93	34.03	32.99	93.235	-2,891.87	-1,803.62	1,452.76	1,386.07	66.69	21.784	
8,000.00	4,295.50	7,845.56	4,378.34	34.41	33.29	93.220	-2,941.40	-1,808.64	1,457.37	1,389.99	67.38	21.629	
8,050.00	4,295.01	7,904.66	4,377.74	34.80	33.74	93.206	-2,990.93	-1,813.66	1,461.98	1,393.77	68.21	21.433	
8,100.00	4,294.52	7,945.13	4,377.15	35.18	34.04	93.192	-3,040.45	-1,818.68	1,466.59	1,397.69	68.90	21.285	
8,150.00	4,294.03	7,994.91	4,376.56	35.57	34.42	93.178	-3,089.98	-1,823.70	1,471.20	1,401.53	69.67	21.118	
8,200.00	4,293.54	8,044.70	4,375.97	35.96	34.79	93.164	-3,139.51	-1,828.73	1,475.81	1,405.38	70.43	20.954	
8,250.00	4,293.05	8,094.49	4,375.38	36.35	35.17	93.150	-3,189.04	-1,833.75	1,480.42	1,409.22	71.20	20.792	
8,300.00	4,292.56	8,144.27	4,374.79	36.74	35.55	93.136	-3,238.57	-1,838.77	1,485.03	1,413.06	71.97	20.634	
8,350.00	4,292.07	8,226.22	4,373.82	37.13	36.18	93.115	-3,320.15	-1,846.37	1,489.31	1,416.23	73.08	20.379	
8,400.00	4,291.59	8,330.14	4,372.59	37.52	36.98	93.095	-3,423.87	-1,852.74	1,491.94	1,417.58	74.37	20.061	
8,450.00	4,291.10	8,434.33	4,371.36	37.92	37.80	93.083	-3,528.01	-1,855.34	1,492.76	1,417.18	75.59	19.749	
8,500.00	4,290.61	8,538.51	4,370.13	38.31	38.61	93.080	-3,632.17	-1,854.15	1,491.76	1,415.04	76.72	19.443	
8,550.00	4,290.12	8,606.36	4,369.49	38.70	39.15	93.080	-3,687.27	-1,852.34	1,489.69	1,412.05	77.64	19.186	
8,600.00	4,289.63	8,643.60	4,368.90	39.10	39.45	93.081	-3,737.19	-1,850.69	1,487.61	1,409.28	78.33	18.991	
8,650.00	4,289.14	8,706.45	4,368.31	39.50	39.95	93.081	-3,787.12	-1,849.04	1,485.54	1,406.31	79.23	18.750	
8,700.00	4,288.65	8,743.51	4,367.73	39.89	40.24	93.082	-3,837.05	-1,847.39	1,483.46	1,403.54	79.92	18.562	
8,750.00	4,288.16	8,793.47	4,367.14	40.29	40.64	93.082	-3,886.97	-1,845.74	1,481.38	1,400.66	80.71	18.353	
8,800.00	4,287.67	8,843.42	4,366.56	40.69	41.04	93.083	-3,936.90	-1,844.08	1,479.30	1,397.79	81.51	18.148	
8,850.00	4,287.18	8,906.62	4,365.97	41.09	41.55	93.084	-3,986.82	-1,842.43	1,477.22	1,394.81	82.42	17.924	
8,900.00	4,286.69	8,943.34	4,365.39	41.49	41.84	93.084	-4,036.75	-1,840.78	1,475.14	1,392.03	83.11	17.749	
8,950.00	4,286.20	9,006.71	4,364.80	41.89	42.35	93.085	-4,086.68	-1,839.13	1,473.06	1,389.05	84.02	17.533	
9,000.00	4,285.71	9,043.25	4,364.22	42.29	42.64	93.085	-4,136.60	-1,837.48	1,470.99	1,386.27	84.71	17.364	
9,050.00	4,285.22	9,106.79	4,363.63	42.69	43.16	93.086	-4,186.53	-1,835.83	1,468.91	1,383.28	85.63	17.155	
9,100.00	4,284.73	9,143.16	4,363.05	43.10	43.45	93.087	-4,236.45	-1,834.18	1,466.83	1,380.51	86.32	16.993	
9,150.00	4,284.24	9,206.88	4,362.46	43.50	43.97	93.087	-4,286.38	-1,832.52	1,464.75	1,377.51	87.24	16.790	
9,200.00	4,283.76	9,243.08	4,361.87	43.90	44.26	93.088	-4,336.31	-1,830.87	1,462.67	1,374.74	87.93	16.634	
9,250.00	4,283.27	9,306.97	4,361.29	44.31	44.78	93.088	-4,386.23	-1,829.22	1,460.59	1,371.74	88.86	16.438	
9,300.00	4,282.78	9,342.99	4,360.70	44.71	45.07	93.089	-4,436.16	-1,827.57	1,458.51	1,368.96	89.55	16.287	
9,350.00	4,282.29	9,407.05	4,360.12	45.12	45.59	93.089	-4,486.08	-1,825.92	1,456.44	1,365.96	90.48	16.097	
9,400.00	4,281.80	9,442.90	4,359.53	45.52	45.88	93.090	-4,536.01	-1,824.27	1,454.36	1,363.18	91.17	15.952	
9,450.00	4,281.31	9,507.14	4,358.95	45.93	46.41	93.091	-4,585.94	-1,822.62	1,452.28	1,360.18	92.10	15.768	
9,500.00	4,280.82	9,542.82	4,358.36	46.33	46.70	93.091	-4,635.86	-1,820.96	1,450.20	1,357.40	92.80	15.627	
9,550.00	4,280.33	9,607.23	4,357.78	46.74	47.22	93.092	-4,685.79	-1,819.31	1,448.12	1,354.39	93.73	15.450	
9,600.00	4,279.84	9,642.73	4,357.19	47.15	47.51	93.092	-4,735.71	-1,817.66	1,446.04	1,351.61	94.43	15.314	
9,650.00	4,279.35	9,707.31	4,356.60	47.56	48.04	93.093	-4,785.64	-1,816.01	1,443.96	1,348.60	95.36	15.142	
9,700.00	4,278.86	9,742.64	4,356.02	47.97	48.33	93.094	-4,835.57	-1,814.36	1,441.89	1,345.82	96.06	15.010	
9,750.00	4,278.37	9,807.40	4,355.43	48.38	48.86	93.094	-4,885.49	-1,812.71	1,439.81	1,342.81	97.00	14.843	
9,800.00	4,277.88	9,842.56	4,354.85	48.78	49.15	93.095	-4,935.42	-1,811.06	1,437.73	1,340.03	97.70	14.716	
9,850.00	4,277.39	9,907.49	4,354.26	49.19	49.69	93.095	-4,985.34	-1,809.40	1,435.65	1,337.01	98.64	14.554	
9,900.00	4,276.90	9,942.47	4,353.68	49.60	49.97	93.096	-5,035.27	-1,807.75	1,433.57	1,334.23	99.34	14.431	
9,950.00	4,276.42	10,007.57	4,353.09	50.01	50.51	93.097	-5,085.20	-1,806.10	1,431.49	1,331.21	100.28	14.274	
10,000.00	4,275.93	10,042.39	4,352.51	50.43	50.80	93.097	-5,135.12	-1,804.45	1,429.41	1,328.43	100.98	14.155	
10,050.00	4,275.44	10,092.34	4,351.92	50.84	51.21	93.098	-5,185.05	-1,802.80	1,427.34	1,325.53	101.80	14.021	
10,094.57	4,275.00	10,136.87	4,351.40	51.20	51.62	93.098	-5,229.55	-1,801.33	1,425.48	1,322.91	102.57	13.897 ES, 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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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	31.569	417.16	256.33	489.62				
50.00	50.00	46.00	50.00	0.05	0.41	31.569	417.16	256.33	489.62	489.15	0.47	1,052.754	
100.00	100.00	96.00	100.00	0.14	0.86	31.569	417.16	256.33	489.62	488.62	1.00	488.748	
150.00	150.00	146.00	150.00	0.32	1.31	31.569	417.16	256.33	489.62	487.99	1.63	300.731	
200.00	200.00	196.01	200.00	0.50	1.76	31.569	417.16	256.33	489.62	487.35	2.27	216.070	
250.00	250.00	246.01	250.00	0.68	2.79	31.569	417.16	256.33	489.62	486.15	3.47	141.229	
300.00	300.00	297.59	301.58	0.86	3.84	31.561	417.30	256.33	489.74	485.04	4.70	104.198	
350.00	350.00	346.02	350.00	1.04	4.81	48.177	417.16	256.33	489.33	483.48	5.85	83.600	
400.00	399.98	435.99	399.98	1.22	6.53	48.305	417.16	256.33	488.46	480.70	7.75	63.011	
450.00	449.93	445.96	449.93	1.40	6.70	48.518	417.16	256.33	487.01	478.91	8.10	60.105	
500.00	499.84	495.87	499.84	1.58	7.56	48.818	417.16	256.33	484.99	475.85	9.14	53.087	
550.00	549.68	546.07	550.04	1.76	8.41	49.196	417.39	256.33	482.60	472.43	10.17	47.434	
600.00	599.45	596.65	600.62	1.95	9.28	49.690	417.29	256.33	479.40	468.18	11.22	42.729	
650.00	649.13	647.12	651.09	2.13	10.14	50.289	417.09	256.33	475.58	463.32	12.26	38.781	
700.00	698.70	694.73	698.70	2.31	10.93	50.934	417.16	256.33	471.47	458.24	13.23	35.628	
750.00	748.15	744.18	748.15	2.49	11.76	51.706	417.16	256.33	466.82	452.58	14.24	32.781	
800.00	797.47	793.50	797.47	2.67	12.58	52.585	417.16	256.33	461.71	446.47	15.25	30.286	
850.00	846.63	845.34	846.63	2.85	13.45	53.573	417.16	256.33	456.18	439.88	16.30	27.994	
900.00	895.62	891.65	895.62	3.03	14.30	54.678	417.16	256.33	450.26	432.94	17.32	25.990	
950.00	944.44	940.48	944.45	3.21	15.19	55.900	417.20	256.33	444.03	425.63	18.40	24.131	
1,000.00	993.06	989.25	993.21	3.40	16.08	57.258	417.19	256.33	437.47	417.99	19.48	22.461	
1,050.00	1,041.46	1,037.79	1,041.76	3.58	16.97	58.751	417.15	256.33	430.65	410.10	20.55	20.956	
1,100.00	1,089.64	1,085.68	1,089.64	3.77	17.92	60.366	417.16	256.33	423.69	402.01	21.68	19.541	
1,150.00	1,137.58	1,133.77	1,137.73	3.96	18.86	62.109	417.49	256.33	416.88	394.06	22.81	18.274	
1,200.00	1,185.27	1,182.47	1,186.42	4.15	19.81	64.078	417.38	256.33	409.73	385.77	23.96	17.103	
1,250.00	1,232.68	1,230.78	1,234.74	4.34	20.76	66.220	417.10	256.33	402.56	377.47	25.10	16.041	
1,300.00	1,279.82	1,275.87	1,279.82	4.53	21.59	68.354	417.16	256.33	395.81	369.69	26.12	15.151	
1,350.00	1,326.65	1,322.82	1,326.76	4.73	22.47	70.707	417.49	256.33	389.53	362.34	27.20	14.322	
1,400.00	1,373.21	1,370.14	1,374.07	4.93	23.36	73.227	417.38	256.33	383.46	355.18	28.28	13.560	
1,450.00	1,419.73	1,417.29	1,421.23	5.13	24.24	75.780	417.11	256.33	378.06	348.70	29.36	12.876	
1,500.00	1,466.25	1,462.32	1,466.25	5.33	25.13	78.235	417.16	256.33	373.65	343.19	30.46	12.267	
1,550.00	1,512.78	1,508.84	1,512.78	5.53	26.05	80.825	417.16	256.33	370.08	338.50	31.58	11.718	
1,600.00	1,559.30	1,555.37	1,559.30	5.74	26.97	83.453	417.16	256.33	367.39	334.69	32.71	11.233	
1,650.00	1,605.82	1,601.96	1,605.89	5.94	27.89	86.086	417.36	256.33	365.67	331.84	33.83	10.809	
1,700.00	1,652.34	1,648.56	1,652.49	6.14	28.81	88.768	417.32	256.33	364.77	329.82	34.95	10.436	
1,724.27	1,674.93	1,671.17	1,675.10	6.24	29.26	90.075	417.28	256.33	364.66	329.16	35.50	10.272 CC	
1,750.00	1,698.87	1,695.13	1,699.06	6.35	29.73	91.460	417.24	256.33	364.79	328.71	36.08	10.111	
1,800.00	1,745.39	1,741.68	1,745.61	6.55	30.65	94.150	417.12	256.33	365.72	328.52	37.20	9.832 ES	
1,850.00	1,791.91	1,788.01	1,791.91	6.76	31.58	96.785	417.16	256.33	367.60	329.27	38.33	9.591	
1,900.00	1,838.43	1,835.45	1,838.43	6.97	32.53	99.410	417.16	256.33	370.37	330.09	40.27	9.196	
1,950.00	1,884.96	1,881.07	1,884.96	7.17	33.44	101.996	417.16	256.33	374.02	333.44	40.58	9.217	
2,000.00	1,931.48	1,927.60	1,931.48	7.38	34.37	104.533	417.16	256.33	378.52	336.82	41.69	9.078	
2,050.00	1,978.00	1,974.12	1,978.00	7.59	35.29	107.014	417.16	256.33	383.84	341.04	42.81	8.967	
2,100.00	2,024.52	2,020.63	2,024.51	7.80	36.22	109.395	417.40	256.33	389.94	346.02	43.91	8.880	
2,150.00	2,071.05	2,067.09	2,070.97	8.01	37.14	111.746	417.35	256.33	396.80	351.78	45.02	8.814	
2,200.00	2,117.57	2,113.51	2,117.39	8.22	38.06	114.028	417.25	256.33	404.38	358.26	46.12	8.768	
2,250.00	2,164.09	2,160.24	2,164.09	8.42	38.98	116.243	417.16	256.33	412.65	365.43	47.22	8.739	
2,300.00	2,210.61	2,206.38	2,210.23	8.63	39.89	118.313	417.37	256.33	421.49	373.19	48.30	8.727	
2,350.00	2,257.14	2,253.29	2,257.14	8.84	40.78	120.391	417.16	256.33	431.02	381.66	49.37	8.731	
2,400.00	2,303.66	2,299.81	2,303.66	9.05	41.62	122.344	417.16	256.33	441.07	390.69	50.37	8.756	
2,450.00	2,350.18	2,346.28	2,350.12	9.26	42.45	124.199	417.28	256.33	451.59	400.21	51.38	8.790	
2,500.00	2,396.70	2,392.58	2,396.42	9.47	43.29	125.989	417.23	256.33	462.65	410.27	52.37	8.833	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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
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
2,550.00	2,443.23	2,439.39	2,443.23	9.68	44.13	127.722	417.16	256.33	474.17	420.79	53.38	8.882	
2,600.00	2,489.75	2,485.91	2,489.75	9.89	44.96	129.360	417.16	256.33	486.09	431.70	54.39	8.938	
2,650.00	2,536.27	2,532.43	2,536.27	10.10	45.80	130.925	417.16	256.33	498.39	443.00	55.39	8.998	
2,700.00	2,582.79	2,578.63	2,582.47	10.32	46.63	132.387	417.39	256.33	510.95	454.57	56.38	9.062	
2,750.00	2,629.32	2,624.68	2,628.52	10.53	47.46	133.810	417.28	256.33	524.00	466.62	57.38	9.133	
2,800.00	2,675.84	2,672.00	2,675.84	10.74	48.34	135.207	417.16	256.33	537.37	478.95	58.42	9.199	
2,850.00	2,722.36	2,718.53	2,722.36	10.95	49.25	136.506	417.16	256.33	550.97	491.48	59.49	9.261	
2,900.00	2,768.88	2,764.89	2,768.72	11.16	50.16	137.732	417.27	256.33	564.77	504.21	60.57	9.325	
2,950.00	2,815.41	2,810.96	2,814.79	11.37	51.06	138.909	417.22	256.33	578.91	517.28	61.63	9.393	
3,000.00	2,861.93	2,858.11	2,861.93	11.58	52.02	140.059	417.16	256.33	593.29	530.53	62.76	9.453	
3,050.00	2,908.45	2,904.43	2,908.25	11.79	53.01	141.108	417.50	256.33	607.64	543.73	63.91	9.508	
3,100.00	2,954.97	2,948.28	2,952.09	12.01	53.94	142.095	417.32	256.33	622.51	557.51	65.00	9.577	
3,150.00	3,001.53	2,997.74	3,001.53	12.22	55.01	143.947	417.16	256.33	637.48	571.24	66.23	9.625	
3,200.00	3,048.74	3,044.95	3,048.74	12.42	56.03	147.904	417.16	256.33	651.33	583.91	67.42	9.661	
3,250.00	3,096.71	3,092.15	3,095.94	12.62	57.05	152.497	417.60	256.33	663.39	594.78	68.60	9.670	
3,300.00	3,145.31	3,139.03	3,142.82	12.81	58.06	158.451	417.42	256.33	674.21	604.44	69.78	9.663	
3,350.00	3,194.40	3,190.65	3,194.40	13.00	59.19	167.012	417.16	256.33	683.39	612.31	71.08	9.614	
3,400.00	3,243.86	3,239.87	3,243.62	13.17	60.30	-179.394	417.51	256.33	690.43	618.08	72.35	9.542	
3,450.00	3,293.54	3,285.77	3,289.51	13.34	61.33	-156.703	417.29	256.33	696.09	622.55	73.54	9.466	
3,500.00	3,343.31	3,338.23	3,341.94	13.49	62.51	-126.091	417.32	256.33	699.78	624.89	74.89	9.344	
3,550.00	3,393.03	3,389.33	3,393.03	13.63	63.64	-100.572	417.16	256.33	701.84	625.66	76.18	9.213	
3,600.00	3,442.57	3,438.03	3,441.72	13.77	64.69	-85.434	417.52	256.33	701.84	624.45	77.38	9.070	
3,650.00	3,491.79	3,483.83	3,487.53	13.89	65.68	-76.926	417.26	256.33	700.57	622.06	78.51	8.923	
3,700.00	3,540.56	3,536.88	3,540.56	14.01	66.77	-72.224	417.16	256.33	697.57	617.79	79.78	8.744	
3,750.00	3,588.74	3,583.67	3,587.34	14.12	67.73	-69.566	417.36	256.33	692.89	612.01	80.88	8.567	
3,800.00	3,636.20	3,632.53	3,636.20	14.23	68.73	-68.294	417.16	256.33	687.07	605.04	82.03	8.375	
3,850.00	3,682.81	3,679.14	3,682.81	14.33	69.69	-67.940	417.16	256.33	679.89	596.76	83.14	8.178	
3,900.00	3,728.44	3,723.02	3,728.67	14.42	70.59	-68.231	417.31	256.33	671.57	587.39	84.18	7.978	
3,950.00	3,772.97	3,769.32	3,772.97	14.51	71.51	-69.172	417.16	256.33	662.53	577.28	85.25	7.772	
4,000.00	3,816.27	3,812.63	3,816.27	14.59	72.34	-70.503	417.16	256.33	652.77	566.55	86.22	7.571	
4,050.00	3,858.24	3,854.27	3,857.92	14.67	73.14	-72.204	417.52	256.33	642.46	555.29	87.16	7.371	
4,100.00	3,898.74	3,893.96	3,897.60	14.75	73.90	-74.133	417.41	256.33	632.27	544.20	88.07	7.179	
4,150.00	3,937.67	3,932.32	3,935.95	14.82	74.63	-76.281	417.18	256.33	622.34	533.39	88.95	6.997	
4,200.00	3,974.93	3,971.30	3,974.93	14.89	75.37	-78.739	417.16	256.33	612.89	523.05	89.83	6.822	
4,250.00	4,010.41	4,006.72	4,010.35	14.96	76.04	-81.182	417.27	256.33	604.34	513.69	90.65	6.667	
4,300.00	4,044.02	4,040.12	4,043.75	15.02	76.67	-83.613	417.23	256.33	597.17	505.74	91.43	6.532	
4,350.00	4,075.66	4,072.03	4,075.66	15.09	77.29	-86.017	417.16	256.33	591.73	499.53	92.19	6.418	
4,400.00	4,105.24	4,101.61	4,105.24	15.16	77.90	-88.276	417.16	256.33	588.38	495.44	92.94	6.330	
4,441.35	4,128.09	4,124.47	4,128.09	15.22	78.38	-90.000	417.16	256.33	587.47	493.94	93.53	6.281	
4,450.00	4,132.69	4,129.06	4,132.68	15.24	78.47	-90.352	417.38	256.33	587.51	493.87	93.64	6.274	
4,500.00	4,158.10	4,154.60	4,158.23	15.31	79.00	-92.324	417.34	256.33	589.46	495.17	94.29	6.251	
4,550.00	4,183.10	4,202.51	4,183.10	15.41	80.00	-94.409	417.16	256.33	594.49	499.09	95.41	6.231 SF	
4,600.00	4,208.10	4,204.49	4,208.10	15.50	80.05	-96.501	417.16	256.33	602.61	507.07	95.54	6.307	
4,650.00	4,233.10	4,229.49	4,233.10	15.61	80.58	-98.575	417.16	256.33	613.69	517.53	96.16	6.382	
4,700.00	4,257.80	4,254.20	4,257.80	15.73	81.11	-100.010	417.16	256.33	627.62	530.86	96.76	6.486	
4,750.00	4,279.35	4,276.62	4,280.22	15.85	81.59	-100.122	417.43	256.33	644.97	547.69	97.29	6.630	
4,800.00	4,296.88	4,295.18	4,298.78	15.97	81.98	-99.529	417.34	256.33	665.61	567.90	97.71	6.812	
4,850.00	4,310.27	4,329.32	4,310.27	16.09	82.70	-97.883	417.16	256.33	689.45	591.03	98.42	7.005	
4,900.00	4,319.40	4,320.18	4,319.40	16.21	82.51	-95.568	417.16	256.33	716.39	618.18	98.22	7.294	
4,950.00	4,324.22	4,325.52	4,329.12	16.32	82.63	-92.846	417.08	256.33	745.94	647.65	98.29	7.589	
5,000.00	4,324.86	4,326.79	4,330.39	16.44	82.66	-90.053	417.07	256.33	777.73	679.46	98.27	7.914	
5,050.00	4,324.37	4,326.85	4,330.45	16.57	82.66	-90.059	417.07	256.33	811.37	713.16	98.21	8.262	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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
Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis 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	4,323.88	4,326.92	4,330.52	16.70	82.66	-90.065	417.07	256.33	846.62	748.46	98.17	8.624	
5,150.00	4,323.39	4,326.98	4,330.58	16.85	82.66	-90.071	417.07	256.33	883.31	785.18	98.13	9.002	
5,200.00	4,322.91	4,327.05	4,330.65	17.00	82.66	-90.078	417.07	256.33	921.24	823.16	98.08	9.393	
5,250.00	4,322.42	4,327.11	4,330.71	17.17	82.66	-90.084	417.07	256.33	960.28	862.24	98.04	9.795	
5,300.00	4,321.93	4,327.18	4,330.78	17.34	82.66	-90.091	417.07	256.33	1,000.30	902.30	98.00	10.207	
5,350.00	4,321.44	4,327.25	4,330.85	17.53	82.67	-90.098	417.06	256.33	1,041.18	943.21	97.97	10.628	
5,400.00	4,320.95	4,327.32	4,330.92	17.72	82.67	-90.104	417.06	256.33	1,082.82	984.89	97.93	11.057	
5,450.00	4,320.46	4,327.39	4,330.99	17.92	82.67	-90.111	417.06	256.33	1,125.15	1,027.25	97.90	11.492	
5,500.00	4,319.97	4,327.47	4,331.06	18.13	82.67	-90.118	417.06	256.33	1,168.08	1,070.21	97.88	11.934	
5,550.00	4,319.48	4,327.54	4,331.14	18.35	82.67	-90.126	417.06	256.33	1,211.56	1,113.70	97.85	12.381	
5,600.00	4,318.99	4,327.61	4,331.21	18.57	82.67	-90.133	417.06	256.33	1,255.52	1,157.69	97.83	12.834	
5,650.00	4,318.50	4,327.69	4,331.29	18.81	82.68	-90.140	417.06	256.33	1,299.92	1,202.10	97.81	13.290	
5,700.00	4,318.01	4,327.77	4,331.37	19.04	82.68	-90.148	417.06	256.33	1,344.71	1,246.91	97.79	13.751	
5,750.00	4,317.52	4,327.85	4,331.45	19.29	82.68	-90.156	417.06	256.33	1,389.85	1,292.08	97.78	14.214	
5,800.00	4,317.03	4,327.93	4,331.53	19.54	82.68	-90.164	417.06	256.33	1,435.32	1,337.56	97.76	14.682	
5,850.00	4,316.54	4,328.01	4,331.61	19.81	82.68	-90.172	417.06	256.33	1,481.08	1,383.33	97.75	15.151	
5,900.00	4,316.05	4,328.10	4,331.70	20.07	82.68	-90.180	417.06	256.33	1,527.11	1,429.37	97.74	15.624	
5,950.00	4,315.56	4,328.18	4,331.78	20.34	82.69	-90.188	417.05	256.33	1,573.38	1,475.64	97.73	16.099	
6,000.00	4,315.08	4,328.27	4,331.87	20.62	82.69	-90.197	417.05	256.33	1,619.87	1,522.14	97.72	16.576	
6,050.00	4,314.59	4,328.36	4,331.96	20.90	82.69	-90.206	417.05	256.33	1,666.56	1,568.84	97.72	17.055	
6,100.00	4,314.10	4,328.45	4,332.05	21.18	82.69	-90.214	417.05	256.33	1,713.44	1,615.73	97.71	17.536	
6,150.00	4,313.61	4,328.54	4,332.14	21.48	82.69	-90.224	417.05	256.33	1,760.49	1,662.78	97.71	18.018	
6,200.00	4,313.12	4,328.64	4,332.24	21.77	82.70	-90.233	417.05	256.33	1,807.70	1,710.00	97.71	18.502	
6,250.00	4,312.63	4,328.73	4,332.33	22.07	82.70	-90.242	417.05	256.33	1,855.06	1,757.36	97.70	18.987	
6,300.00	4,312.14	4,327.45	4,312.14	22.38	82.66	-88.273	417.16	256.33	1,902.55	1,804.86	97.69	19.475	
6,350.00	4,311.65	4,327.94	4,311.65	22.69	82.67	-88.226	417.16	256.33	1,950.16	1,852.47	97.70	19.961	
6,400.00	4,311.16	4,328.43	4,311.16	23.00	82.68	-88.178	417.16	256.33	1,997.90	1,900.19	97.71	20.448	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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 Tooface (")	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	38.180	1,140.34	896.71	1,450.68				
50.00	50.00	35.00	50.00	0.05	0.31	38.180	1,140.34	896.71	1,450.68	1,450.31	0.37	3,952.323	
100.00	100.00	85.00	100.00	0.14	0.76	38.180	1,140.34	896.71	1,450.68	1,449.77	0.90	1,604.384	
150.00	150.00	135.00	150.00	0.32	1.21	38.180	1,140.34	896.71	1,450.68	1,449.15	1.53	947.558	
200.00	200.00	185.00	200.00	0.50	1.66	38.180	1,140.34	896.71	1,450.68	1,448.52	2.16	672.315	
250.00	250.00	235.01	250.00	0.68	2.54	38.180	1,140.34	896.71	1,450.68	1,447.46	3.22	450.415	
300.00	300.00	292.98	300.00	0.86	3.72	38.180	1,140.34	896.71	1,450.68	1,446.10	4.58	316.642	
350.00	350.00	335.01	350.00	1.04	4.55	54.764	1,140.34	896.71	1,450.43	1,444.84	5.59	259.540	
400.00	399.98	385.00	399.98	1.22	5.53	54.818	1,140.34	896.71	1,449.67	1,442.92	6.75	214.705	
450.00	449.93	437.35	452.33	1.40	6.56	54.902	1,140.83	896.71	1,448.80	1,440.84	7.96	181.943	
500.00	499.84	491.77	506.74	1.58	7.64	55.046	1,140.61	896.71	1,446.89	1,437.67	9.21	157.020	
550.00	549.68	546.09	561.06	1.76	8.71	55.238	1,140.17	896.71	1,444.32	1,433.86	10.46	138.017	
600.00	599.45	584.49	599.45	1.95	9.39	55.402	1,140.34	896.71	1,441.68	1,430.35	11.32	127.300	
650.00	649.13	634.17	649.13	2.13	10.30	55.640	1,140.34	896.71	1,438.46	1,426.04	12.42	115.841	
700.00	698.70	683.74	698.70	2.31	11.21	55.915	1,140.34	896.71	1,434.77	1,421.26	13.51	106.216	
750.00	748.15	733.54	748.50	2.49	12.12	56.219	1,140.76	896.71	1,430.93	1,416.33	14.60	97.985	
800.00	797.47	784.12	799.08	2.67	13.05	56.578	1,140.71	896.71	1,426.28	1,410.57	15.71	90.769	
850.00	846.63	834.53	849.49	2.85	13.98	56.978	1,140.61	896.71	1,421.15	1,404.33	16.82	84.486	
900.00	895.62	884.74	899.70	3.03	14.90	57.419	1,140.45	896.71	1,415.55	1,397.63	17.92	78.971	
950.00	944.44	934.74	949.69	3.21	15.82	57.901	1,140.23	896.71	1,409.50	1,390.47	19.03	74.083	
1,000.00	993.06	978.11	993.06	3.40	16.60	58.361	1,140.34	896.71	1,403.28	1,383.29	19.99	70.182	
1,050.00	1,041.46	1,027.52	1,042.47	3.58	17.50	58.907	1,140.54	896.71	1,396.76	1,375.68	21.08	66.263	
1,100.00	1,089.64	1,078.08	1,093.03	3.77	18.42	59.516	1,140.43	896.71	1,389.65	1,367.47	22.18	62.641	
1,150.00	1,137.58	1,122.64	1,137.58	3.96	19.23	60.105	1,140.34	896.71	1,382.21	1,359.03	23.18	59.621	
1,200.00	1,185.27	1,170.33	1,185.27	4.15	20.10	60.765	1,140.34	896.71	1,374.52	1,350.28	24.24	56.703	
1,250.00	1,232.68	1,217.74	1,232.68	4.34	20.96	61.465	1,140.34	896.71	1,366.54	1,341.25	25.30	54.024	
1,300.00	1,279.82	1,265.92	1,280.86	4.53	21.84	62.211	1,140.54	896.71	1,358.44	1,332.08	26.36	51.526	
1,350.00	1,326.65	1,314.02	1,328.96	4.73	22.72	63.010	1,140.45	896.71	1,349.90	1,322.47	27.43	49.205	
1,400.00	1,373.21	1,361.79	1,376.73	4.93	23.59	63.766	1,140.31	896.71	1,341.16	1,312.66	28.50	47.060	
1,450.00	1,419.73	1,404.80	1,419.73	5.13	24.36	64.381	1,140.34	896.71	1,332.69	1,303.22	29.47	45.224	
1,500.00	1,466.25	1,451.44	1,466.38	5.33	25.20	65.051	1,140.55	896.71	1,324.54	1,294.03	30.51	43.419	
1,550.00	1,512.78	1,499.93	1,514.86	5.53	26.08	65.763	1,140.49	896.71	1,316.41	1,284.83	31.58	41.687	
1,600.00	1,559.30	1,548.34	1,563.27	5.74	26.95	66.485	1,140.32	896.71	1,308.42	1,275.76	32.65	40.074	
1,650.00	1,605.82	1,590.89	1,605.82	5.94	27.72	67.122	1,140.34	896.71	1,300.75	1,267.13	33.62	38.689	
1,700.00	1,652.34	1,637.42	1,652.34	6.14	28.56	67.825	1,140.34	896.71	1,293.29	1,258.63	34.66	37.311	
1,750.00	1,698.87	1,684.20	1,699.13	6.35	29.40	68.535	1,140.50	896.71	1,286.15	1,250.44	35.71	36.016	
1,800.00	1,745.39	1,731.51	1,746.44	6.55	30.26	69.266	1,140.46	896.71	1,279.10	1,242.34	36.77	34.787	
1,850.00	1,791.91	1,778.78	1,793.71	6.76	31.11	70.005	1,140.38	896.71	1,272.26	1,234.43	37.83	33.633	
1,900.00	1,838.43	1,823.51	1,838.43	6.97	31.92	70.709	1,140.34	896.71	1,265.67	1,226.82	38.85	32.579	
1,950.00	1,884.96	1,870.03	1,884.96	7.17	32.77	71.447	1,140.34	896.71	1,259.33	1,219.43	39.91	31.557	
2,000.00	1,931.48	1,918.23	1,933.15	7.38	33.65	72.213	1,140.47	896.71	1,253.31	1,212.32	40.99	30.572	
2,050.00	1,978.00	1,966.56	1,981.48	7.59	34.54	73.000	1,140.30	896.71	1,247.36	1,205.27	42.09	29.638	
2,100.00	2,024.52	2,009.61	2,024.52	7.80	35.31	73.698	1,140.34	896.71	1,241.76	1,198.69	43.07	28.829	
2,150.00	2,071.05	2,056.13	2,071.05	8.01	36.15	74.461	1,140.34	896.71	1,236.39	1,192.26	44.12	28.020	
2,200.00	2,117.57	2,103.46	2,118.37	8.22	37.01	75.236	1,140.51	896.71	1,231.36	1,186.17	45.19	27.248	
2,250.00	2,164.09	2,150.94	2,165.86	8.42	37.87	76.029	1,140.41	896.71	1,226.44	1,180.18	46.26	26.512	
2,300.00	2,210.61	2,195.70	2,210.61	8.63	38.68	76.781	1,140.34	896.71	1,221.79	1,174.50	47.29	25.836	
2,350.00	2,257.14	2,242.22	2,257.14	8.84	39.54	77.565	1,140.34	896.71	1,217.43	1,169.07	48.36	25.173	
2,400.00	2,303.66	2,288.80	2,303.71	9.05	40.41	78.347	1,140.54	896.71	1,213.43	1,164.00	49.44	24.546	
2,450.00	2,350.18	2,336.16	2,351.08	9.26	41.28	79.156	1,140.50	896.71	1,209.58	1,159.06	50.52	23.941	
2,500.00	2,396.70	2,414.20	2,396.70	9.47	42.74	79.944	1,140.34	896.71	1,205.94	1,153.75	52.19	23.106	
2,550.00	2,443.23	2,428.32	2,443.23	9.68	43.01	80.745	1,140.34	896.71	1,202.65	1,149.97	52.68	22.830	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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	2,489.75	2,474.84	2,489.75	9.89	43.91	81.550	1,140.34	896.71	1,199.62	1,145.83	53.79	22.302	
2,650.00	2,536.27	2,521.37	2,536.27	10.10	44.81	82.359	1,140.34	896.71	1,196.87	1,141.97	54.90	21.800	
2,700.00	2,582.79	2,568.73	2,583.63	10.32	45.72	83.172	1,140.64	896.71	1,194.52	1,138.49	56.03	21.319	
2,750.00	2,629.32	2,616.12	2,631.02	10.53	46.64	84.007	1,140.51	896.71	1,192.26	1,135.11	57.16	20.859	
2,800.00	2,675.84	2,663.45	2,678.35	10.74	47.55	84.847	1,140.29	896.71	1,190.26	1,131.97	58.28	20.422	
2,850.00	2,722.36	2,707.48	2,722.36	10.95	48.40	85.620	1,140.34	896.71	1,188.63	1,129.28	59.35	20.028	
2,900.00	2,768.88	2,754.00	2,768.88	11.16	49.30	86.440	1,140.34	896.71	1,187.27	1,126.80	60.46	19.637	
2,950.00	2,815.41	2,800.52	2,815.41	11.37	50.20	87.262	1,140.34	896.71	1,186.18	1,124.61	61.57	19.265	
3,000.00	2,861.93	2,847.67	2,862.55	11.58	51.11	88.074	1,140.85	896.71	1,185.55	1,122.85	62.69	18.910	
3,050.00	2,908.45	2,894.93	2,909.81	11.79	52.03	88.917	1,140.73	896.71	1,184.99	1,121.17	63.82	18.568	
3,100.00	2,954.97	2,942.12	2,957.00	12.01	52.94	89.762	1,140.50	896.71	1,184.68	1,119.74	64.94	18.242	
3,109.58	2,963.89	2,984.97	2,963.89	12.05	53.75	90.000	1,140.34	896.71	1,184.63	1,118.83	65.80	18.005 CC	
3,150.00	3,001.53	2,989.28	3,004.15	12.22	53.85	91.199	1,140.17	896.71	1,184.67	1,118.61	66.06	17.932	
3,200.00	3,048.74	3,033.88	3,048.74	12.42	54.66	94.424	1,140.34	896.71	1,185.53	1,118.46	67.07	17.675 ES	
3,250.00	3,096.71	3,081.85	3,096.71	12.62	55.54	98.612	1,140.34	896.71	1,187.15	1,119.00	68.15	17.418	
3,300.00	3,145.31	3,131.09	3,145.95	12.81	56.45	104.325	1,140.59	896.71	1,189.56	1,120.30	69.25	17.177	
3,350.00	3,194.40	3,214.45	3,194.40	13.00	57.99	112.808	1,140.34	896.71	1,192.48	1,121.51	70.97	16.803	
3,400.00	3,243.86	3,229.00	3,243.86	13.17	58.25	126.541	1,140.34	896.71	1,196.04	1,124.63	71.40	16.751	
3,450.00	3,293.54	3,278.68	3,293.54	13.34	59.15	149.472	1,140.34	896.71	1,200.11	1,127.65	72.46	16.562	
3,500.00	3,343.31	3,328.45	3,343.31	13.49	60.04	-179.503	1,140.34	896.71	1,204.68	1,131.17	73.51	16.388	
3,550.00	3,393.03	3,378.23	3,393.08	13.63	60.94	-153.458	1,140.64	896.71	1,209.77	1,135.22	74.55	16.227	
3,600.00	3,442.57	3,428.06	3,442.91	13.77	61.84	-137.631	1,140.60	896.71	1,215.26	1,139.67	75.59	16.078	
3,650.00	3,491.79	3,477.57	3,492.43	13.89	62.74	-128.382	1,140.52	896.71	1,221.20	1,144.59	76.61	15.941	
3,700.00	3,540.56	3,554.29	3,540.56	14.01	64.12	-122.648	1,140.34	896.71	1,227.61	1,149.49	78.11	15.716	
3,750.00	3,588.74	3,575.19	3,590.04	14.12	64.50	-118.907	1,140.20	896.71	1,234.56	1,155.95	78.61	15.706	
3,800.00	3,636.20	3,621.35	3,636.20	14.23	65.33	-116.331	1,140.34	896.71	1,242.15	1,162.60	79.55	15.615	
3,850.00	3,682.81	3,668.34	3,683.18	14.33	66.18	-114.537	1,140.49	896.71	1,250.39	1,169.89	80.50	15.533	
3,900.00	3,728.44	3,756.40	3,728.44	14.42	67.77	-113.229	1,140.34	896.71	1,259.24	1,177.06	82.19	15.321	
3,950.00	3,772.97	3,758.13	3,772.97	14.51	67.80	-112.287	1,140.34	896.71	1,268.92	1,186.61	82.31	15.416	
4,000.00	3,816.27	3,801.43	3,816.27	14.59	68.59	-111.592	1,140.34	896.71	1,279.44	1,196.27	83.18	15.382	
4,050.00	3,858.24	3,843.40	3,858.24	14.67	69.34	-111.067	1,140.34	896.71	1,290.90	1,206.89	84.02	15.365	
4,100.00	3,898.74	3,884.18	3,899.02	14.75	70.08	-110.669	1,140.55	896.71	1,303.45	1,218.63	84.83	15.366	
4,150.00	3,937.67	3,923.68	3,938.52	14.82	70.79	-110.334	1,140.51	896.71	1,317.00	1,231.39	85.61	15.384	
4,200.00	3,974.93	4,017.90	3,974.93	14.89	72.49	-109.981	1,140.34	896.71	1,331.66	1,244.29	87.37	15.241 SF	
4,250.00	4,010.41	3,997.69	4,012.52	14.96	72.13	-109.714	1,140.31	896.71	1,347.60	1,260.53	87.07	15.477	
4,300.00	4,044.02	4,029.18	4,044.02	15.02	72.69	-109.281	1,140.34	896.71	1,364.85	1,277.16	87.69	15.565	
4,350.00	4,075.66	4,060.82	4,075.66	15.09	73.26	-108.848	1,140.34	896.71	1,383.42	1,295.11	88.31	15.666	
4,400.00	4,105.24	4,090.40	4,105.24	15.16	73.79	-108.328	1,140.34	896.71	1,403.34	1,314.46	88.88	15.789	
4,450.00	4,132.69	4,117.85	4,132.69	15.24	74.28	-107.697	1,140.34	896.71	1,424.65	1,335.24	89.41	15.933	
4,500.00	4,158.10	4,143.26	4,158.10	15.31	74.73	-107.616	1,140.34	896.71	1,447.32	1,357.41	89.90	16.098	
4,550.00	4,183.10	4,168.64	4,183.47	15.41	75.19	-108.553	1,140.61	896.71	1,471.13	1,380.73	90.40	16.273	
4,600.00	4,208.10	4,194.14	4,208.97	15.50	75.64	-109.478	1,140.59	896.71	1,495.68	1,404.78	90.90	16.455	
4,650.00	4,233.10	4,219.69	4,234.52	15.61	76.10	-110.394	1,140.56	896.71	1,521.05	1,429.64	91.40	16.641	
4,700.00	4,257.80	4,244.99	4,259.82	15.73	76.55	-110.137	1,140.51	896.71	1,547.30	1,455.40	91.90	16.837	
4,750.00	4,279.35	4,267.11	4,281.94	15.85	76.95	-107.767	1,140.46	896.71	1,575.35	1,483.01	92.33	17.061	
4,800.00	4,296.88	4,329.95	4,296.88	15.97	78.11	-104.778	1,140.34	896.71	1,605.23	1,511.69	93.53	17.162	
4,850.00	4,310.27	4,316.56	4,310.27	16.09	77.85	-101.369	1,140.34	896.71	1,636.87	1,543.58	93.29	17.546	
4,900.00	4,319.40	4,308.58	4,323.41	16.21	77.69	-97.602	1,140.33	896.71	1,669.98	1,576.84	93.14	17.930	
4,950.00	4,324.22	4,313.71	4,328.54	16.32	77.78	-93.148	1,140.31	896.71	1,704.27	1,611.04	93.23	18.279	
5,000.00	4,324.86	4,314.55	4,329.38	16.44	77.79	-89.644	1,140.31	896.71	1,739.49	1,646.24	93.24	18.655	
5,050.00	4,324.37	4,314.24	4,329.07	16.57	77.79	-89.629	1,140.31	896.71	1,775.42	1,682.19	93.23	19.044	
5,100.00	4,323.88	4,313.92	4,328.75	16.70	77.78	-89.614	1,140.31	896.71	1,812.03	1,718.80	93.23	19.436	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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	
5,150.00	4,323.39	4,313.61	4,328.44	16.85	77.78	-89.599	1,140.31	896.71	1,849.26	1,756.02	93.23	19.834	
5,200.00	4,322.91	4,313.29	4,328.12	17.00	77.77	-89.585	1,140.31	896.71	1,887.08	1,793.86	93.23	20.242	
5,250.00	4,322.42	4,312.97	4,327.81	17.17	77.77	-89.570	1,140.32	896.71	1,925.46	1,832.23	93.23	20.653	
5,300.00	4,321.93	4,312.66	4,327.49	17.34	77.76	-89.555	1,140.32	896.71	1,964.36	1,871.13	93.23	21.070	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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: COLLIER 22 STATE COM 043H - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 25-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
5,550.00	4,319.48	7,831.00	3,200.08	18.35	120.54	47.727	-1,745.50	-1,568.88	1,997.66	1,913.29	84.36	23.679	
5,600.00	4,318.99	7,831.00	3,200.08	18.57	120.54	47.727	-1,745.50	-1,568.88	1,969.82	1,887.21	82.61	23.845	
5,650.00	4,318.50	7,831.00	3,200.08	18.81	120.54	47.727	-1,745.50	-1,568.88	1,942.87	1,862.06	80.81	24.043	
5,700.00	4,318.01	7,831.00	3,200.08	19.04	120.54	47.727	-1,745.50	-1,568.88	1,916.85	1,837.90	78.95	24.280	
5,750.00	4,317.52	7,831.00	3,200.08	19.29	120.54	47.727	-1,745.50	-1,568.88	1,891.79	1,814.76	77.04	24.557	
5,800.00	4,317.03	7,831.00	3,200.08	19.54	120.54	47.727	-1,745.50	-1,568.88	1,867.74	1,792.66	75.07	24.879	
5,850.00	4,316.54	7,831.00	3,200.08	19.81	120.54	47.727	-1,745.50	-1,568.88	1,844.72	1,771.66	73.07	25.247	
5,900.00	4,316.05	7,831.00	3,200.08	20.07	120.54	47.727	-1,745.50	-1,568.88	1,822.79	1,751.78	71.01	25.669	
5,950.00	4,315.56	7,831.00	3,200.08	20.34	120.54	47.727	-1,745.50	-1,568.88	1,801.98	1,733.06	68.92	26.144	
6,000.00	4,315.08	7,831.00	3,200.08	20.62	120.54	47.727	-1,745.50	-1,568.88	1,782.33	1,715.52	66.80	26.680	
6,050.00	4,314.59	7,831.00	3,200.08	20.90	120.54	47.727	-1,745.50	-1,568.88	1,763.88	1,699.21	64.67	27.276	
6,100.00	4,314.10	7,831.00	3,200.08	21.18	120.54	47.727	-1,745.50	-1,568.88	1,746.66	1,684.14	62.52	27.937	
6,150.00	4,313.61	7,831.00	3,200.08	21.48	120.54	47.727	-1,745.50	-1,568.88	1,730.72	1,670.33	60.39	28.661	
6,200.00	4,313.12	7,831.00	3,200.08	21.77	120.54	47.727	-1,745.50	-1,568.88	1,716.09	1,657.81	58.28	29.446	
6,250.00	4,312.63	7,831.00	3,200.08	22.07	120.54	47.727	-1,745.50	-1,568.88	1,702.79	1,646.57	56.23	30.283	
6,300.00	4,312.14	7,831.00	3,200.08	22.38	120.54	47.727	-1,745.50	-1,568.88	1,690.88	1,636.62	54.26	31.161	
6,350.00	4,311.65	7,831.00	3,200.08	22.69	120.54	47.727	-1,745.50	-1,568.88	1,680.37	1,627.94	52.43	32.053	
6,400.00	4,311.16	7,831.00	3,200.08	23.00	120.54	47.727	-1,745.50	-1,568.88	1,671.29	1,620.53	50.76	32.925	
6,450.00	4,310.67	7,831.00	3,200.08	23.32	120.54	47.727	-1,745.50	-1,568.88	1,663.66	1,614.33	49.33	33.726	
6,500.00	4,310.18	7,831.00	3,200.08	23.64	120.54	47.727	-1,745.50	-1,568.88	1,657.51	1,609.32	48.19	34.396	
6,550.00	4,309.69	7,831.00	3,200.08	23.96	120.54	47.727	-1,745.50	-1,568.88	1,652.84	1,605.43	47.41	34.861	
6,600.00	4,309.20	7,831.00	3,200.08	24.29	120.54	47.727	-1,745.50	-1,568.88	1,649.68	1,602.63	47.05	35.059	
6,650.00	4,308.71	7,831.00	3,200.08	24.62	120.54	47.727	-1,745.50	-1,568.88	1,648.03	1,600.87	47.16	34.945	
6,679.37	4,308.43	7,831.00	3,200.08	24.82	120.54	47.727	-1,745.50	-1,568.88	1,647.77	1,600.33	47.45	34.729 CC	
6,700.00	4,308.22	7,831.00	3,200.08	24.95	120.54	47.727	-1,745.50	-1,568.88	1,647.90	1,600.16	47.74	34.515 ES	
6,750.00	4,307.73	7,831.00	3,200.08	25.29	120.54	47.727	-1,745.50	-1,568.88	1,649.28	1,600.49	48.79	33.801	
6,800.00	4,307.25	7,831.00	3,200.08	25.63	120.54	47.727	-1,745.50	-1,568.88	1,652.18	1,601.92	50.26	32.870	
6,850.00	4,306.76	7,831.00	3,200.08	25.97	120.54	47.727	-1,745.50	-1,568.88	1,656.58	1,604.49	52.09	31.799	
6,900.00	4,306.27	7,831.00	3,200.08	26.32	120.54	47.727	-1,745.50	-1,568.88	1,662.48	1,608.26	54.22	30.664	
6,950.00	4,305.78	7,831.00	3,200.08	26.67	120.54	47.727	-1,745.50	-1,568.88	1,669.85	1,613.28	56.57	29.520	
7,000.00	4,305.29	7,831.00	3,200.08	27.01	120.54	47.727	-1,745.50	-1,568.88	1,678.68	1,619.60	59.08	28.414	
7,050.00	4,304.80	7,831.00	3,200.08	27.37	120.54	47.727	-1,745.50	-1,568.88	1,688.94	1,627.23	61.71	27.370	
7,100.00	4,304.31	7,831.00	3,200.08	27.72	120.54	47.727	-1,745.50	-1,568.88	1,700.61	1,636.20	64.41	26.404	
7,150.00	4,303.82	7,831.00	3,200.08	28.08	120.54	47.727	-1,745.50	-1,568.88	1,713.66	1,646.52	67.15	25.521	
7,200.00	4,303.33	7,831.00	3,200.08	28.44	120.54	47.727	-1,745.50	-1,568.88	1,728.06	1,658.17	69.89	24.725	
7,250.00	4,302.84	7,831.00	3,200.08	28.80	120.54	47.727	-1,745.50	-1,568.88	1,743.78	1,671.16	72.62	24.011	
7,300.00	4,302.35	7,831.00	3,200.08	29.16	120.54	47.727	-1,745.50	-1,568.88	1,760.78	1,685.45	75.32	23.377	
7,350.00	4,301.86	7,831.00	3,200.08	29.53	120.54	47.727	-1,745.50	-1,568.88	1,779.02	1,701.04	77.98	22.815	
7,400.00	4,301.37	7,831.00	3,200.08	29.89	120.54	47.727	-1,745.50	-1,568.88	1,798.46	1,717.89	80.57	22.322	
7,450.00	4,300.88	7,831.00	3,200.08	30.26	120.54	47.727	-1,745.50	-1,568.88	1,819.07	1,735.97	83.10	21.890	
7,500.00	4,300.39	7,831.00	3,200.08	30.63	120.54	47.727	-1,745.50	-1,568.88	1,840.81	1,755.25	85.56	21.516	
7,550.00	4,299.90	7,831.00	3,200.08	31.00	120.54	47.727	-1,745.50	-1,568.88	1,863.64	1,775.70	87.94	21.193	
7,600.00	4,299.42	7,831.00	3,200.08	31.38	120.54	47.727	-1,745.50	-1,568.88	1,887.51	1,797.28	90.24	20.918	
7,650.00	4,298.93	7,831.00	3,200.08	31.75	120.54	47.727	-1,745.50	-1,568.88	1,912.40	1,819.95	92.45	20.685	
7,700.00	4,298.44	7,831.00	3,200.08	32.13	120.54	47.727	-1,745.50	-1,568.88	1,938.26	1,843.67	94.59	20.492	
7,750.00	4,297.95	7,831.00	3,200.08	32.51	120.54	47.727	-1,745.50	-1,568.88	1,965.04	1,868.41	96.64	20.334	
7,800.00	4,297.46	7,831.00	3,200.08	32.88	120.54	47.727	-1,745.50	-1,568.88	1,992.73	1,894.12	98.60	20.210 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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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: COLLIER STATE 16 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 522-INC-ONLY												Offset Well Error:	0.00 usft
Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis 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	
6,350.00	4,311.65	3,565.00	3,631.81	22.69	62.21	67.889	-2,278.44	-2,006.82	1,981.10	1,902.42	78.68	25.180	
6,400.00	4,311.16	3,565.00	3,631.81	23.00	62.21	67.889	-2,278.44	-2,006.82	1,959.87	1,880.87	78.99	24.810	
6,450.00	4,310.67	3,565.00	3,631.81	23.32	62.21	67.889	-2,278.44	-2,006.82	1,939.69	1,860.36	79.33	24.452	
6,500.00	4,310.18	3,565.00	3,631.81	23.64	62.21	67.889	-2,278.44	-2,006.82	1,920.61	1,840.94	79.67	24.107	
6,550.00	4,309.69	3,565.00	3,631.81	23.96	62.21	67.889	-2,278.44	-2,006.82	1,902.64	1,822.62	80.03	23.775	
6,600.00	4,309.20	3,565.00	3,631.81	24.29	62.21	67.889	-2,278.44	-2,006.82	1,885.84	1,805.44	80.39	23.458	
6,650.00	4,308.71	3,565.00	3,631.81	24.62	62.21	67.889	-2,278.44	-2,006.82	1,870.21	1,789.45	80.77	23.155	
6,700.00	4,308.22	3,565.00	3,631.81	24.95	62.21	67.889	-2,278.44	-2,006.82	1,855.81	1,774.66	81.15	22.869	
6,750.00	4,307.73	3,565.00	3,631.81	25.29	62.21	67.889	-2,278.44	-2,006.82	1,842.65	1,761.10	81.54	22.597	
6,800.00	4,307.25	3,565.00	3,631.81	25.63	62.21	67.889	-2,278.44	-2,006.82	1,830.76	1,748.82	81.94	22.342	
6,850.00	4,306.76	3,565.00	3,631.81	25.97	62.21	67.889	-2,278.44	-2,006.82	1,820.17	1,737.82	82.35	22.104	
6,900.00	4,306.27	3,565.00	3,631.81	26.32	62.21	67.889	-2,278.44	-2,006.82	1,810.89	1,728.14	82.75	21.883	
6,950.00	4,305.78	3,565.00	3,631.81	26.67	62.21	67.889	-2,278.44	-2,006.82	1,802.96	1,719.79	83.16	21.680	
7,000.00	4,305.29	3,565.00	3,631.81	27.01	62.21	67.889	-2,278.44	-2,006.82	1,796.38	1,712.81	83.57	21.495	
7,050.00	4,304.80	3,565.00	3,631.81	27.37	62.21	67.889	-2,278.44	-2,006.82	1,791.17	1,707.19	83.99	21.327	
7,100.00	4,304.31	3,565.00	3,631.81	27.72	62.21	67.889	-2,278.44	-2,006.82	1,787.35	1,702.96	84.39	21.179	
7,150.00	4,303.82	3,565.00	3,631.81	28.08	62.21	67.889	-2,278.44	-2,006.82	1,784.92	1,700.12	84.80	21.048	
7,200.00	4,303.33	3,565.00	3,631.81	28.44	62.21	67.889	-2,278.44	-2,006.82	1,783.89	1,698.69	85.20	20.937	
7,211.75	4,303.22	3,565.00	3,631.81	28.52	62.21	67.889	-2,278.44	-2,006.82	1,783.86	1,698.56	85.30	20.913 CC, ES	
7,250.00	4,302.84	3,565.00	3,631.81	28.80	62.21	67.889	-2,278.44	-2,006.82	1,784.27	1,698.66	85.60	20.844	
7,300.00	4,302.35	3,565.00	3,631.81	29.16	62.21	67.889	-2,278.44	-2,006.82	1,786.04	1,700.05	85.99	20.770	
7,350.00	4,301.86	3,565.00	3,631.81	29.53	62.21	67.889	-2,278.44	-2,006.82	1,789.20	1,702.83	86.38	20.714	
7,400.00	4,301.37	3,565.00	3,631.81	29.89	62.21	67.889	-2,278.44	-2,006.82	1,793.76	1,707.01	86.75	20.678	
7,450.00	4,300.88	3,565.00	3,631.81	30.26	62.21	67.889	-2,278.44	-2,006.82	1,799.70	1,712.58	87.11	20.660 SF	
7,500.00	4,300.39	3,565.00	3,631.81	30.63	62.21	67.889	-2,278.44	-2,006.82	1,806.99	1,719.53	87.46	20.660	
7,550.00	4,299.90	3,565.00	3,631.81	31.00	62.21	67.889	-2,278.44	-2,006.82	1,815.64	1,727.84	87.80	20.679	
7,600.00	4,299.42	3,565.00	3,631.81	31.38	62.21	67.889	-2,278.44	-2,006.82	1,825.62	1,737.49	88.13	20.715	
7,650.00	4,298.93	3,565.00	3,631.81	31.75	62.21	67.889	-2,278.44	-2,006.82	1,836.90	1,748.46	88.44	20.769	
7,700.00	4,298.44	3,565.00	3,631.81	32.13	62.21	67.889	-2,278.44	-2,006.82	1,849.47	1,760.72	88.74	20.841	
7,750.00	4,297.95	3,565.00	3,631.81	32.51	62.21	67.889	-2,278.44	-2,006.82	1,863.29	1,774.26	89.03	20.929	
7,800.00	4,297.46	3,565.00	3,631.81	32.88	62.21	67.889	-2,278.44	-2,006.82	1,878.34	1,789.04	89.30	21.034	
7,850.00	4,296.97	3,565.00	3,631.81	33.26	62.21	67.889	-2,278.44	-2,006.82	1,894.60	1,805.04	89.56	21.155	
7,900.00	4,296.48	3,565.00	3,631.81	33.65	62.21	67.889	-2,278.44	-2,006.82	1,912.02	1,822.22	89.80	21.292	
7,950.00	4,295.99	3,565.00	3,631.81	34.03	62.21	67.889	-2,278.44	-2,006.82	1,930.58	1,840.56	90.03	21.444	
8,000.00	4,295.50	3,565.00	3,631.81	34.41	62.21	67.889	-2,278.44	-2,006.82	1,950.25	1,860.01	90.24	21.612	
8,050.00	4,295.01	3,565.00	3,631.81	34.80	62.21	67.889	-2,278.44	-2,006.82	1,970.99	1,880.55	90.44	21.793	
8,100.00	4,294.52	3,565.00	3,631.81	35.18	62.21	67.889	-2,278.44	-2,006.82	1,992.77	1,902.14	90.63	21.989	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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 Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,150.00	4,303.82	4,270.77	4,319.40	28.08	15.01	94.552	-4,175.87	-804.70	1,990.42	1,960.27	30.15	66.021	
7,200.00	4,303.33	4,269.91	4,318.54	28.44	15.01	94.439	-4,175.88	-804.71	1,941.66	1,911.44	30.22	64.260	
7,250.00	4,302.84	4,269.05	4,317.68	28.80	15.01	94.327	-4,175.88	-804.71	1,892.97	1,862.68	30.29	62.495	
7,300.00	4,302.35	4,268.19	4,316.82	29.16	15.01	94.214	-4,175.89	-804.71	1,844.35	1,813.98	30.37	60.727	
7,350.00	4,301.86	4,267.33	4,315.96	29.53	15.00	94.101	-4,175.89	-804.71	1,795.80	1,765.34	30.46	58.955	
7,400.00	4,301.37	4,266.47	4,315.10	29.89	15.00	93.988	-4,175.90	-804.72	1,747.34	1,716.78	30.56	57.181	
7,450.00	4,300.88	4,265.61	4,314.24	30.26	15.00	93.875	-4,175.91	-804.72	1,698.96	1,668.29	30.67	55.402	
7,500.00	4,300.39	4,264.75	4,313.38	30.63	14.99	93.762	-4,175.91	-804.72	1,650.68	1,619.90	30.78	53.621	
7,550.00	4,299.90	4,263.88	4,312.52	31.00	14.99	93.648	-4,175.92	-804.72	1,602.51	1,571.59	30.92	51.835	
7,600.00	4,299.42	4,263.02	4,311.65	31.38	14.99	93.535	-4,175.93	-804.72	1,554.45	1,523.39	31.06	50.048	
7,650.00	4,298.93	4,262.15	4,310.79	31.75	14.98	93.421	-4,175.93	-804.73	1,506.51	1,475.29	31.22	48.256	
7,700.00	4,298.44	4,261.29	4,309.92	32.13	14.98	93.308	-4,175.94	-804.73	1,458.72	1,427.32	31.40	46.463	
7,750.00	4,297.95	4,260.42	4,309.06	32.51	14.98	93.194	-4,175.95	-804.73	1,411.07	1,379.48	31.59	44.666	
7,800.00	4,297.46	4,259.56	4,308.19	32.88	14.98	93.080	-4,175.95	-804.73	1,363.60	1,331.79	31.81	42.869	
7,850.00	4,296.97	4,258.69	4,307.32	33.26	14.97	92.966	-4,175.96	-804.74	1,316.31	1,284.26	32.05	41.069	
7,900.00	4,296.48	4,257.82	4,306.45	33.65	14.97	92.852	-4,175.97	-804.74	1,269.23	1,236.91	32.32	39.270	
7,950.00	4,295.99	4,256.95	4,305.59	34.03	14.97	92.737	-4,175.97	-804.74	1,222.38	1,189.75	32.62	37.472	
8,000.00	4,295.50	4,256.08	4,304.72	34.41	14.96	92.623	-4,175.98	-804.74	1,175.78	1,142.83	32.96	35.677	
8,050.00	4,295.01	4,255.21	4,303.85	34.80	14.96	92.509	-4,175.98	-804.74	1,129.48	1,096.15	33.33	33.885	
8,100.00	4,294.52	4,254.34	4,302.98	35.18	14.96	92.394	-4,175.99	-804.75	1,083.51	1,049.76	33.75	32.101	
8,150.00	4,294.03	4,253.47	4,302.10	35.57	14.96	92.279	-4,176.00	-804.75	1,037.91	1,003.68	34.23	30.325	
8,200.00	4,293.54	4,252.60	4,301.23	35.96	14.95	92.164	-4,176.00	-804.75	992.73	957.97	34.76	28.562	
8,250.00	4,293.05	4,251.73	4,300.36	36.35	14.95	92.050	-4,176.01	-804.75	948.04	912.68	35.35	26.816	
8,300.00	4,292.56	4,250.85	4,299.49	36.74	14.95	91.935	-4,176.02	-804.75	903.90	867.87	36.02	25.091	
8,350.00	4,292.07	4,249.98	4,298.61	37.13	14.94	91.819	-4,176.02	-804.76	860.40	823.62	36.78	23.392	
8,400.00	4,291.59	4,249.10	4,297.74	37.52	14.94	91.704	-4,176.03	-804.76	817.64	780.01	37.63	21.728	
8,450.00	4,291.10	4,248.23	4,296.86	37.92	14.94	91.589	-4,176.04	-804.76	775.75	737.16	38.59	20.104	
8,500.00	4,290.61	4,247.35	4,295.99	38.31	14.93	91.473	-4,176.04	-804.76	734.87	695.21	39.66	18.529	
8,550.00	4,290.12	4,246.47	4,295.11	38.70	14.93	91.358	-4,176.05	-804.76	695.19	654.32	40.86	17.012	
8,600.00	4,289.63	4,245.60	4,294.23	39.10	14.93	91.242	-4,176.06	-804.77	656.91	614.71	42.20	15.566	
8,650.00	4,289.14	4,244.72	4,293.35	39.50	14.93	91.127	-4,176.06	-804.77	620.31	576.62	43.69	14.199	
8,700.00	4,288.65	4,243.84	4,292.47	39.89	14.92	91.011	-4,176.07	-804.77	585.68	540.37	45.31	12.926	
8,750.00	4,288.16	4,242.96	4,291.59	40.29	14.92	90.895	-4,176.08	-804.77	553.41	506.35	47.07	11.758	
8,800.00	4,287.67	4,242.08	4,290.71	40.69	14.92	90.779	-4,176.08	-804.77	523.93	475.01	48.92	10.709	
8,850.00	4,287.18	4,241.20	4,289.83	41.09	14.91	90.663	-4,176.09	-804.77	497.74	446.90	50.84	9.791	
8,900.00	4,286.69	4,240.32	4,288.95	41.49	14.91	90.546	-4,176.10	-804.78	475.38	422.65	52.73	9.015	
8,950.00	4,286.20	4,239.43	4,288.07	41.89	14.91	90.430	-4,176.10	-804.78	457.41	402.90	54.51	8.392	
9,000.00	4,285.71	4,238.55	4,287.18	42.29	14.90	90.314	-4,176.11	-804.78	444.36	388.32	56.05	7.928	
9,050.00	4,285.22	4,237.67	4,286.30	42.69	14.90	90.197	-4,176.12	-804.78	436.68	379.45	57.23	7.630	
9,092.69	4,284.81	4,236.91	4,285.55	43.04	14.90	90.097	-4,176.12	-804.78	434.59	376.70	57.89	7.507 CC	
9,100.00	4,284.73	4,236.78	4,285.42	43.10	14.90	90.080	-4,176.12	-804.78	434.65	376.69	57.97	7.498 ES, SF	
9,150.00	4,284.24	4,235.90	4,284.53	43.50	14.90	89.964	-4,176.13	-804.78	438.35	380.14	58.21	7.531	
9,200.00	4,283.76	4,235.01	4,283.64	43.90	14.89	89.847	-4,176.14	-804.79	447.64	389.67	57.97	7.721	
9,250.00	4,283.27	4,234.12	4,282.76	44.31	14.89	89.730	-4,176.14	-804.79	462.18	404.85	57.33	8.062	
9,300.00	4,282.78	4,233.24	4,281.87	44.71	14.89	89.613	-4,176.15	-804.79	481.49	425.13	56.36	8.543	
9,350.00	4,282.29	4,232.35	4,280.98	45.12	14.88	89.496	-4,176.16	-804.79	505.03	449.84	55.19	9.151	
9,400.00	4,281.80	4,231.46	4,280.09	45.52	14.88	89.379	-4,176.16	-804.79	532.24	478.34	53.90	9.875	
9,450.00	4,281.31	4,230.57	4,279.20	45.93	14.88	89.262	-4,176.17	-804.79	562.59	510.02	52.56	10.703	
9,500.00	4,280.82	4,229.68	4,278.31	46.33	14.87	89.144	-4,176.18	-804.79	595.59	544.34	51.25	11.622	
9,550.00	4,280.33	4,228.79	4,277.42	46.74	14.87	89.027	-4,176.19	-804.80	630.82	580.85	49.98	12.623	
9,600.00	4,279.84	4,227.90	4,276.53	47.15	14.87	88.909	-4,176.19	-804.80	667.95	619.17	48.78	13.694	
9,650.00	4,279.35	4,227.00	4,275.64	47.56	14.87	88.792	-4,176.20	-804.80	706.66	659.01	47.66	14.828	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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
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
9,700.00	4,278.86	4,226.11	4,274.74	47.97	14.86	88.674	-4,176.21	-804.80	746.72	700.09	46.62	16.016	
9,750.00	4,278.37	4,225.22	4,273.85	48.38	14.86	88.556	-4,176.21	-804.80	787.91	742.23	45.67	17.252	
9,800.00	4,277.88	4,224.32	4,272.96	48.78	14.86	88.438	-4,176.22	-804.80	830.06	785.26	44.80	18.528	
9,850.00	4,277.39	4,223.43	4,272.06	49.19	14.85	88.320	-4,176.23	-804.80	873.05	829.04	44.01	19.839	
9,900.00	4,276.90	4,222.53	4,271.16	49.60	14.85	88.202	-4,176.23	-804.80	916.74	873.47	43.28	21.182	
9,950.00	4,276.42	4,221.63	4,270.27	50.01	14.85	88.084	-4,176.24	-804.81	961.05	918.44	42.62	22.551	
10,000.00	4,275.93	4,220.74	4,269.37	50.43	14.84	87.966	-4,176.25	-804.81	1,005.90	963.89	42.01	23.943	
10,050.00	4,275.44	4,219.84	4,268.47	50.84	14.84	87.848	-4,176.25	-804.81	1,051.21	1,009.75	41.46	25.355	
10,094.57	4,275.00	4,219.04	4,267.67	51.20	14.84	87.742	-4,176.26	-804.81	1,091.94	1,050.93	41.01	26.628	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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 Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,950.00	4,324.22	4,353.19	4,293.07	16.32	132.54	54.248	-1,977.32	-537.47	1,950.62	1,803.78	146.84	13.284	
5,000.00	4,324.86	4,354.33	4,294.21	16.44	132.57	86.264	-1,977.34	-537.47	1,900.89	1,754.01	146.88	12.942	
5,050.00	4,324.37	4,354.59	4,294.46	16.57	132.58	86.343	-1,977.34	-537.47	1,851.14	1,704.26	146.88	12.603	
5,100.00	4,323.88	4,354.85	4,294.73	16.70	132.59	86.423	-1,977.35	-537.47	1,801.40	1,654.51	146.89	12.264	
5,150.00	4,323.39	4,355.11	4,294.99	16.85	132.60	86.504	-1,977.35	-537.47	1,751.67	1,604.77	146.90	11.924	
5,200.00	4,322.91	4,355.38	4,295.26	17.00	132.61	86.586	-1,977.36	-537.47	1,701.96	1,555.06	146.91	11.585	
5,250.00	4,322.42	4,355.65	4,295.52	17.17	132.62	86.668	-1,977.36	-537.47	1,652.27	1,505.36	146.92	11.246	
5,300.00	4,321.93	4,355.92	4,295.80	17.34	132.62	86.752	-1,977.36	-537.47	1,602.60	1,455.68	146.93	10.908	
5,350.00	4,321.44	4,356.19	4,296.07	17.53	132.63	86.837	-1,977.37	-537.47	1,552.95	1,406.01	146.94	10.569	
5,400.00	4,320.95	4,356.47	4,296.35	17.72	132.64	86.923	-1,977.37	-537.47	1,503.32	1,356.38	146.95	10.230	
5,450.00	4,320.46	4,356.76	4,296.63	17.92	132.65	87.009	-1,977.38	-537.47	1,453.72	1,306.76	146.96	9.892	
5,500.00	4,319.97	4,357.04	4,296.92	18.13	132.66	87.097	-1,977.38	-537.47	1,404.15	1,257.17	146.97	9.554	
5,550.00	4,319.48	4,357.33	4,297.21	18.35	132.67	87.186	-1,977.39	-537.47	1,354.61	1,207.62	146.99	9.216	
5,600.00	4,318.99	4,357.62	4,297.50	18.57	132.68	87.276	-1,977.39	-537.47	1,305.10	1,158.09	147.01	8.878	
5,650.00	4,318.50	4,357.92	4,297.80	18.81	132.69	87.367	-1,977.40	-537.47	1,255.63	1,108.61	147.02	8.540	
5,700.00	4,318.01	4,358.22	4,298.10	19.04	132.70	87.459	-1,977.40	-537.47	1,206.21	1,059.16	147.04	8.203	
5,750.00	4,317.52	4,358.52	4,298.40	19.29	132.71	87.552	-1,977.41	-537.47	1,156.83	1,009.76	147.07	7.866	
5,800.00	4,317.03	4,358.83	4,298.70	19.54	132.72	87.646	-1,977.41	-537.47	1,107.51	960.42	147.09	7.529	
5,850.00	4,316.54	4,359.14	4,299.02	19.81	132.73	87.742	-1,977.42	-537.47	1,058.25	911.14	147.12	7.193	
5,900.00	4,316.05	4,359.45	4,299.33	20.07	132.74	87.838	-1,977.42	-537.47	1,009.07	861.92	147.15	6.857	
5,950.00	4,315.56	4,359.77	4,299.65	20.34	132.75	87.936	-1,977.43	-537.47	959.97	812.78	147.19	6.522	
6,000.00	4,315.08	4,360.09	4,299.97	20.62	132.76	88.035	-1,977.43	-537.47	910.97	763.74	147.23	6.187	
6,050.00	4,314.59	4,360.42	4,300.30	20.90	132.77	88.136	-1,977.44	-537.47	862.09	714.80	147.28	5.853	
6,100.00	4,314.10	4,360.75	4,300.63	21.18	132.78	88.237	-1,977.45	-537.47	813.34	665.99	147.34	5.520	
6,150.00	4,313.61	4,361.08	4,300.96	21.48	132.79	88.340	-1,977.45	-537.47	764.75	617.33	147.42	5.188	
6,200.00	4,313.12	4,361.42	4,301.30	21.77	132.80	88.445	-1,977.46	-537.47	716.35	568.84	147.51	4.856	
6,250.00	4,312.63	4,361.77	4,301.64	22.07	132.81	88.550	-1,977.46	-537.47	668.19	520.57	147.62	4.526	
6,300.00	4,312.14	4,362.11	4,301.99	22.38	132.83	88.657	-1,977.47	-537.47	620.32	472.57	147.76	4.198	
6,350.00	4,311.65	4,362.47	4,302.34	22.69	132.84	88.766	-1,977.47	-537.47	572.82	424.88	147.94	3.872	
6,400.00	4,311.16	4,362.82	4,302.70	23.00	132.85	88.876	-1,977.48	-537.47	525.78	377.61	148.17	3.549	
6,450.00	4,310.67	4,363.18	4,303.06	23.32	132.86	88.987	-1,977.49	-537.47	479.34	330.87	148.47	3.229	
6,500.00	4,310.18	4,363.55	4,303.43	23.64	132.87	89.100	-1,977.49	-537.47	433.69	284.82	148.87	2.913	
6,550.00	4,309.69	4,363.92	4,303.80	23.96	132.88	89.214	-1,977.50	-537.47	389.11	239.69	149.42	2.604	
6,600.00	4,309.20	4,364.30	4,304.17	24.29	132.90	89.330	-1,977.51	-537.47	346.01	195.85	150.16	2.304	
6,650.00	4,308.71	4,364.68	4,304.55	24.62	132.91	89.448	-1,977.51	-537.47	305.03	153.86	151.17	2.018	
6,700.00	4,308.22	4,365.07	4,304.94	24.95	132.92	89.567	-1,977.52	-537.47	267.14	114.60	152.54	1.751	
6,750.00	4,307.73	4,365.46	4,305.33	25.29	132.93	89.688	-1,977.53	-537.47	233.84	79.53	154.30	1.515	
6,800.00	4,307.25	4,365.86	4,305.73	25.63	132.95	89.810	-1,977.53	-537.47	207.36	51.01	156.35	1.326 SF = 1.50	
6,850.00	4,306.76	4,366.26	4,306.13	25.97	132.96	89.934	-1,977.54	-537.47	190.57	32.32	158.25	1.204 SF = 1.25	
6,892.37	4,306.34	4,421.37	4,306.34	26.26	134.79	90.000	-1,978.09	-537.47	185.92	24.90	161.02	1.155 SF = 1.25, CC, ES, SF	
6,900.00	4,306.27	4,421.45	4,306.27	26.32	134.79	89.977	-1,978.09	-537.47	186.07	24.97	161.10	1.155 SF = 1.25	
6,950.00	4,305.78	4,421.94	4,305.78	26.67	134.80	89.826	-1,978.09	-537.47	194.64	33.73	160.92	1.210 SF = 1.25	
7,000.00	4,305.29	4,422.43	4,305.29	27.01	134.82	89.675	-1,978.09	-537.47	214.82	55.02	159.80	1.344 SF = 1.50	
7,050.00	4,304.80	4,422.92	4,304.80	27.37	134.84	89.525	-1,978.09	-537.47	243.74	85.38	158.36	1.539	
7,100.00	4,304.31	4,423.41	4,304.31	27.72	134.85	89.374	-1,978.09	-537.47	278.70	121.70	157.00	1.775	
7,150.00	4,303.82	4,423.90	4,303.82	28.08	134.87	89.223	-1,978.09	-537.47	317.70	161.85	155.85	2.039	
7,200.00	4,303.33	4,424.39	4,303.33	28.44	134.89	89.072	-1,978.09	-537.47	359.44	204.51	154.93	2.320	
7,250.00	4,302.84	4,369.70	4,309.57	28.80	133.07	90.993	-1,977.60	-537.47	403.54	251.26	152.29	2.650	
7,300.00	4,302.35	4,370.16	4,310.03	29.16	133.09	91.135	-1,977.61	-537.47	448.51	296.80	151.71	2.956	
7,350.00	4,301.86	4,370.62	4,310.49	29.53	133.10	91.278	-1,977.62	-537.47	494.45	343.19	151.26	3.269	
7,400.00	4,301.37	4,371.09	4,310.97	29.89	133.12	91.423	-1,977.63	-537.47	541.10	390.21	150.89	3.586	
7,450.00	4,300.88	4,371.57	4,311.45	30.26	133.13	91.571	-1,977.64	-537.47	588.31	437.71	150.60	3.906	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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
Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
7,500.00	4,300.39	4,372.06	4,311.93	30.63	133.15	91.721	-1,977.65	-537.47	635.94	485.58	150.36	4.229	
7,550.00	4,299.90	4,372.56	4,312.43	31.00	133.16	91.873	-1,977.66	-537.47	683.91	533.74	150.17	4.554	
7,600.00	4,299.42	4,373.06	4,312.93	31.38	133.18	92.028	-1,977.67	-537.47	732.15	582.14	150.01	4.881	
7,650.00	4,298.93	4,373.57	4,313.44	31.75	133.20	92.185	-1,977.68	-537.47	780.61	630.73	149.88	5.208	
7,700.00	4,298.44	4,374.09	4,313.96	32.13	133.21	92.344	-1,977.69	-537.47	829.26	679.48	149.78	5.537	
7,750.00	4,297.95	4,374.61	4,314.48	32.51	133.23	92.506	-1,977.70	-537.47	878.05	728.36	149.69	5.866	
7,800.00	4,297.46	4,375.15	4,315.02	32.88	133.25	92.671	-1,977.71	-537.47	926.98	777.36	149.62	6.196	
7,850.00	4,296.97	4,375.69	4,315.56	33.26	133.27	92.838	-1,977.72	-537.47	976.01	826.45	149.56	6.526	
7,900.00	4,296.48	4,376.25	4,316.11	33.65	133.28	93.008	-1,977.73	-537.47	1,025.14	875.63	149.51	6.857	
7,950.00	4,295.99	4,376.81	4,316.68	34.03	133.30	93.180	-1,977.74	-537.47	1,074.34	924.87	149.47	7.188	
8,000.00	4,295.50	4,377.38	4,317.25	34.41	133.32	93.356	-1,977.75	-537.47	1,123.62	974.18	149.44	7.519	
8,050.00	4,295.01	4,377.96	4,317.83	34.80	133.34	93.534	-1,977.76	-537.47	1,172.96	1,023.54	149.42	7.850	
8,100.00	4,294.52	4,378.55	4,318.42	35.18	133.36	93.715	-1,977.77	-537.47	1,222.35	1,072.95	149.40	8.182	
8,150.00	4,294.03	4,379.15	4,319.02	35.57	133.38	93.899	-1,977.78	-537.47	1,271.79	1,122.40	149.39	8.513	
8,200.00	4,293.54	4,379.76	4,319.63	35.96	133.40	94.087	-1,977.80	-537.47	1,321.27	1,171.89	149.38	8.845	
8,250.00	4,293.05	4,380.38	4,320.25	36.35	133.42	94.277	-1,977.81	-537.47	1,370.79	1,221.41	149.38	9.176	
8,300.00	4,292.56	4,381.02	4,320.88	36.74	133.44	94.471	-1,977.82	-537.47	1,420.34	1,270.96	149.38	9.508	
8,350.00	4,292.07	4,381.66	4,321.53	37.13	133.46	94.668	-1,977.83	-537.47	1,469.92	1,320.53	149.39	9.840	
8,400.00	4,291.59	4,382.32	4,322.18	37.52	133.48	94.868	-1,977.85	-537.47	1,519.53	1,370.13	149.40	10.171	
8,450.00	4,291.10	4,382.98	4,322.85	37.92	133.50	95.072	-1,977.86	-537.47	1,569.16	1,419.75	149.41	10.502	
8,500.00	4,290.61	4,383.66	4,323.53	38.31	133.53	95.280	-1,977.88	-537.47	1,618.82	1,469.40	149.42	10.834	
8,550.00	4,290.12	4,384.35	4,324.22	38.70	133.55	95.491	-1,977.89	-537.47	1,668.49	1,519.05	149.44	11.165	
8,600.00	4,289.63	4,385.06	4,324.92	39.10	133.57	95.706	-1,977.90	-537.47	1,718.19	1,568.73	149.46	11.496	
8,650.00	4,289.14	4,385.77	4,325.64	39.50	133.59	95.925	-1,977.92	-537.47	1,767.90	1,618.42	149.48	11.827	
8,700.00	4,288.65	4,386.51	4,326.37	39.89	133.62	96.147	-1,977.93	-537.47	1,817.63	1,668.13	149.50	12.158	
8,750.00	4,288.16	4,387.25	4,327.11	40.29	133.64	96.374	-1,977.95	-537.47	1,867.37	1,717.84	149.53	12.488	
8,800.00	4,287.67	4,388.01	4,327.87	40.69	133.67	96.605	-1,977.97	-537.47	1,917.13	1,767.57	149.56	12.819	
8,850.00	4,287.18	4,388.78	4,328.64	41.09	133.69	96.840	-1,977.98	-537.47	1,966.89	1,817.31	149.58	13.149	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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		Minimum		Separation		Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.00	0.00	2.00	0.00	0.00	0.00	108.643	-53.56	158.76	167.55				
50.00	50.00	52.07	50.07	0.05	0.08	108.700	-53.72	158.70	167.54	167.41	0.13	1,283.742	
100.00	100.00	102.13	100.12	0.14	0.15	108.863	-54.16	158.52	167.51	167.22	0.29	569.936	
116.83	116.83	118.84	116.83	0.20	0.22	108.935	-54.36	158.44	167.51	167.09	0.42	399.733 CC	
150.00	150.00	151.79	149.79	0.32	0.33	109.082	-54.77	158.32	167.53	166.87	0.66	255.234	
200.00	200.00	201.48	199.47	0.50	0.51	109.318	-55.46	158.20	167.64	166.63	1.01	165.329	
250.00	250.00	251.15	249.13	0.68	0.69	109.545	-56.15	158.17	167.85	166.48	1.37	122.404	
300.00	300.00	300.83	298.81	0.86	0.87	109.743	-56.80	158.27	168.16	166.43	1.73	97.276 ES	
350.00	350.00	350.76	348.74	1.04	1.05	126.600	-57.43	158.43	168.78	166.69	2.09	80.889	
400.00	399.98	400.67	398.64	1.22	1.23	127.113	-58.05	158.60	169.95	167.50	2.44	69.520	
450.00	449.93	450.64	448.60	1.40	1.41	127.846	-58.69	158.77	171.66	168.86	2.80	61.235	
500.00	499.84	500.54	498.51	1.58	1.58	128.789	-59.36	158.92	173.94	170.78	3.16	55.007	
550.00	549.68	550.44	548.39	1.76	1.76	129.903	-59.97	159.07	176.81	173.29	3.52	50.217	
600.00	599.45	600.26	598.21	1.95	1.94	131.143	-60.48	159.23	180.29	176.41	3.88	46.472	
650.00	649.13	649.93	647.88	2.13	2.12	132.509	-60.93	159.39	184.42	180.18	4.24	43.517	
700.00	698.70	699.48	697.43	2.31	2.30	133.996	-61.39	159.53	189.25	184.65	4.60	41.179	
750.00	748.15	749.11	747.06	2.49	2.48	135.585	-61.84	159.63	194.79	189.84	4.95	39.319	
800.00	797.47	798.61	796.56	2.67	2.65	137.243	-62.27	159.67	201.06	195.75	5.31	37.849	
850.00	846.63	847.90	845.84	2.85	2.83	138.928	-62.63	159.69	208.10	202.43	5.67	36.707	
900.00	895.62	897.05	894.99	3.03	3.01	140.608	-62.88	159.72	215.94	209.92	6.03	35.834	
950.00	944.44	945.89	943.84	3.21	3.18	142.277	-63.07	159.75	224.62	218.24	6.38	35.197	
1,000.00	993.06	994.52	992.47	3.40	3.36	143.943	-63.30	159.73	234.18	227.44	6.74	34.766	
1,050.00	1,041.46	1,042.85	1,040.79	3.58	3.53	145.585	-63.57	159.68	244.64	237.55	7.09	34.512	
1,100.00	1,089.64	1,090.92	1,088.86	3.77	3.70	147.189	-63.86	159.61	256.04	248.60	7.44	34.415	
1,150.00	1,137.58	1,139.03	1,136.97	3.96	3.87	148.757	-64.18	159.50	268.35	260.56	7.79	34.448	
1,200.00	1,185.27	1,186.96	1,184.90	4.15	4.04	150.273	-64.49	159.32	281.55	273.41	8.14	34.595	
1,250.00	1,232.68	1,234.55	1,232.49	4.34	4.21	151.716	-64.76	159.10	295.64	287.16	8.48	34.847	
1,300.00	1,279.82	1,281.89	1,279.82	4.53	4.38	153.058	-64.90	158.98	310.63	301.80	8.83	35.189	
1,350.00	1,326.65	1,328.46	1,326.40	4.73	4.54	154.289	-64.96	158.97	326.56	317.39	9.17	35.623	
1,400.00	1,373.21	1,378.63	1,376.57	4.93	4.71	155.529	-64.45	159.22	343.05	333.53	9.52	36.050	
1,450.00	1,419.73	1,429.37	1,427.28	5.13	4.88	156.598	-62.99	159.78	359.25	349.39	9.86	36.432	
1,500.00	1,466.25	1,476.63	1,474.50	5.33	5.04	157.433	-61.19	160.53	375.33	365.14	10.19	36.850	
1,550.00	1,512.78	1,524.50	1,522.30	5.53	5.20	158.154	-59.04	161.50	391.34	380.83	10.52	37.216	
1,600.00	1,559.30	1,571.65	1,569.38	5.74	5.35	158.748	-56.65	162.75	407.37	396.53	10.84	37.566	
1,650.00	1,605.82	1,618.91	1,616.54	5.94	5.51	159.237	-54.00	164.36	423.44	412.26	11.18	37.891	
1,700.00	1,652.34	1,666.35	1,663.85	6.14	5.67	159.635	-51.09	166.30	439.51	428.00	11.51	38.191	
1,750.00	1,698.87	1,713.99	1,711.33	6.35	5.83	159.954	-47.91	168.55	455.58	443.74	11.84	38.463	
1,800.00	1,745.39	1,762.12	1,759.27	6.55	6.00	160.215	-44.47	171.04	471.59	459.41	12.18	38.705	
1,850.00	1,791.91	1,810.01	1,806.95	6.76	6.16	160.421	-40.82	173.71	487.53	475.01	12.53	38.925	
1,900.00	1,838.43	1,857.09	1,853.76	6.97	6.33	160.537	-36.87	176.84	503.48	490.61	12.86	39.138	
1,950.00	1,884.96	1,904.71	1,901.03	7.17	6.50	160.562	-32.49	180.61	519.44	506.24	13.21	39.329	
2,000.00	1,931.48	1,953.92	1,949.80	7.38	6.67	160.523	-27.55	184.89	535.30	521.74	13.56	39.471	
2,050.00	1,978.00	2,003.02	1,998.40	7.59	6.85	160.437	-22.22	189.45	551.00	537.08	13.92	39.589	
2,100.00	2,024.52	2,051.77	2,046.62	7.80	7.03	160.338	-16.74	194.04	566.58	552.31	14.27	39.691	
2,150.00	2,071.05	2,099.63	2,093.95	8.01	7.20	160.239	-11.25	198.55	582.07	567.45	14.63	39.790	
2,200.00	2,117.57	2,146.03	2,139.83	8.22	7.38	160.146	-5.96	202.97	597.62	582.65	14.98	39.903	
2,250.00	2,164.09	2,192.96	2,186.24	8.42	7.55	160.056	-0.67	207.48	613.26	597.93	15.33	40.005	
2,300.00	2,210.61	2,241.20	2,233.95	8.63	7.73	159.963	4.82	212.16	628.87	613.18	15.69	40.080	
2,350.00	2,257.14	2,289.14	2,281.33	8.84	7.92	159.868	10.36	216.84	644.43	628.38	16.05	40.148	
2,400.00	2,303.66	2,336.40	2,328.03	9.05	8.10	159.772	15.86	221.51	659.99	643.58	16.41	40.219	
2,450.00	2,350.18	2,383.75	2,374.83	9.26	8.28	159.677	21.39	226.24	675.57	658.80	16.77	40.285	
2,500.00	2,396.70	2,431.32	2,421.88	9.47	8.46	159.609	26.78	230.76	691.15	674.02	17.13	40.344	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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
2,550.00	2,443.23	2,478.31	2,468.39	9.68	8.64	159.578	31.88	234.93	706.74	689.25	17.49	40.409	
2,600.00	2,489.75	2,524.25	2,513.95	9.89	8.82	159.584	36.56	238.70	722.41	704.57	17.84	40.492	
2,650.00	2,536.27	2,569.72	2,559.08	10.10	8.99	159.625	40.86	242.15	738.18	719.99	18.19	40.585	
2,700.00	2,582.79	2,614.17	2,603.25	10.32	9.16	159.700	44.68	245.26	754.12	735.59	18.53	40.703	
2,750.00	2,629.32	2,658.63	2,647.49	10.53	9.33	159.807	48.10	248.10	770.25	751.38	18.87	40.828	
2,800.00	2,675.84	2,703.62	2,692.31	10.74	9.49	159.955	51.11	250.59	786.53	767.33	19.20	40.958	
2,850.00	2,722.36	2,748.45	2,737.02	10.95	9.66	160.145	53.64	252.63	802.96	783.42	19.54	41.094	
2,900.00	2,768.88	2,792.18	2,780.67	11.16	9.82	160.357	55.71	254.35	819.57	799.70	19.87	41.257	
2,950.00	2,815.41	2,835.81	2,824.24	11.37	9.98	160.585	57.44	255.88	836.37	816.18	20.19	41.427	
3,000.00	2,861.93	2,876.04	2,864.43	11.58	10.12	160.817	58.62	257.09	853.47	832.98	20.49	41.656	
3,050.00	2,908.45	2,915.60	2,903.98	11.79	10.26	161.076	59.20	258.01	870.96	850.18	20.78	41.910	
3,100.00	2,954.97	2,955.20	2,943.57	12.01	10.39	161.361	59.23	258.70	888.86	867.78	21.07	42.184	
3,150.00	3,001.53	2,994.91	2,983.27	12.22	10.53	162.428	58.84	259.29	907.04	885.68	21.36	42.470	
3,200.00	3,048.74	3,035.71	3,024.06	12.42	10.67	165.741	58.01	259.81	924.05	902.41	21.65	42.691	
3,250.00	3,096.71	3,083.02	3,071.35	12.62	10.83	169.881	56.85	260.35	939.13	917.15	21.97	42.740	
3,300.00	3,145.31	3,115.51	3,103.82	12.81	10.94	175.434	55.80	260.69	952.39	930.20	22.19	42.910	
3,350.00	3,194.40	3,139.52	3,127.79	13.00	11.02	-176.257	54.35	260.87	964.55	942.21	22.34	43.168	
3,400.00	3,243.86	3,156.00	3,144.20	13.17	11.07	-162.659	52.82	260.92	975.88	953.47	22.42	43.535	
3,450.00	3,293.54	3,179.03	3,167.03	13.34	11.15	-139.798	49.84	260.92	986.42	963.90	22.52	43.805	
3,500.00	3,343.31	3,188.00	3,175.88	13.49	11.17	-108.790	48.38	260.89	996.39	973.92	22.48	44.333	
3,550.00	3,393.03	3,219.00	3,206.19	13.63	11.27	-82.666	41.93	260.78	1,005.57	982.96	22.61	44.484	
3,600.00	3,442.57	3,230.43	3,217.24	13.77	11.30	-66.724	39.01	260.72	1,014.08	991.54	22.53	45.008	
3,650.00	3,491.79	3,251.00	3,236.94	13.89	11.36	-57.292	33.07	260.58	1,021.93	999.40	22.52	45.373	
3,700.00	3,540.56	3,269.27	3,254.23	14.01	11.41	-51.337	27.17	260.42	1,028.95	1,006.48	22.47	45.788	
3,750.00	3,588.74	3,291.61	3,275.14	14.12	11.47	-47.311	19.30	260.18	1,035.05	1,012.60	22.45	46.110	
3,800.00	3,636.20	3,313.00	3,294.92	14.23	11.53	-44.445	11.18	259.93	1,040.14	1,017.74	22.40	46.438	
3,850.00	3,682.81	3,336.39	3,316.27	14.33	11.59	-42.327	1.63	259.66	1,044.24	1,021.88	22.36	46.703	
3,900.00	3,728.44	3,358.69	3,336.32	14.42	11.65	-40.720	-8.13	259.45	1,047.38	1,025.08	22.30	46.976	
3,950.00	3,772.97	3,377.00	3,352.56	14.51	11.70	-39.475	-16.57	259.32	1,049.54	1,027.36	22.18	47.329	
4,000.00	3,816.27	3,408.00	3,379.54	14.59	11.78	-38.542	-31.84	259.20	1,050.78	1,028.58	22.20	47.332	
4,050.00	3,858.24	3,419.05	3,388.95	14.67	11.81	-37.765	-37.64	259.19	1,051.08	1,029.10	21.97	47.838	
4,100.00	3,898.74	3,440.00	3,406.39	14.75	11.87	-37.182	-49.24	259.21	1,050.74	1,028.88	21.86	48.072	
4,150.00	3,937.67	3,452.78	3,416.76	14.82	11.90	-36.704	-56.71	259.25	1,049.61	1,027.98	21.63	48.519	
4,200.00	3,974.93	3,472.00	3,431.98	14.89	11.96	-36.363	-68.44	259.32	1,047.77	1,026.28	21.49	48.762	
4,250.00	4,010.41	3,491.56	3,447.04	14.96	12.02	-36.125	-80.91	259.41	1,045.09	1,023.74	21.35	48.959	
4,300.00	4,044.02	3,514.58	3,464.31	15.02	12.10	-35.999	-96.13	259.52	1,041.45	1,020.20	21.25	49.003	
4,350.00	4,075.66	3,540.86	3,483.51	15.09	12.20	-35.983	-114.08	259.65	1,036.76	1,015.54	21.22	48.863	
4,400.00	4,105.24	3,578.77	3,510.62	15.16	12.37	-36.144	-140.57	259.76	1,030.68	1,009.32	21.36	48.258	
4,450.00	4,132.69	3,622.67	3,541.64	15.24	12.57	-36.471	-171.65	259.54	1,022.67	1,001.08	21.59	47.377	
4,500.00	4,158.10	3,671.58	3,576.09	15.31	12.82	-36.952	-206.36	259.37	1,012.81	990.88	21.93	46.194	
4,550.00	4,183.10	3,715.79	3,607.20	15.41	13.07	-37.352	-237.77	259.22	1,002.64	980.42	22.22	45.120	
4,600.00	4,208.10	3,756.00	3,635.46	15.50	13.30	-37.735	-266.37	259.40	992.81	970.33	22.47	44.175	
4,650.00	4,233.10	3,787.00	3,656.74	15.61	13.50	-38.011	-288.91	259.57	983.86	961.24	22.61	43.510	
4,700.00	4,257.80	3,800.45	3,665.61	15.73	13.59	-38.310	-299.01	259.64	975.95	953.45	22.50	43.378	
4,750.00	4,279.35	3,819.00	3,677.34	15.85	13.71	-39.059	-313.39	259.72	966.93	944.44	22.49	42.990	
4,800.00	4,296.88	3,833.85	3,686.26	15.97	13.81	-39.929	-325.26	259.83	956.24	933.76	22.47	42.547	
4,850.00	4,310.27	3,857.00	3,699.27	16.09	13.97	-41.084	-344.40	260.11	944.07	921.45	22.62	41.732	
4,900.00	4,319.40	3,868.16	3,705.20	16.21	14.06	-42.240	-353.85	260.29	930.21	907.55	22.65	41.061	
4,950.00	4,324.22	3,889.00	3,715.87	16.32	14.21	-43.768	-371.75	260.71	914.78	891.90	22.88	39.976	
5,000.00	4,324.86	3,905.88	3,724.00	16.44	14.35	-45.057	-386.53	261.10	898.02	874.89	23.13	38.833	
5,050.00	4,324.37	3,920.00	3,730.35	16.57	14.46	-45.390	-399.14	261.45	882.17	858.80	23.37	37.754	
5,100.00	4,323.88	3,939.93	3,738.56	16.70	14.62	-45.830	-417.29	261.96	868.00	844.31	23.69	36.634	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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)	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	4,323.39	3,959.08	3,745.58	16.85	14.78	-46.217	-435.10	262.46	855.60	831.55	24.04	35.586	
5,200.00	4,322.91	3,983.00	3,753.42	17.00	14.99	-46.661	-457.69	263.12	844.80	820.34	24.46	34.531	
5,250.00	4,322.42	4,014.00	3,762.48	17.17	15.27	-47.190	-487.32	264.00	835.44	810.45	24.99	33.428	
5,300.00	4,321.93	4,046.00	3,770.87	17.34	15.57	-47.684	-518.19	264.74	827.12	801.58	25.54	32.389	
5,350.00	4,321.44	4,077.00	3,777.87	17.53	15.86	-48.093	-548.39	265.08	819.80	793.72	26.08	31.432	
5,400.00	4,320.95	4,111.46	3,784.35	17.72	16.20	-48.469	-582.24	265.14	813.51	786.86	26.66	30.518	
5,450.00	4,320.46	4,144.74	3,789.49	17.92	16.54	-48.764	-615.11	264.94	808.15	780.92	27.23	29.681	
5,500.00	4,319.97	4,171.00	3,792.57	18.13	16.82	-48.943	-641.19	264.73	804.02	776.29	27.72	29.000	
5,550.00	4,319.48	4,203.00	3,794.81	18.35	17.16	-49.086	-673.10	264.56	801.41	773.14	28.27	28.347	
5,600.00	4,318.99	4,225.36	3,795.43	18.57	17.40	-49.138	-695.45	264.52	800.22	771.49	28.72	27.859	
5,632.12	4,318.68	4,249.44	3,795.52	18.72	17.66	-49.164	-719.53	264.49	800.10	771.01	29.10	27.499	
5,650.00	4,318.50	4,265.25	3,795.49	18.81	17.84	-49.177	-735.34	264.49	800.13	770.80	29.32	27.287	
5,700.00	4,318.01	4,311.36	3,795.29	19.04	18.37	-49.216	-781.45	264.63	800.38	770.39	29.99	26.687	
5,750.00	4,317.52	4,357.49	3,795.02	19.29	18.91	-49.261	-827.58	264.99	800.87	770.20	30.67	26.109	
5,800.00	4,317.03	4,405.12	3,794.69	19.54	19.49	-49.314	-875.21	265.57	801.56	770.17	31.40	25.530	
5,850.00	4,316.54	4,452.87	3,794.35	19.81	20.08	-49.375	-922.95	266.33	802.40	770.26	32.14	24.969	
5,900.00	4,316.05	4,503.51	3,793.78	20.07	20.72	-49.423	-973.58	267.02	803.28	770.37	32.92	24.402	
5,950.00	4,315.56	4,554.36	3,792.76	20.34	21.38	-49.426	-1,024.41	267.26	804.12	770.42	33.70	23.862	
6,000.00	4,315.08	4,603.55	3,791.53	20.62	22.03	-49.406	-1,073.60	267.29	804.96	770.48	34.48	23.348	
6,050.00	4,314.59	4,652.88	3,790.20	20.90	22.69	-49.380	-1,122.90	267.29	805.84	770.58	35.26	22.855	
6,100.00	4,314.10	4,699.66	3,788.87	21.18	23.34	-49.356	-1,169.66	267.40	806.85	770.82	36.03	22.392	
6,150.00	4,313.61	4,747.07	3,787.47	21.48	23.99	-49.337	-1,217.06	267.67	808.04	771.22	36.82	21.943	
6,200.00	4,313.12	4,796.25	3,785.98	21.77	24.68	-49.320	-1,266.21	268.06	809.32	771.68	37.64	21.500	
6,250.00	4,312.63	4,844.97	3,784.49	22.07	25.37	-49.304	-1,314.90	268.49	810.66	772.19	38.47	21.073	
6,300.00	4,312.14	4,892.18	3,783.04	22.38	26.04	-49.296	-1,362.09	269.07	812.13	772.85	39.29	20.672	
6,350.00	4,311.65	4,939.83	3,781.56	22.69	26.73	-49.297	-1,409.71	269.86	813.77	773.65	40.12	20.282	
6,400.00	4,311.16	4,988.70	3,780.03	23.00	27.44	-49.302	-1,458.55	270.78	815.51	774.52	40.98	19.899	
6,450.00	4,310.67	5,037.49	3,778.50	23.32	28.16	-49.310	-1,507.30	271.77	817.31	775.46	41.85	19.529	
6,500.00	4,310.18	5,086.09	3,776.90	23.64	28.88	-49.317	-1,555.87	272.81	819.19	776.47	42.72	19.175	
6,550.00	4,309.69	5,134.52	3,775.23	23.96	29.60	-49.321	-1,604.26	273.88	821.16	777.56	43.60	18.836	
6,600.00	4,309.20	5,182.68	3,773.47	24.29	30.32	-49.322	-1,652.37	274.99	823.23	778.76	44.47	18.512	
6,650.00	4,308.71	5,237.53	3,771.39	24.62	31.14	-49.317	-1,707.17	276.22	825.32	779.89	45.43	18.166	
6,700.00	4,308.22	5,302.00	3,769.32	24.95	32.12	-49.292	-1,771.60	276.80	826.71	780.22	46.50	17.779	
6,750.00	4,307.73	5,349.85	3,767.91	25.29	32.84	-49.263	-1,819.43	276.84	827.71	780.33	47.38	17.471	
6,800.00	4,307.25	5,396.87	3,766.40	25.63	33.56	-49.233	-1,866.43	276.99	828.88	780.64	48.24	17.182	
6,850.00	4,306.76	5,445.29	3,764.75	25.97	34.30	-49.201	-1,914.81	277.24	830.19	781.06	49.13	16.897	
6,900.00	4,306.27	5,493.80	3,763.02	26.32	35.05	-49.167	-1,963.29	277.54	831.59	781.57	50.02	16.624	
6,950.00	4,305.78	5,542.22	3,761.07	26.67	36.13	-49.123	-2,033.68	277.41	832.42	781.25	51.17	16.268	
7,000.00	4,305.29	5,620.49	3,760.26	27.01	37.00	-49.092	-2,089.94	276.55	832.30	780.15	52.16	15.958	
7,050.00	4,304.80	5,669.04	3,759.52	27.37	37.75	-49.061	-2,138.48	275.76	832.19	779.12	53.06	15.683	
7,100.00	4,304.31	5,718.90	3,758.65	27.72	38.52	-49.023	-2,188.33	274.93	832.13	778.15	53.98	15.416	
7,150.00	4,303.82	5,769.34	3,757.65	28.08	39.31	-48.972	-2,238.75	273.96	832.05	777.15	54.90	15.156	
7,186.54	4,303.46	5,804.39	3,756.88	28.34	39.85	-48.931	-2,273.78	273.24	832.01	776.46	55.55	14.978	
7,200.00	4,303.33	5,817.15	3,756.59	28.44	40.05	-48.916	-2,286.54	272.99	832.02	776.23	55.79	14.914	
7,250.00	4,302.84	5,864.57	3,755.45	28.80	40.79	-48.861	-2,333.93	272.15	832.14	775.46	56.68	14.682	
7,300.00	4,302.35	5,914.56	3,754.18	29.16	41.58	-48.802	-2,383.90	271.33	832.35	774.75	57.59	14.452	
7,350.00	4,301.86	5,964.96	3,752.91	29.53	42.37	-48.743	-2,434.27	270.47	832.53	774.02	58.52	14.227	
7,400.00	4,301.37	6,015.58	3,751.66	29.89	43.16	-48.683	-2,484.88	269.59	832.69	773.25	59.44	14.008	
7,450.00	4,300.88	6,066.21	3,750.45	30.26	43.96	-48.625	-2,535.48	268.69	832.81	772.44	60.37	13.795	
7,500.00	4,300.39	6,111.76	3,749.44	30.63	44.68	-48.587	-2,581.01	268.11	833.06	771.81	61.25	13.600	
7,550.00	4,299.90	6,158.08	3,748.48	31.00	45.41	-48.568	-2,627.33	267.88	833.55	771.39	62.16	13.410	
7,600.00	4,299.42	6,207.81	3,747.52	31.38	46.20	-48.561	-2,677.04	267.83	834.14	771.03	63.11	13.216	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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
7,650.00	4,298.93	6,257.90	3,746.58	31.75	47.00	-48.557	-2,727.13	267.83	834.76	770.68	64.08	13.027	
7,700.00	4,298.44	6,310.12	3,745.59	32.13	47.83	-48.546	-2,779.34	267.70	835.29	770.22	65.06	12.838	
7,750.00	4,297.95	6,361.58	3,744.58	32.51	48.65	-48.525	-2,830.79	267.38	835.70	769.66	66.04	12.655	
7,800.00	4,297.46	6,411.55	3,743.64	32.88	49.45	-48.507	-2,880.74	267.06	836.08	769.08	66.99	12.480	
7,850.00	4,296.97	6,461.23	3,742.76	33.26	50.24	-48.494	-2,930.42	266.80	836.46	768.51	67.95	12.309	
7,900.00	4,296.48	6,510.55	3,741.85	33.65	51.03	-48.481	-2,979.73	266.56	836.88	767.97	68.91	12.145	
7,950.00	4,295.99	6,559.87	3,740.92	34.03	51.82	-48.467	-3,029.04	266.35	837.34	767.48	69.87	11.985	
8,000.00	4,295.50	6,609.20	3,740.00	34.41	52.62	-48.457	-3,078.36	266.21	837.84	767.02	70.83	11.830	
8,050.00	4,295.01	6,660.03	3,739.08	34.80	53.43	-48.450	-3,129.19	266.10	838.36	766.55	71.81	11.675	
8,100.00	4,294.52	6,711.88	3,738.12	35.18	54.26	-48.435	-3,181.02	265.83	838.77	765.97	72.80	11.522	
8,150.00	4,294.03	6,763.08	3,737.16	35.57	55.09	-48.413	-3,232.21	265.43	839.09	765.31	73.78	11.373	
8,200.00	4,293.54	6,814.10	3,736.22	35.96	55.91	-48.388	-3,283.23	264.96	839.35	764.60	74.75	11.229	
8,250.00	4,293.05	6,864.76	3,735.28	36.35	56.72	-48.361	-3,333.87	264.42	839.56	763.84	75.72	11.088	
8,300.00	4,292.56	6,915.42	3,734.33	36.74	57.54	-48.329	-3,384.52	263.81	839.73	763.04	76.69	10.950	
8,350.00	4,292.07	6,967.15	3,733.39	37.13	58.37	-48.296	-3,436.23	263.12	839.83	762.16	77.66	10.813	
8,400.00	4,291.59	7,018.87	3,732.52	37.52	59.21	-48.263	-3,487.94	262.36	839.82	761.18	78.64	10.679	
8,414.97	4,291.44	7,032.91	3,732.31	37.64	59.43	-48.256	-3,501.98	262.17	839.82	760.90	78.92	10.641	
8,450.00	4,291.10	7,067.08	3,731.84	37.92	59.99	-48.245	-3,536.15	261.79	839.84	760.25	79.59	10.552	
8,500.00	4,290.61	7,117.30	3,731.28	38.31	60.80	-48.243	-3,586.36	261.40	839.92	759.34	80.58	10.424	
8,550.00	4,290.12	7,171.55	3,730.71	38.70	61.67	-48.233	-3,640.60	260.78	839.83	758.22	81.61	10.291	
8,600.00	4,289.63	7,223.81	3,730.10	39.10	62.52	-48.205	-3,692.85	259.81	839.52	756.92	82.60	10.164	
8,650.00	4,289.14	7,274.17	3,729.10	39.50	63.33	-48.136	-3,743.18	258.45	839.16	755.63	83.53	10.046	
8,700.00	4,288.65	7,325.09	3,727.72	39.89	64.15	-48.031	-3,794.05	256.69	838.77	754.33	84.44	9.933	
8,750.00	4,288.16	7,376.32	3,726.34	40.29	64.98	-47.921	-3,845.23	254.83	838.31	752.96	85.35	9.822	
8,800.00	4,287.67	7,426.54	3,725.04	40.69	65.79	-47.815	-3,895.39	252.99	837.80	751.55	86.24	9.714	
8,850.00	4,287.18	7,476.52	3,723.84	41.09	66.60	-47.718	-3,945.33	251.23	837.29	750.15	87.15	9.608	
8,900.00	4,286.69	7,521.78	3,722.76	41.49	67.33	-47.638	-3,990.56	249.81	836.92	748.91	88.01	9.509	
8,935.65	4,286.34	7,553.73	3,721.95	41.77	67.85	-47.587	-4,022.49	248.99	836.84	748.21	88.62	9.443	
8,950.00	4,286.20	7,566.59	3,721.60	41.89	68.06	-47.567	-4,035.34	248.69	836.85	747.98	88.87	9.416	
9,000.00	4,285.71	7,615.74	3,720.26	42.29	68.85	-47.496	-4,084.46	247.68	836.99	747.20	89.79	9.322	
9,050.00	4,285.22	7,665.88	3,718.91	42.69	69.67	-47.425	-4,134.57	246.64	837.13	746.42	90.71	9.229	
9,100.00	4,284.73	7,713.14	3,717.68	43.10	70.43	-47.366	-4,181.81	245.81	837.33	745.73	91.61	9.140	
9,150.00	4,284.24	7,760.16	3,716.58	43.50	71.20	-47.329	-4,228.81	245.31	837.72	745.20	92.52	9.054	
9,200.00	4,283.76	7,807.77	3,715.36	43.90	71.97	-47.292	-4,276.41	244.92	838.27	744.82	93.45	8.971	
9,250.00	4,283.27	7,855.44	3,713.76	44.31	72.75	-47.227	-4,324.05	244.36	838.96	744.61	94.34	8.893	
9,300.00	4,282.78	7,905.17	3,711.81	44.71	73.56	-47.140	-4,373.73	243.63	839.73	744.48	95.24	8.817	
9,350.00	4,282.29	7,955.36	3,709.74	45.12	74.38	-47.043	-4,423.87	242.81	840.50	744.36	96.14	8.743	
9,400.00	4,281.80	8,011.44	3,707.62	45.52	75.29	-46.937	-4,479.90	241.75	841.09	743.99	97.10	8.662	
9,450.00	4,281.31	8,064.92	3,705.94	45.93	76.16	-46.847	-4,533.34	240.59	841.33	743.29	98.04	8.582	
9,500.00	4,280.82	8,113.51	3,704.46	46.33	76.95	-46.768	-4,581.90	239.55	841.57	742.64	98.93	8.507	
9,550.00	4,280.33	8,162.51	3,702.93	46.74	77.75	-46.690	-4,630.87	238.58	841.89	742.07	99.82	8.434	
9,600.00	4,279.84	8,212.13	3,701.42	47.15	78.56	-46.616	-4,680.45	237.67	842.25	741.52	100.73	8.362	
9,650.00	4,279.35	8,262.52	3,699.91	47.56	79.38	-46.545	-4,730.81	236.79	842.61	740.97	101.65	8.290	
9,700.00	4,278.86	8,313.74	3,698.28	47.97	80.21	-46.459	-4,782.00	235.72	842.92	740.36	102.56	8.219	
9,750.00	4,278.37	8,367.76	3,696.44	48.38	81.09	-46.349	-4,835.97	234.28	843.10	739.63	103.47	8.148	
9,800.00	4,277.88	8,419.54	3,694.67	48.78	81.94	-46.226	-4,887.69	232.55	843.04	738.70	104.34	8.080	
9,850.00	4,277.39	8,469.49	3,693.02	49.19	82.75	-46.112	-4,937.58	230.92	842.98	737.77	105.20	8.013	
9,900.00	4,276.90	8,522.83	3,691.31	49.60	83.62	-45.990	-4,990.87	229.11	842.83	736.75	106.09	7.945	
9,950.00	4,276.42	8,577.07	3,689.58	50.01	84.50	-45.849	-5,045.03	226.91	842.45	735.49	106.96	7.876	
10,000.00	4,275.93	8,626.00	3,688.08	50.43	85.29	-45.722	-5,093.90	224.87	841.99	734.20	107.78	7.812	
10,050.00	4,275.44	8,675.97	3,686.56	50.84	86.11	-45.594	-5,143.80	222.82	841.54	732.93	108.62	7.748	
10,082.45	4,275.12	8,701.00	3,685.80	51.10	86.52	-45.531	-5,168.80	221.79	841.29	732.20	109.09	7.712	

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



Anticollision Report



Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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									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	
10,094.57	4,275.00	8,701.00	3,685.80	51.20	86.52	-45.531	-5,168.80	221.79	841.38	732.20	109.18	7.707 SF	



Anticollision Report



Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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 1 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 532-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	
5,900.00	4,316.05	4,270.26	4,316.05	20.07	74.19	90.422	-2,167.95	-1,939.52	1,985.48	1,893.41	92.07	21.565	
5,950.00	4,315.56	4,269.77	4,315.56	20.34	74.18	90.404	-2,167.95	-1,939.52	1,955.82	1,863.47	92.35	21.178	
6,000.00	4,315.08	4,269.28	4,315.08	20.62	74.17	90.387	-2,167.95	-1,939.52	1,927.01	1,834.36	92.65	20.799	
6,050.00	4,314.59	4,268.79	4,314.59	20.90	74.16	90.369	-2,167.95	-1,939.52	1,899.06	1,806.10	92.97	20.428	
6,100.00	4,314.10	4,268.30	4,314.10	21.18	74.15	90.351	-2,167.95	-1,939.52	1,872.04	1,778.75	93.29	20.066	
6,150.00	4,313.61	4,267.81	4,313.61	21.48	74.14	90.334	-2,167.95	-1,939.52	1,845.98	1,752.34	93.64	19.713	
6,200.00	4,313.12	4,267.32	4,313.12	21.77	74.13	90.316	-2,167.95	-1,939.52	1,820.92	1,726.91	94.00	19.371	
6,250.00	4,312.63	4,266.84	4,312.63	22.07	74.12	90.298	-2,167.95	-1,939.52	1,796.90	1,702.51	94.38	19.038	
6,300.00	4,312.14	4,266.35	4,312.14	22.38	74.11	90.281	-2,167.95	-1,939.52	1,773.96	1,679.19	94.77	18.718	
6,350.00	4,311.65	4,265.86	4,311.65	22.69	74.11	90.263	-2,167.95	-1,939.52	1,752.15	1,656.97	95.18	18.409	
6,400.00	4,311.16	4,265.37	4,311.16	23.00	74.10	90.245	-2,167.95	-1,939.52	1,731.51	1,635.92	95.59	18.113	
6,450.00	4,310.67	4,264.88	4,310.67	23.32	74.09	90.228	-2,167.95	-1,939.52	1,712.08	1,616.06	96.02	17.830	
6,500.00	4,310.18	4,264.39	4,310.18	23.64	74.08	90.210	-2,167.95	-1,939.52	1,693.90	1,597.45	96.45	17.562	
6,550.00	4,309.69	4,263.90	4,309.69	23.96	74.07	90.192	-2,167.95	-1,939.52	1,677.02	1,580.12	96.90	17.307	
6,600.00	4,309.20	4,263.41	4,309.20	24.29	74.06	90.175	-2,167.95	-1,939.52	1,661.48	1,564.13	97.35	17.068	
6,650.00	4,308.71	4,262.92	4,308.71	24.62	74.05	90.157	-2,167.95	-1,939.52	1,647.30	1,549.50	97.80	16.844	
6,700.00	4,308.22	4,262.43	4,308.22	24.95	74.04	90.139	-2,167.95	-1,939.52	1,634.53	1,536.28	98.25	16.637	
6,750.00	4,307.73	4,261.94	4,307.73	25.29	74.03	90.122	-2,167.95	-1,939.52	1,623.20	1,524.50	98.70	16.445	
6,800.00	4,307.25	4,261.45	4,307.25	25.63	74.02	90.104	-2,167.95	-1,939.52	1,613.34	1,514.19	99.15	16.272	
6,850.00	4,306.76	4,260.96	4,306.76	25.97	74.02	90.086	-2,167.95	-1,939.52	1,604.98	1,505.38	99.60	16.115	
6,900.00	4,306.27	4,260.47	4,306.27	26.32	74.01	90.069	-2,167.95	-1,939.52	1,598.14	1,498.11	100.03	15.976	
6,950.00	4,305.78	4,259.98	4,305.78	26.67	74.00	90.051	-2,167.95	-1,939.52	1,592.84	1,492.38	100.46	15.855	
7,000.00	4,305.29	4,259.49	4,305.29	27.01	73.99	90.033	-2,167.95	-1,939.52	1,589.10	1,488.22	100.88	15.753	
7,050.00	4,304.80	4,259.01	4,304.80	27.37	73.98	90.016	-2,167.95	-1,939.52	1,586.92	1,485.64	101.28	15.669	
7,094.12	4,304.37	4,258.57	4,304.37	27.68	73.97	90.000	-2,167.95	-1,939.52	1,586.31	1,484.69	101.62	15.610 CC	
7,100.00	4,304.31	4,258.52	4,304.31	27.72	73.97	89.998	-2,167.95	-1,939.52	1,586.32	1,484.65	101.67	15.603 ES	
7,150.00	4,303.82	4,258.03	4,303.82	28.08	73.96	89.980	-2,167.95	-1,939.52	1,587.29	1,485.25	102.04	15.556	
7,200.00	4,303.33	4,257.54	4,303.33	28.44	73.95	89.963	-2,167.95	-1,939.52	1,589.84	1,487.45	102.39	15.527	
7,250.00	4,302.84	4,257.05	4,302.84	28.80	73.94	89.945	-2,167.95	-1,939.52	1,593.95	1,491.23	102.72	15.517 SF	
7,300.00	4,302.35	4,256.56	4,302.35	29.16	73.94	89.927	-2,167.95	-1,939.52	1,599.61	1,496.58	103.03	15.525	
7,350.00	4,301.86	4,256.07	4,301.86	29.53	73.93	89.910	-2,167.95	-1,939.52	1,606.81	1,503.49	103.32	15.551	
7,400.00	4,301.37	4,255.58	4,301.37	29.89	73.92	89.892	-2,167.95	-1,939.52	1,615.53	1,511.94	103.59	15.595	
7,450.00	4,300.88	4,255.09	4,300.88	30.26	73.91	89.874	-2,167.95	-1,939.52	1,625.74	1,521.90	103.84	15.656	
7,500.00	4,300.39	4,254.60	4,300.39	30.63	73.90	89.857	-2,167.95	-1,939.52	1,637.41	1,533.34	104.06	15.735	
7,550.00	4,299.90	4,254.11	4,299.90	31.00	73.89	89.839	-2,167.95	-1,939.52	1,650.51	1,546.25	104.27	15.830	
7,600.00	4,299.42	4,253.62	4,299.42	31.38	73.88	89.821	-2,167.95	-1,939.52	1,665.01	1,560.57	104.44	15.942	
7,650.00	4,298.93	4,253.13	4,298.93	31.75	73.87	89.803	-2,167.95	-1,939.52	1,680.88	1,576.27	104.60	16.069	
7,700.00	4,298.44	4,252.64	4,298.44	32.13	73.86	89.786	-2,167.95	-1,939.52	1,698.07	1,593.33	104.74	16.212	
7,750.00	4,297.95	4,252.15	4,297.95	32.51	73.85	89.768	-2,167.95	-1,939.52	1,716.54	1,611.68	104.86	16.370	
7,800.00	4,297.46	4,251.66	4,297.46	32.88	73.85	89.750	-2,167.95	-1,939.52	1,736.26	1,631.30	104.96	16.542	
7,850.00	4,296.97	4,251.18	4,296.97	33.26	73.84	89.733	-2,167.95	-1,939.52	1,757.18	1,652.14	105.04	16.729	
7,900.00	4,296.48	4,250.69	4,296.48	33.65	73.83	89.715	-2,167.95	-1,939.52	1,779.26	1,674.16	105.10	16.929	
7,950.00	4,295.99	4,250.20	4,295.99	34.03	73.82	89.697	-2,167.95	-1,939.52	1,802.45	1,697.30	105.15	17.141	
8,000.00	4,295.50	4,249.71	4,295.50	34.41	73.81	89.680	-2,167.95	-1,939.52	1,826.72	1,721.54	105.18	17.367	
8,050.00	4,295.01	4,249.22	4,295.01	34.80	73.80	89.662	-2,167.95	-1,939.52	1,852.03	1,746.82	105.20	17.604	
8,100.00	4,294.52	4,248.73	4,294.52	35.18	73.79	89.644	-2,167.95	-1,939.52	1,878.32	1,773.11	105.21	17.853	
8,150.00	4,294.03	4,248.24	4,294.03	35.57	73.78	89.627	-2,167.95	-1,939.52	1,905.56	1,800.36	105.20	18.113	
8,200.00	4,293.54	4,247.75	4,293.54	35.96	73.77	89.609	-2,167.95	-1,939.52	1,933.71	1,828.52	105.19	18.384	
8,250.00	4,293.05	4,247.26	4,293.05	36.35	73.77	89.591	-2,167.95	-1,939.52	1,962.73	1,857.57	105.16	18.664	
8,300.00	4,292.56	4,246.77	4,292.56	36.74	73.76	89.574	-2,167.95	-1,939.52	1,992.58	1,887.46	105.12	18.955	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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								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	68.00	0.00	0.00	0.95	-102.136	-401.97	-1,869.28	1,912.01				
50.00	50.00	118.00	50.00	0.05	1.65	-102.136	-401.97	-1,869.28	1,912.01	1,910.30	1.71	1,119.993	
100.00	100.00	168.00	100.00	0.14	2.35	-102.136	-401.97	-1,869.28	1,912.01	1,909.51	2.50	765.635	
150.00	150.00	218.00	150.00	0.32	3.05	-102.136	-401.97	-1,869.28	1,912.01	1,908.63	3.38	566.182	
200.00	200.00	268.00	200.00	0.50	3.76	-102.136	-401.97	-1,869.28	1,912.01	1,907.75	4.26	449.170	
250.00	250.00	318.00	250.00	0.68	4.46	-102.136	-401.97	-1,869.28	1,912.01	1,906.87	5.14	372.239	
300.00	300.00	369.94	300.00	0.86	5.19	-102.136	-401.97	-1,869.28	1,912.01	1,905.96	6.05	315.851	
350.00	350.00	418.06	350.00	1.04	6.38	-85.584	-401.97	-1,869.28	1,911.98	1,904.55	7.42	257.540	
400.00	399.98	468.04	399.98	1.22	7.62	-85.625	-401.97	-1,869.28	1,911.88	1,903.04	8.84	216.262	
450.00	449.93	516.75	448.67	1.40	8.83	-85.664	-401.04	-1,869.28	1,911.52	1,901.29	10.23	186.936	
500.00	499.84	564.22	496.13	1.58	10.00	-85.763	-401.33	-1,869.28	1,911.35	1,899.77	11.58	165.064	
550.00	549.68	611.59	543.49	1.76	11.18	-85.894	-401.90	-1,869.28	1,911.20	1,898.26	12.93	147.794	
600.00	599.45	667.59	599.45	1.95	12.37	-86.061	-401.97	-1,869.28	1,910.86	1,896.56	14.30	133.603	
650.00	649.13	717.27	649.13	2.13	13.41	-86.237	-401.97	-1,869.28	1,910.48	1,894.96	15.52	123.059	
700.00	698.70	766.84	698.70	2.31	14.45	-86.439	-401.97	-1,869.28	1,910.06	1,893.32	16.75	114.067	
750.00	748.15	816.29	748.15	2.49	15.49	-86.667	-401.97	-1,869.28	1,909.61	1,891.65	17.96	106.303	
800.00	797.47	865.59	797.43	2.67	16.53	-86.886	-400.78	-1,869.28	1,908.87	1,889.69	19.18	99.527	
850.00	846.63	913.92	845.76	2.85	17.54	-87.160	-400.82	-1,869.28	1,908.40	1,888.02	20.38	93.657	
900.00	895.62	962.05	893.89	3.03	18.55	-87.461	-400.96	-1,869.28	1,907.95	1,886.38	21.57	88.457	
950.00	944.44	1,009.96	941.80	3.21	19.56	-87.786	-401.19	-1,869.28	1,907.55	1,884.79	22.76	83.814	
1,000.00	993.06	1,057.64	989.48	3.40	20.56	-88.136	-401.50	-1,869.28	1,907.21	1,883.27	23.95	79.649	
1,050.00	1,041.46	1,105.07	1,036.90	3.58	21.55	-88.509	-401.90	-1,869.28	1,906.94	1,881.82	25.13	75.889	
1,100.00	1,089.64	1,157.86	1,089.64	3.77	22.57	-88.940	-401.97	-1,869.28	1,906.65	1,880.32	26.33	72.412	
1,150.00	1,137.58	1,205.80	1,137.58	3.96	23.47	-89.353	-401.97	-1,869.28	1,906.43	1,879.00	27.43	69.508	
1,200.00	1,185.27	1,253.49	1,185.27	4.15	24.38	-89.787	-401.97	-1,869.28	1,906.31	1,877.79	28.52	66.841	
1,223.85	1,207.92	1,276.14	1,207.92	4.24	24.80	-90.000	-401.97	-1,869.28	1,906.30	1,877.26	29.04	65.641	
1,250.00	1,232.68	1,300.90	1,232.68	4.34	25.27	-90.239	-401.97	-1,869.28	1,906.32	1,876.71	29.61	64.379	
1,300.00	1,279.82	1,348.03	1,279.82	4.53	26.16	-90.709	-401.97	-1,869.28	1,906.46	1,875.77	30.70	62.107	
1,307.17	1,286.55	1,354.67	1,286.44	4.56	26.29	-90.751	-401.04	-1,869.28	1,906.22	1,875.37	30.85	61.789	
1,350.00	1,326.65	1,394.01	1,325.78	4.73	27.03	-91.162	-401.07	-1,869.28	1,906.50	1,874.74	31.76	60.022	
1,400.00	1,373.21	1,439.64	1,371.41	4.93	27.90	-91.660	-401.18	-1,869.28	1,907.02	1,874.20	32.82	58.099	
1,450.00	1,419.73	1,485.18	1,416.95	5.13	28.76	-92.165	-401.35	-1,869.28	1,907.74	1,873.86	33.89	56.299	
1,500.00	1,466.25	1,530.67	1,462.44	5.33	29.62	-92.672	-401.59	-1,869.28	1,908.67	1,873.72	34.95	54.616	
1,550.00	1,512.78	1,576.11	1,507.88	5.53	30.48	-93.179	-401.89	-1,869.28	1,909.79	1,873.78	36.01	53.036	
1,600.00	1,559.30	1,627.55	1,559.30	5.74	31.45	-93.745	-401.97	-1,869.28	1,911.01	1,873.83	37.18	51.398	
1,650.00	1,605.82	1,674.08	1,605.82	5.94	32.32	-94.255	-401.97	-1,869.28	1,912.38	1,874.12	38.26	49.985	
1,700.00	1,652.34	1,720.60	1,652.34	6.14	33.20	-94.764	-401.97	-1,869.28	1,913.93	1,874.59	39.34	48.653	
1,750.00	1,698.87	1,767.12	1,698.87	6.35	34.07	-95.272	-401.97	-1,869.28	1,915.65	1,875.23	40.42	47.396	
1,800.00	1,745.39	1,813.64	1,745.39	6.55	34.94	-95.780	-401.97	-1,869.28	1,917.55	1,876.05	41.50	46.208	
1,850.00	1,791.91	1,859.63	1,791.37	6.76	35.81	-96.268	-401.47	-1,869.28	1,919.42	1,876.85	42.57	45.090	
1,900.00	1,838.43	1,905.48	1,837.23	6.97	36.67	-96.768	-401.52	-1,869.28	1,921.68	1,878.04	43.64	44.038	
1,950.00	1,884.96	1,951.31	1,883.05	7.17	37.53	-97.267	-401.61	-1,869.28	1,924.12	1,879.42	44.70	43.041	
2,000.00	1,931.48	1,997.10	1,928.84	7.38	38.39	-97.766	-401.74	-1,869.28	1,926.76	1,880.99	45.77	42.095	
2,050.00	1,978.00	2,042.86	1,974.60	7.59	39.25	-98.265	-401.91	-1,869.28	1,929.58	1,882.74	46.84	41.197	
2,100.00	2,024.52	2,092.81	2,024.52	7.80	40.23	-98.804	-401.97	-1,869.28	1,932.53	1,884.50	48.02	40.241	
2,150.00	2,071.05	2,139.33	2,071.05	8.01	41.16	-99.304	-401.97	-1,869.28	1,935.62	1,886.46	49.16	39.375	
2,200.00	2,117.57	2,185.85	2,117.57	8.22	42.09	-99.802	-401.97	-1,869.28	1,938.88	1,888.59	50.29	38.553	
2,250.00	2,164.09	2,232.38	2,164.09	8.42	43.01	-100.299	-401.97	-1,869.28	1,942.31	1,890.89	51.43	37.769	
2,300.00	2,210.61	2,278.90	2,210.61	8.63	43.94	-100.794	-401.97	-1,869.28	1,945.91	1,893.35	52.56	37.023	
2,350.00	2,257.14	2,324.58	2,256.29	8.84	44.85	-101.259	-401.16	-1,869.28	1,949.28	1,895.60	53.68	36.316	
2,400.00	2,303.66	2,369.82	2,301.53	9.05	45.75	-101.739	-401.23	-1,869.28	1,953.23	1,898.45	54.78	35.654	
2,450.00	2,350.18	2,415.02	2,346.73	9.26	46.65	-102.219	-401.36	-1,869.28	1,957.38	1,901.49	55.89	35.022	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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		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	
2,500.00	2,396.70	2,460.17	2,391.88	9.47	47.55	-102.697	-401.55	-1,869.28	1,961.72	1,904.73	56.99	34.419	
2,550.00	2,443.23	2,505.28	2,436.99	9.68	48.45	-103.175	-401.80	-1,869.28	1,966.27	1,908.17	58.10	33.843	
2,600.00	2,489.75	2,558.08	2,489.75	9.89	49.51	-103.729	-401.97	-1,869.28	1,970.92	1,911.56	59.36	33.204	
2,650.00	2,536.27	2,604.60	2,536.27	10.10	50.43	-104.211	-401.97	-1,869.28	1,975.65	1,915.16	60.49	32.660	
2,700.00	2,582.79	2,651.12	2,582.79	10.32	51.36	-104.692	-401.97	-1,869.28	1,980.54	1,918.91	61.62	32.139	
2,750.00	2,629.32	2,697.65	2,629.32	10.53	52.29	-105.170	-401.97	-1,869.28	1,985.59	1,922.83	62.76	31.639	
2,800.00	2,675.84	2,744.17	2,675.84	10.74	53.22	-105.646	-401.97	-1,869.28	1,990.79	1,926.90	63.89	31.160	
2,850.00	2,722.36	2,789.96	2,721.62	10.95	54.13	-106.094	-401.15	-1,869.28	1,995.69	1,930.68	65.01	30.699	
3,750.00	3,588.74	3,657.14	3,588.74	14.12	70.76	37.538	-401.97	-1,869.28	1,997.32	1,912.56	84.76	23.565	
3,800.00	3,636.20	3,704.60	3,636.20	14.23	71.65	41.196	-401.97	-1,869.28	1,984.94	1,899.18	85.76	23.145	
3,850.00	3,682.81	3,750.36	3,681.95	14.33	72.50	44.294	-401.47	-1,869.28	1,970.95	1,884.22	86.72	22.727	
3,900.00	3,728.44	3,795.04	3,726.63	14.42	73.34	47.047	-401.52	-1,869.28	1,956.07	1,868.41	87.66	22.314	
3,950.00	3,772.97	3,838.67	3,770.26	14.51	74.16	49.609	-401.60	-1,869.28	1,940.07	1,851.50	88.57	21.904	
4,000.00	3,816.27	3,881.15	3,812.73	14.59	74.95	52.066	-401.72	-1,869.28	1,923.05	1,833.59	89.46	21.497	
4,050.00	3,858.24	3,922.35	3,853.94	14.67	75.73	54.474	-401.86	-1,869.28	1,905.10	1,814.79	90.31	21.095	
4,100.00	3,898.74	3,967.17	3,898.74	14.75	76.57	56.951	-401.97	-1,869.28	1,886.30	1,795.07	91.23	20.676	
4,150.00	3,937.67	4,006.11	3,937.67	14.82	77.30	59.371	-401.97	-1,869.28	1,866.75	1,774.71	92.04	20.282	
4,200.00	3,974.93	4,043.37	3,974.93	14.89	78.00	61.803	-401.97	-1,869.28	1,846.64	1,753.83	92.81	19.897	
4,250.00	4,010.41	4,078.85	4,010.41	14.96	78.66	64.245	-401.97	-1,869.28	1,826.12	1,732.57	93.55	19.521	
4,300.00	4,044.02	4,112.45	4,044.02	15.02	79.29	66.687	-401.97	-1,869.28	1,805.33	1,711.09	94.24	19.156	
4,350.00	4,075.66	4,144.09	4,075.66	15.09	79.89	69.116	-401.97	-1,869.28	1,784.43	1,689.53	94.91	18.802	
4,400.00	4,105.24	4,173.55	4,105.11	15.16	80.44	71.522	-401.30	-1,869.28	1,763.26	1,667.73	95.53	18.458	
4,450.00	4,132.69	4,200.40	4,131.96	15.24	80.94	73.844	-401.31	-1,869.28	1,742.66	1,646.55	96.10	18.133	
4,500.00	4,158.10	4,225.31	4,156.88	15.31	81.41	75.511	-401.34	-1,869.28	1,722.48	1,625.83	96.64	17.823	
4,550.00	4,183.10	4,249.89	4,181.45	15.41	81.87	76.259	-401.39	-1,869.28	1,703.09	1,605.90	97.19	17.523	
4,600.00	4,208.10	4,274.52	4,206.07	15.50	82.33	77.013	-401.45	-1,869.28	1,684.60	1,586.86	97.75	17.234	
4,650.00	4,233.10	4,299.20	4,230.76	15.61	82.80	77.774	-401.53	-1,869.28	1,667.04	1,568.72	98.32	16.956	
4,700.00	4,257.80	4,323.66	4,255.22	15.73	83.26	79.208	-401.63	-1,869.28	1,650.36	1,551.47	98.89	16.689	
4,750.00	4,279.35	4,345.07	4,276.63	15.85	83.66	81.605	-401.73	-1,869.28	1,634.09	1,534.68	99.41	16.437	
4,800.00	4,296.88	4,362.59	4,294.14	15.97	83.99	83.851	-401.82	-1,869.28	1,618.36	1,518.49	99.86	16.206	
4,850.00	4,310.27	4,376.06	4,307.62	16.09	84.24	85.891	-401.89	-1,869.28	1,603.42	1,503.18	100.24	15.996	
4,900.00	4,319.40	4,385.38	4,316.93	16.21	84.41	87.675	-401.95	-1,869.28	1,589.53	1,488.99	100.54	15.810	
4,950.00	4,324.22	4,392.68	4,324.22	16.32	84.54	89.252	-401.97	-1,869.28	1,576.89	1,476.10	100.79	15.645	
5,000.00	4,324.86	4,393.32	4,324.86	16.44	84.55	90.120	-401.97	-1,869.28	1,565.68	1,464.75	100.92	15.513	
5,050.00	4,324.37	4,392.83	4,324.37	16.57	84.55	90.102	-401.97	-1,869.28	1,555.99	1,454.93	101.05	15.398	
5,100.00	4,323.88	4,392.34	4,323.88	16.70	84.54	90.083	-401.97	-1,869.28	1,547.85	1,446.66	101.19	15.297	
5,150.00	4,323.39	4,391.85	4,323.39	16.85	84.53	90.065	-401.97	-1,869.28	1,541.30	1,439.95	101.34	15.209	
5,200.00	4,322.91	4,391.36	4,322.91	17.00	84.52	90.047	-401.97	-1,869.28	1,536.34	1,434.85	101.50	15.137	
5,250.00	4,322.42	4,390.87	4,322.42	17.17	84.51	90.028	-401.97	-1,869.28	1,533.00	1,431.33	101.67	15.079	
5,300.00	4,321.93	4,390.38	4,321.93	17.34	84.50	90.010	-401.97	-1,869.28	1,531.29	1,429.45	101.84	15.037	
5,327.53	4,321.66	4,390.20	4,321.75	17.44	84.50	90.004	-401.98	-1,869.28	1,531.04	1,429.10	101.94	15.018 CC, ES	
5,350.00	4,321.44	4,390.12	4,321.67	17.53	84.50	90.001	-401.98	-1,869.28	1,531.20	1,429.18	102.03	15.008	
5,400.00	4,320.95	4,389.93	4,321.49	17.72	84.50	89.994	-401.98	-1,869.28	1,532.75	1,430.54	102.22	14.995 SF	
5,450.00	4,320.46	4,389.75	4,321.30	17.92	84.50	89.987	-401.97	-1,869.28	1,535.93	1,433.52	102.41	14.997	
5,500.00	4,319.97	4,389.57	4,319.97	18.13	84.49	89.937	-401.97	-1,869.28	1,540.72	1,438.12	102.61	15.016	
5,550.00	4,319.48	4,390.06	4,319.48	18.35	84.50	89.919	-401.97	-1,869.28	1,547.12	1,444.30	102.82	15.047	
5,600.00	4,318.99	4,390.55	4,318.99	18.57	84.51	89.900	-401.97	-1,869.28	1,555.10	1,452.07	103.02	15.095	
5,650.00	4,318.50	4,391.04	4,318.50	18.81	84.52	89.882	-401.97	-1,869.28	1,564.63	1,461.40	103.23	15.156	
5,700.00	4,318.01	4,391.53	4,318.01	19.04	84.52	89.864	-401.97	-1,869.28	1,575.69	1,472.26	103.43	15.234	
5,750.00	4,317.52	4,392.02	4,317.52	19.29	84.53	89.845	-401.97	-1,869.28	1,588.26	1,484.62	103.64	15.325	
5,800.00	4,317.03	4,392.51	4,317.03	19.54	84.54	89.827	-401.97	-1,869.28	1,602.28	1,498.45	103.83	15.432	
5,850.00	4,316.54	4,393.00	4,316.54	19.81	84.55	89.809	-401.97	-1,869.28	1,617.73	1,513.70	104.02	15.552	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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
5,900.00	4,316.05	4,393.49	4,316.05	20.07	84.56	89.790	-401.97	-1,869.28	1,634.56	1,530.36	104.20	15.686	
5,950.00	4,315.56	4,393.98	4,315.56	20.34	84.57	89.772	-401.97	-1,869.28	1,652.73	1,548.35	104.38	15.833	
6,000.00	4,315.08	4,394.47	4,315.08	20.62	84.57	89.754	-401.97	-1,869.28	1,672.21	1,567.65	104.55	15.994	
6,050.00	4,314.59	4,394.96	4,314.59	20.90	84.58	89.735	-401.97	-1,869.28	1,692.93	1,588.21	104.72	16.167	
6,100.00	4,314.10	4,395.45	4,314.10	21.18	84.59	89.717	-401.97	-1,869.28	1,714.86	1,609.99	104.87	16.352	
6,150.00	4,313.61	4,395.94	4,313.61	21.48	84.60	89.699	-401.97	-1,869.28	1,737.96	1,632.94	105.02	16.549	
6,200.00	4,313.12	4,396.42	4,313.12	21.77	84.61	89.680	-401.97	-1,869.28	1,762.17	1,657.01	105.16	16.757	
6,250.00	4,312.63	4,396.91	4,312.63	22.07	84.62	89.662	-401.97	-1,869.28	1,787.45	1,682.15	105.30	16.975	
6,300.00	4,312.14	4,397.40	4,312.14	22.38	84.62	89.644	-401.97	-1,869.28	1,813.76	1,708.34	105.42	17.205	
6,350.00	4,311.65	4,397.89	4,311.65	22.69	84.63	89.626	-401.97	-1,869.28	1,841.05	1,735.50	105.54	17.444	
6,400.00	4,311.16	4,398.38	4,311.16	23.00	84.64	89.607	-401.97	-1,869.28	1,869.27	1,763.62	105.65	17.693	
6,450.00	4,310.67	4,398.87	4,310.67	23.32	84.65	89.589	-401.97	-1,869.28	1,898.40	1,792.64	105.76	17.950	
6,500.00	4,310.18	4,399.36	4,310.18	23.64	84.66	89.571	-401.97	-1,869.28	1,928.38	1,822.52	105.86	18.216	
6,550.00	4,309.69	4,399.85	4,309.69	23.96	84.67	89.552	-401.97	-1,869.28	1,959.18	1,853.23	105.95	18.491	
6,600.00	4,309.20	4,400.34	4,309.20	24.29	84.67	89.534	-401.97	-1,869.28	1,990.76	1,884.72	106.04	18.773	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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: MAYARO 22 STATE 3 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 269-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	
7,000.00	4,305.29	4,254.44	4,305.29	27.01	75.32	90.577	-3,491.70	-1,740.84	1,974.83	1,878.66	96.17	20.536	
7,050.00	4,304.80	4,253.95	4,304.80	27.37	75.31	90.557	-3,491.70	-1,740.84	1,939.29	1,842.69	96.59	20.077	
7,100.00	4,304.31	4,253.46	4,304.31	27.72	75.30	90.536	-3,491.70	-1,740.84	1,904.40	1,807.36	97.04	19.625	
7,150.00	4,303.82	4,252.97	4,303.82	28.08	75.30	90.516	-3,491.70	-1,740.84	1,870.19	1,772.68	97.51	19.180	
7,200.00	4,303.33	4,252.48	4,303.33	28.44	75.29	90.495	-3,491.70	-1,740.84	1,836.71	1,738.72	98.00	18.743	
7,250.00	4,302.84	4,251.99	4,302.84	28.80	75.28	90.475	-3,491.70	-1,740.84	1,804.00	1,705.49	98.51	18.314	
7,300.00	4,302.35	4,251.50	4,302.35	29.16	75.27	90.455	-3,491.70	-1,740.84	1,772.09	1,673.05	99.04	17.893	
7,350.00	4,301.86	4,251.02	4,301.86	29.53	75.26	90.434	-3,491.70	-1,740.84	1,741.03	1,641.44	99.59	17.483	
7,400.00	4,301.37	4,250.53	4,301.37	29.89	75.25	90.414	-3,491.70	-1,740.84	1,710.87	1,610.71	100.16	17.082	
7,450.00	4,300.88	4,250.04	4,300.88	30.26	75.25	90.394	-3,491.70	-1,740.84	1,681.66	1,580.91	100.75	16.692	
7,500.00	4,300.39	4,249.55	4,300.39	30.63	75.24	90.373	-3,491.70	-1,740.84	1,653.44	1,552.09	101.35	16.314	
7,550.00	4,299.90	4,249.06	4,299.90	31.00	75.23	90.353	-3,491.70	-1,740.84	1,626.27	1,524.29	101.98	15.948	
7,600.00	4,299.42	4,248.57	4,299.42	31.38	75.22	90.333	-3,491.70	-1,740.84	1,600.20	1,497.58	102.61	15.594	
7,650.00	4,298.93	4,248.08	4,298.93	31.75	75.21	90.312	-3,491.70	-1,740.84	1,575.28	1,472.02	103.27	15.255	
7,700.00	4,298.44	4,247.59	4,298.44	32.13	75.20	90.292	-3,491.70	-1,740.84	1,551.58	1,447.66	103.93	14.930	
7,750.00	4,297.95	4,247.10	4,297.95	32.51	75.20	90.271	-3,491.70	-1,740.84	1,529.15	1,424.55	104.60	14.619	
7,800.00	4,297.46	4,246.61	4,297.46	32.88	75.19	90.251	-3,491.70	-1,740.84	1,508.04	1,402.76	105.27	14.325	
7,850.00	4,296.97	4,246.12	4,296.97	33.26	75.18	90.231	-3,491.70	-1,740.84	1,488.31	1,382.36	105.95	14.047	
7,900.00	4,296.48	4,245.63	4,296.48	33.65	75.17	90.210	-3,491.70	-1,740.84	1,470.02	1,363.38	106.63	13.786	
7,950.00	4,295.99	4,245.14	4,295.99	34.03	75.16	90.190	-3,491.70	-1,740.84	1,453.22	1,345.91	107.31	13.542	
8,000.00	4,295.50	4,244.65	4,295.50	34.41	75.15	90.170	-3,491.70	-1,740.84	1,437.96	1,329.98	107.98	13.317	
8,050.00	4,295.01	4,244.16	4,295.01	34.80	75.14	90.149	-3,491.70	-1,740.84	1,424.29	1,315.66	108.63	13.111	
8,100.00	4,294.52	4,243.68	4,294.52	35.18	75.14	90.129	-3,491.70	-1,740.84	1,412.26	1,302.99	109.27	12.924	
8,150.00	4,294.03	4,243.19	4,294.03	35.57	75.13	90.108	-3,491.70	-1,740.84	1,401.92	1,292.03	109.89	12.757	
8,200.00	4,293.54	4,242.70	4,293.54	35.96	75.12	90.088	-3,491.70	-1,740.84	1,393.29	1,282.80	110.49	12.610	
8,250.00	4,293.05	4,242.21	4,293.05	36.35	75.11	90.068	-3,491.70	-1,740.84	1,386.41	1,275.36	111.06	12.484	
8,300.00	4,292.56	4,241.72	4,292.56	36.74	75.10	90.047	-3,491.70	-1,740.84	1,381.31	1,269.72	111.59	12.378	
8,350.00	4,292.07	4,241.23	4,292.07	37.13	75.09	90.027	-3,491.70	-1,740.84	1,378.01	1,265.91	112.10	12.293	
8,400.00	4,291.59	4,240.74	4,291.59	37.52	75.09	90.007	-3,491.70	-1,740.84	1,376.51	1,263.95	112.56	12.229	
8,416.20	4,291.43	4,240.58	4,291.43	37.65	75.08	90.000	-3,491.70	-1,740.84	1,376.42	1,263.71	112.70	12.213 CC, ES	
8,450.00	4,291.10	4,240.25	4,291.10	37.92	75.08	89.986	-3,491.70	-1,740.84	1,376.83	1,263.84	112.99	12.186	
8,500.00	4,290.61	4,239.76	4,290.61	38.31	75.07	89.966	-3,491.70	-1,740.84	1,378.96	1,265.59	113.37	12.163	
8,550.00	4,290.12	4,239.27	4,290.12	38.70	75.06	89.945	-3,491.70	-1,740.84	1,382.90	1,269.19	113.71	12.161 SF	
8,600.00	4,289.63	4,238.78	4,289.63	39.10	75.05	89.925	-3,491.70	-1,740.84	1,388.63	1,274.62	114.01	12.180	
8,650.00	4,289.14	4,238.29	4,289.14	39.50	75.04	89.905	-3,491.70	-1,740.84	1,396.13	1,281.86	114.27	12.218	
8,700.00	4,288.65	4,237.80	4,288.65	39.89	75.04	89.884	-3,491.70	-1,740.84	1,405.37	1,290.89	114.48	12.276	
8,750.00	4,288.16	4,237.31	4,288.16	40.29	75.03	89.864	-3,491.70	-1,740.84	1,416.31	1,301.67	114.64	12.354	
8,800.00	4,287.67	4,236.82	4,287.67	40.69	75.02	89.844	-3,491.70	-1,740.84	1,428.92	1,314.15	114.77	12.450	
8,850.00	4,287.18	4,236.33	4,287.18	41.09	75.01	89.823	-3,491.70	-1,740.84	1,443.15	1,328.30	114.86	12.565	
8,900.00	4,286.69	4,235.85	4,286.69	41.49	75.00	89.803	-3,491.70	-1,740.84	1,458.96	1,344.06	114.90	12.697	
8,950.00	4,286.20	4,235.36	4,286.20	41.89	74.99	89.783	-3,491.70	-1,740.84	1,476.29	1,361.38	114.91	12.847	
9,000.00	4,285.71	4,234.87	4,285.71	42.29	74.98	89.762	-3,491.70	-1,740.84	1,495.10	1,380.20	114.89	13.013	
9,050.00	4,285.22	4,234.38	4,285.22	42.69	74.98	89.742	-3,491.70	-1,740.84	1,515.32	1,400.48	114.84	13.195	
9,100.00	4,284.73	4,233.89	4,284.73	43.10	74.97	89.721	-3,491.70	-1,740.84	1,536.90	1,422.14	114.76	13.393	
9,150.00	4,284.24	4,233.40	4,284.24	43.50	74.96	89.701	-3,491.70	-1,740.84	1,559.79	1,445.13	114.65	13.605	
9,200.00	4,283.76	4,232.91	4,283.76	43.90	74.95	89.681	-3,491.70	-1,740.84	1,583.92	1,469.40	114.52	13.831	
9,250.00	4,283.27	4,232.42	4,283.27	44.31	74.94	89.660	-3,491.70	-1,740.84	1,609.25	1,494.88	114.37	14.070	
9,300.00	4,282.78	4,231.93	4,282.78	44.71	74.93	89.640	-3,491.70	-1,740.84	1,635.71	1,521.51	114.20	14.323	
9,350.00	4,282.29	4,231.44	4,282.29	45.12	74.93	89.620	-3,491.70	-1,740.84	1,663.26	1,549.24	114.02	14.587	
9,400.00	4,281.80	4,230.95	4,281.80	45.52	74.92	89.599	-3,491.70	-1,740.84	1,691.83	1,578.01	113.82	14.864	
9,450.00	4,281.31	4,230.46	4,281.31	45.93	74.91	89.579	-3,491.70	-1,740.84	1,721.38	1,607.77	113.62	15.151	
9,500.00	4,280.82	4,229.97	4,280.82	46.33	74.90	89.558	-3,491.70	-1,740.84	1,751.87	1,638.47	113.40	15.449	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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: MAYARO 22 STATE 3 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 269-INC-ONLY												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,550.00	4,280.33	4,229.48	4,280.33	46.74	74.89	89.538	-3,491.70	-1,740.84	1,783.23	1,670.06	113.17	15.757	
9,600.00	4,279.84	4,228.99	4,279.84	47.15	74.88	89.518	-3,491.70	-1,740.84	1,815.43	1,702.49	112.94	16.074	
9,650.00	4,279.35	4,228.50	4,279.35	47.56	74.88	89.497	-3,491.70	-1,740.84	1,848.42	1,735.71	112.70	16.400	
9,700.00	4,278.86	4,228.02	4,278.86	47.97	74.87	89.477	-3,491.70	-1,740.84	1,882.16	1,769.69	112.47	16.735	
9,750.00	4,278.37	4,227.53	4,278.37	48.38	74.86	89.457	-3,491.70	-1,740.84	1,916.61	1,804.38	112.22	17.078	
9,800.00	4,277.88	4,227.04	4,277.88	48.78	74.85	89.436	-3,491.70	-1,740.84	1,951.73	1,839.75	111.98	17.429	
9,850.00	4,277.39	4,226.55	4,277.39	49.19	74.84	89.416	-3,491.70	-1,740.84	1,987.49	1,875.75	111.74	17.787	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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
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	
6,750.00	4,307.73	4,245.92	4,313.47	25.29	14.95	91.792	-3,667.14	-1,123.87	1,986.61	1,955.69	30.92	64.246		
6,800.00	4,307.25	4,245.32	4,312.87	25.63	14.94	91.746	-3,667.14	-1,123.87	1,940.49	1,909.42	31.07	62.446		
6,850.00	4,306.76	4,244.72	4,312.27	25.97	14.94	91.701	-3,667.14	-1,123.87	1,894.57	1,863.33	31.24	60.640		
6,900.00	4,306.27	4,244.11	4,311.66	26.32	14.94	91.655	-3,667.14	-1,123.87	1,848.86	1,817.43	31.42	58.835		
6,950.00	4,305.78	4,243.51	4,311.06	26.67	14.94	91.609	-3,667.14	-1,123.87	1,803.37	1,771.75	31.62	57.026		
7,000.00	4,305.29	4,242.90	4,310.45	27.01	14.94	91.564	-3,667.15	-1,123.87	1,758.13	1,726.30	31.84	55.220		
7,050.00	4,304.80	4,242.29	4,309.84	27.37	14.93	91.518	-3,667.15	-1,123.87	1,713.16	1,681.08	32.07	53.412		
7,100.00	4,304.31	4,241.68	4,309.23	27.72	14.93	91.471	-3,667.15	-1,123.87	1,668.47	1,636.14	32.33	51.609		
7,150.00	4,303.82	4,241.07	4,308.62	28.08	14.93	91.425	-3,667.15	-1,123.87	1,624.09	1,591.48	32.61	49.807		
7,200.00	4,303.33	4,240.45	4,308.00	28.44	14.93	91.379	-3,667.15	-1,123.87	1,580.05	1,547.14	32.91	48.013		
7,250.00	4,302.84	4,239.84	4,307.39	28.80	14.93	91.332	-3,667.15	-1,123.87	1,536.37	1,503.13	33.24	46.224		
7,300.00	4,302.35	4,239.22	4,306.77	29.16	14.92	91.286	-3,667.16	-1,123.87	1,493.08	1,459.49	33.59	44.445		
7,350.00	4,301.86	4,238.60	4,306.15	29.53	14.92	91.239	-3,667.16	-1,123.87	1,450.23	1,416.25	33.98	42.678		
7,400.00	4,301.37	4,237.98	4,305.53	29.89	14.92	91.192	-3,667.16	-1,123.87	1,407.85	1,373.45	34.40	40.926		
7,450.00	4,300.88	4,237.36	4,304.91	30.26	14.92	91.145	-3,667.16	-1,123.88	1,365.98	1,331.13	34.86	39.190		
7,500.00	4,300.39	4,236.73	4,304.28	30.63	14.91	91.098	-3,667.16	-1,123.88	1,324.68	1,289.34	35.35	37.477		
7,550.00	4,299.90	4,236.11	4,303.66	31.00	14.91	91.050	-3,667.17	-1,123.88	1,284.00	1,248.12	35.88	35.786		
7,600.00	4,299.42	4,235.48	4,303.03	31.38	14.91	91.003	-3,667.17	-1,123.88	1,243.99	1,207.54	36.45	34.125		
7,650.00	4,298.93	4,234.85	4,302.40	31.75	14.91	90.955	-3,667.17	-1,123.88	1,204.74	1,167.66	37.07	32.495		
7,700.00	4,298.44	4,234.22	4,301.77	32.13	14.91	90.907	-3,667.17	-1,123.88	1,166.30	1,128.56	37.74	30.902		
7,750.00	4,297.95	4,233.58	4,301.13	32.51	14.90	90.860	-3,667.18	-1,123.88	1,128.77	1,090.31	38.46	29.351		
7,800.00	4,297.46	4,232.95	4,300.50	32.88	14.90	90.812	-3,667.18	-1,123.88	1,092.24	1,053.02	39.22	27.846		
7,850.00	4,296.97	4,232.31	4,299.86	33.26	14.90	90.763	-3,667.18	-1,123.88	1,056.82	1,016.77	40.04	26.392		
7,900.00	4,296.48	4,231.67	4,299.22	33.65	14.90	90.715	-3,667.18	-1,123.88	1,022.61	981.70	40.91	24.996		
7,950.00	4,295.99	4,231.03	4,298.58	34.03	14.90	90.667	-3,667.18	-1,123.88	989.74	947.91	41.83	23.661		
8,000.00	4,295.50	4,230.39	4,297.94	34.41	14.89	90.618	-3,667.19	-1,123.88	958.36	915.56	42.79	22.395		
8,050.00	4,295.01	4,229.74	4,297.30	34.80	14.89	90.570	-3,667.19	-1,123.88	928.61	884.81	43.80	21.200		
8,100.00	4,294.52	4,229.10	4,296.65	35.18	14.89	90.521	-3,667.19	-1,123.88	900.65	855.81	44.84	20.084		
8,150.00	4,294.03	4,228.45	4,296.00	35.57	14.89	90.472	-3,667.19	-1,123.88	874.66	828.75	45.91	19.050		
8,200.00	4,293.54	4,227.80	4,295.35	35.96	14.88	90.423	-3,667.20	-1,123.88	850.82	803.82	46.99	18.105		
8,250.00	4,293.05	4,227.15	4,294.70	36.35	14.88	90.373	-3,667.20	-1,123.88	829.31	781.23	48.08	17.250		
8,300.00	4,292.56	4,226.50	4,294.05	36.74	14.88	90.324	-3,667.20	-1,123.88	810.31	761.18	49.14	16.491		
8,350.00	4,292.07	4,225.84	4,293.39	37.13	14.88	90.275	-3,667.20	-1,123.88	794.02	743.86	50.16	15.830		
8,400.00	4,291.59	4,225.18	4,292.74	37.52	14.88	90.225	-3,667.21	-1,123.88	780.59	729.47	51.12	15.270		
8,450.00	4,291.10	4,224.52	4,292.08	37.92	14.87	90.175	-3,667.21	-1,123.88	770.18	718.18	52.00	14.811		
8,500.00	4,290.61	4,223.86	4,291.42	38.31	14.87	90.125	-3,667.21	-1,123.88	762.91	710.14	52.77	14.456		
8,550.00	4,290.12	4,223.20	4,290.75	38.70	14.87	90.075	-3,667.21	-1,123.88	758.87	705.44	53.43	14.204		
8,586.48	4,289.76	4,222.72	4,290.27	38.99	14.87	90.038	-3,667.21	-1,123.88	757.99	704.17	53.82	14.084 CC		
8,600.00	4,289.63	4,222.54	4,290.09	39.10	14.87	90.025	-3,667.21	-1,123.88	758.11	704.17	53.95	14.053 ES		
8,650.00	4,289.14	4,221.87	4,289.42	39.50	14.87	89.974	-3,667.22	-1,123.88	760.65	706.33	54.32	14.003 SF		
8,700.00	4,288.65	4,221.20	4,288.75	39.89	14.86	89.924	-3,667.22	-1,123.88	766.45	711.90	54.55	14.051		
8,750.00	4,288.16	4,220.53	4,288.08	40.29	14.86	89.873	-3,667.22	-1,123.88	775.43	720.79	54.63	14.193		
8,800.00	4,287.67	4,219.86	4,287.41	40.69	14.86	89.822	-3,667.23	-1,123.89	787.49	732.90	54.58	14.427		
8,850.00	4,287.18	4,219.18	4,286.74	41.09	14.86	89.771	-3,667.23	-1,123.89	802.49	748.07	54.41	14.748		
8,900.00	4,286.69	4,218.51	4,286.06	41.49	14.85	89.720	-3,667.23	-1,123.89	820.26	766.13	54.13	15.152		
8,950.00	4,286.20	4,217.83	4,285.38	41.89	14.85	89.669	-3,667.23	-1,123.89	840.64	786.87	53.77	15.634		
9,000.00	4,285.71	4,217.15	4,284.70	42.29	14.85	89.618	-3,667.24	-1,123.89	863.44	810.11	53.33	16.191		
9,050.00	4,285.22	4,216.47	4,284.02	42.69	14.85	89.566	-3,667.24	-1,123.89	888.46	835.63	52.83	16.816		
9,100.00	4,284.73	4,215.78	4,283.33	43.10	14.84	89.514	-3,667.24	-1,123.89	915.54	863.24	52.30	17.506		
9,150.00	4,284.24	4,215.10	4,282.65	43.50	14.84	89.462	-3,667.24	-1,123.89	944.48	892.75	51.74	18.256		
9,200.00	4,283.76	4,214.41	4,281.96	43.90	14.84	89.410	-3,667.25	-1,123.89	975.14	923.98	51.16	19.061		
9,250.00	4,283.27	4,213.72	4,281.27	44.31	14.84	89.358	-3,667.25	-1,123.89	1,007.34	956.77	50.57	19.919		

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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	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
9,300.00	4,282.78	4,213.02	4,280.58	44.71	14.84	89.306	-3,667.25	-1,123.89	1,040.95	990.96	49.99	20.824	
9,350.00	4,282.29	4,212.33	4,279.88	45.12	14.83	89.253	-3,667.25	-1,123.89	1,075.83	1,026.42	49.41	21.773	
9,400.00	4,281.80	4,211.63	4,279.19	45.52	14.83	89.201	-3,667.26	-1,123.89	1,111.87	1,063.02	48.85	22.763	
9,450.00	4,281.31	4,210.94	4,278.49	45.93	14.83	89.148	-3,667.26	-1,123.89	1,148.95	1,100.65	48.29	23.790	
9,500.00	4,280.82	4,210.24	4,277.79	46.33	14.83	89.095	-3,667.26	-1,123.89	1,186.98	1,139.22	47.76	24.852	
9,550.00	4,280.33	4,209.53	4,277.08	46.74	14.82	89.042	-3,667.27	-1,123.89	1,225.87	1,178.62	47.25	25.945	
9,600.00	4,279.84	4,208.83	4,276.38	47.15	14.82	88.989	-3,667.27	-1,123.89	1,265.54	1,218.78	46.75	27.068	
9,650.00	4,279.35	4,208.12	4,275.67	47.56	14.82	88.935	-3,667.27	-1,123.90	1,305.92	1,259.64	46.28	28.217	
9,700.00	4,278.86	4,207.41	4,274.96	47.97	14.82	88.882	-3,667.27	-1,123.90	1,346.94	1,301.11	45.83	29.391	
9,750.00	4,278.37	4,206.70	4,274.25	48.38	14.81	88.828	-3,667.28	-1,123.90	1,388.55	1,343.16	45.40	30.587	
9,800.00	4,277.88	4,205.99	4,273.54	48.78	14.81	88.774	-3,667.28	-1,123.90	1,430.70	1,385.72	44.99	31.804	
9,850.00	4,277.39	4,205.27	4,272.82	49.19	14.81	88.720	-3,667.28	-1,123.90	1,473.34	1,428.75	44.59	33.039	
9,900.00	4,276.90	4,204.56	4,272.11	49.60	14.81	88.666	-3,667.29	-1,123.90	1,516.43	1,472.21	44.22	34.292	
9,950.00	4,276.42	4,203.84	4,271.39	50.01	14.80	88.612	-3,667.29	-1,123.90	1,559.93	1,516.07	43.87	35.561	
10,000.00	4,275.93	4,203.11	4,270.67	50.43	14.80	88.557	-3,667.29	-1,123.90	1,603.81	1,560.29	43.53	36.845	
10,050.00	4,275.44	4,202.39	4,269.94	50.84	14.80	88.502	-3,667.30	-1,123.90	1,648.04	1,604.83	43.21	38.142	
10,094.57	4,275.00	4,201.74	4,269.29	51.20	14.80	88.454	-3,667.30	-1,123.90	1,687.74	1,644.80	42.94	39.308	

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



Anticollision Report



Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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									
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
5,950.00	4,315.56	4,025.00	4,077.92	20.34	67.59	66.980	-2,950.74	-874.93	1,999.94	1,918.45	81.50	24.540	
6,000.00	4,315.08	4,025.00	4,077.92	20.62	67.59	66.980	-2,950.74	-874.93	1,951.99	1,870.49	81.51	23.949	
6,050.00	4,314.59	4,025.00	4,077.92	20.90	67.59	66.980	-2,950.74	-874.93	1,904.15	1,822.62	81.52	23.358	
6,100.00	4,314.10	4,025.00	4,077.92	21.18	67.59	66.980	-2,950.74	-874.93	1,856.41	1,774.88	81.54	22.768	
6,150.00	4,313.61	4,025.00	4,077.92	21.48	67.59	66.980	-2,950.74	-874.93	1,808.80	1,727.24	81.56	22.178	
6,200.00	4,313.12	4,025.00	4,077.92	21.77	67.59	66.980	-2,950.74	-874.93	1,761.32	1,679.74	81.58	21.589	
6,250.00	4,312.63	4,025.00	4,077.92	22.07	67.59	66.980	-2,950.74	-874.93	1,713.99	1,632.37	81.61	21.001	
6,300.00	4,312.14	4,025.00	4,077.92	22.38	67.59	66.980	-2,950.74	-874.93	1,666.81	1,585.16	81.65	20.414	
6,350.00	4,311.65	4,025.00	4,077.92	22.69	67.59	66.980	-2,950.74	-874.93	1,619.80	1,538.11	81.69	19.828	
6,400.00	4,311.16	4,025.00	4,077.92	23.00	67.59	66.980	-2,950.74	-874.93	1,572.97	1,491.23	81.74	19.243	
6,450.00	4,310.67	4,025.00	4,077.92	23.32	67.59	66.980	-2,950.74	-874.93	1,526.35	1,444.55	81.80	18.659	
6,500.00	4,310.18	4,025.00	4,077.92	23.64	67.59	66.980	-2,950.74	-874.93	1,479.95	1,398.07	81.87	18.076	
6,550.00	4,309.69	4,025.00	4,077.92	23.96	67.59	66.980	-2,950.74	-874.93	1,433.78	1,351.83	81.95	17.495	
6,600.00	4,309.20	4,025.00	4,077.92	24.29	67.59	66.980	-2,950.74	-874.93	1,387.89	1,305.84	82.04	16.916	
6,650.00	4,308.71	4,025.00	4,077.92	24.62	67.59	66.980	-2,950.74	-874.93	1,342.29	1,260.13	82.15	16.339	
6,700.00	4,308.22	4,025.00	4,077.92	24.95	67.59	66.980	-2,950.74	-874.93	1,297.01	1,214.73	82.27	15.765	
6,750.00	4,307.73	4,025.00	4,077.92	25.29	67.59	66.980	-2,950.74	-874.93	1,252.09	1,169.67	82.41	15.193	
6,800.00	4,307.25	4,025.00	4,077.92	25.63	67.59	66.980	-2,950.74	-874.93	1,207.57	1,124.99	82.57	14.624	
6,850.00	4,306.76	4,025.00	4,077.92	25.97	67.59	66.980	-2,950.74	-874.93	1,163.49	1,080.74	82.76	14.059	
6,900.00	4,306.27	4,025.00	4,077.92	26.32	67.59	66.980	-2,950.74	-874.93	1,119.92	1,036.95	82.97	13.498	
6,950.00	4,305.78	4,025.00	4,077.92	26.67	67.59	66.980	-2,950.74	-874.93	1,076.90	993.69	83.21	12.942	
7,000.00	4,305.29	4,025.00	4,077.92	27.01	67.59	66.980	-2,950.74	-874.93	1,034.51	951.03	83.48	12.393	
7,050.00	4,304.80	4,025.00	4,077.92	27.37	67.59	66.980	-2,950.74	-874.93	992.83	909.04	83.79	11.849	
7,100.00	4,304.31	4,025.00	4,077.92	27.72	67.59	66.980	-2,950.74	-874.93	951.95	867.81	84.13	11.315	
7,150.00	4,303.82	4,025.00	4,077.92	28.08	67.59	66.980	-2,950.74	-874.93	911.98	827.45	84.53	10.789	
7,200.00	4,303.33	4,025.00	4,077.92	28.44	67.59	66.980	-2,950.74	-874.93	873.04	788.07	84.96	10.275	
7,250.00	4,302.84	4,025.00	4,077.92	28.80	67.59	66.980	-2,950.74	-874.93	835.28	749.83	85.45	9.775	
7,300.00	4,302.35	4,025.00	4,077.92	29.16	67.59	66.980	-2,950.74	-874.93	798.87	712.87	86.00	9.289	
7,350.00	4,301.86	4,025.00	4,077.92	29.53	67.59	66.980	-2,950.74	-874.93	763.99	677.40	86.60	8.822	
7,400.00	4,301.37	4,025.00	4,077.92	29.89	67.59	66.980	-2,950.74	-874.93	730.88	643.63	87.25	8.377	
7,450.00	4,300.88	4,025.00	4,077.92	30.26	67.59	66.980	-2,950.74	-874.93	699.77	611.81	87.96	7.955	
7,500.00	4,300.39	4,025.00	4,077.92	30.63	67.59	66.980	-2,950.74	-874.93	670.95	582.23	88.72	7.563	
7,550.00	4,299.90	4,025.00	4,077.92	31.00	67.59	66.980	-2,950.74	-874.93	644.73	555.21	89.52	7.202	
7,600.00	4,299.42	4,025.00	4,077.92	31.38	67.59	66.980	-2,950.74	-874.93	621.43	531.08	90.34	6.878	
7,650.00	4,298.93	4,025.00	4,077.92	31.75	67.59	66.980	-2,950.74	-874.93	601.39	510.20	91.18	6.595	
7,700.00	4,298.44	4,025.00	4,077.92	32.13	67.59	66.980	-2,950.74	-874.93	584.95	492.94	92.01	6.357	
7,750.00	4,297.95	4,025.00	4,077.92	32.51	67.59	66.980	-2,950.74	-874.93	572.42	479.61	92.81	6.168	
7,800.00	4,297.46	4,025.00	4,077.92	32.88	67.59	66.980	-2,950.74	-874.93	564.05	470.51	93.54	6.030	
7,850.00	4,296.97	4,025.00	4,077.92	33.26	67.59	66.980	-2,950.74	-874.93	560.05	465.85	94.19	5.946	
7,870.03	4,296.77	4,025.00	4,077.92	33.42	67.59	66.980	-2,950.74	-874.93	559.69	465.26	94.43	5.927 CC, ES	
7,900.00	4,296.48	4,025.00	4,077.92	33.65	67.59	66.980	-2,950.74	-874.93	560.49	465.75	94.74	5.916 SF	
7,950.00	4,295.99	4,025.00	4,077.92	34.03	67.59	66.980	-2,950.74	-874.93	565.37	470.20	95.17	5.941	
8,000.00	4,295.50	4,025.00	4,077.92	34.41	67.59	66.980	-2,950.74	-874.93	574.58	479.12	95.47	6.019	
8,050.00	4,295.01	4,025.00	4,077.92	34.80	67.59	66.980	-2,950.74	-874.93	587.91	492.28	95.63	6.147	
8,100.00	4,294.52	4,025.00	4,077.92	35.18	67.59	66.980	-2,950.74	-874.93	605.09	509.41	95.68	6.324	
8,150.00	4,294.03	4,025.00	4,077.92	35.57	67.59	66.980	-2,950.74	-874.93	625.81	530.18	95.63	6.544	
8,200.00	4,293.54	4,025.00	4,077.92	35.96	67.59	66.980	-2,950.74	-874.93	649.72	554.24	95.48	6.805	
8,250.00	4,293.05	4,025.00	4,077.92	36.35	67.59	66.980	-2,950.74	-874.93	676.48	581.22	95.26	7.101	
8,300.00	4,292.56	4,025.00	4,077.92	36.74	67.59	66.980	-2,950.74	-874.93	705.78	610.79	94.99	7.430	
8,350.00	4,292.07	4,025.00	4,077.92	37.13	67.59	66.980	-2,950.74	-874.93	737.31	642.63	94.68	7.788	
8,400.00	4,291.59	4,025.00	4,077.92	37.52	67.59	66.980	-2,950.74	-874.93	770.79	676.45	94.34	8.170	
8,450.00	4,291.10	4,025.00	4,077.92	37.92	67.59	66.980	-2,950.74	-874.93	805.99	711.99	94.00	8.575	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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
Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis 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	
8,500.00	4,290.61	4,025.00	4,077.92	38.31	67.59	66.980	-2,950.74	-874.93	842.68	749.03	93.65	8.998	
8,550.00	4,290.12	4,025.00	4,077.92	38.70	67.59	66.980	-2,950.74	-874.93	880.69	787.39	93.30	9.439	
8,600.00	4,289.63	4,025.00	4,077.92	39.10	67.59	66.980	-2,950.74	-874.93	919.84	826.88	92.96	9.895	
8,650.00	4,289.14	4,025.00	4,077.92	39.50	67.59	66.980	-2,950.74	-874.93	960.00	867.37	92.63	10.364	
8,700.00	4,288.65	4,025.00	4,077.92	39.89	67.59	66.980	-2,950.74	-874.93	1,001.05	908.74	92.31	10.845	
8,750.00	4,288.16	4,025.00	4,077.92	40.29	67.59	66.980	-2,950.74	-874.93	1,042.88	950.87	92.00	11.335	
8,800.00	4,287.67	4,025.00	4,077.92	40.69	67.59	66.980	-2,950.74	-874.93	1,085.40	993.69	91.71	11.835	
8,850.00	4,287.18	4,025.00	4,077.92	41.09	67.59	66.980	-2,950.74	-874.93	1,128.53	1,037.09	91.44	12.342	
8,900.00	4,286.69	4,025.00	4,077.92	41.49	67.59	66.980	-2,950.74	-874.93	1,172.21	1,081.03	91.18	12.856	
8,950.00	4,286.20	4,025.00	4,077.92	41.89	67.59	66.980	-2,950.74	-874.93	1,216.38	1,125.45	90.93	13.377	
9,000.00	4,285.71	4,025.00	4,077.92	42.29	67.59	66.980	-2,950.74	-874.93	1,260.98	1,170.28	90.70	13.902	
9,050.00	4,285.22	4,025.00	4,077.92	42.69	67.59	66.980	-2,950.74	-874.93	1,305.98	1,215.49	90.49	14.433	
9,100.00	4,284.73	4,025.00	4,077.92	43.10	67.59	66.980	-2,950.74	-874.93	1,351.32	1,261.04	90.28	14.968	
9,150.00	4,284.24	4,025.00	4,077.92	43.50	67.59	66.980	-2,950.74	-874.93	1,396.99	1,306.90	90.09	15.507	
9,200.00	4,283.76	4,025.00	4,077.92	43.90	67.59	66.980	-2,950.74	-874.93	1,442.94	1,353.03	89.91	16.049	
9,250.00	4,283.27	4,025.00	4,077.92	44.31	67.59	66.980	-2,950.74	-874.93	1,489.15	1,399.41	89.74	16.594	
9,300.00	4,282.78	4,025.00	4,077.92	44.71	67.59	66.980	-2,950.74	-874.93	1,535.60	1,446.02	89.58	17.142	
9,350.00	4,282.29	4,025.00	4,077.92	45.12	67.59	66.980	-2,950.74	-874.93	1,582.26	1,492.83	89.43	17.693	
9,400.00	4,281.80	4,025.00	4,077.92	45.52	67.59	66.980	-2,950.74	-874.93	1,629.13	1,539.84	89.29	18.246	
9,450.00	4,281.31	4,025.00	4,077.92	45.93	67.59	66.980	-2,950.74	-874.93	1,676.17	1,587.01	89.16	18.800	
9,500.00	4,280.82	4,025.00	4,077.92	46.33	67.59	66.980	-2,950.74	-874.93	1,723.38	1,634.35	89.03	19.357	
9,550.00	4,280.33	4,025.00	4,077.92	46.74	67.59	66.980	-2,950.74	-874.93	1,770.75	1,681.83	88.92	19.915	
9,600.00	4,279.84	4,025.00	4,077.92	47.15	67.59	66.980	-2,950.74	-874.93	1,818.25	1,729.44	88.81	20.474	
9,650.00	4,279.35	4,025.00	4,077.92	47.56	67.59	66.980	-2,950.74	-874.93	1,865.89	1,777.18	88.70	21.035	
9,700.00	4,278.86	4,025.00	4,077.92	47.97	67.59	66.980	-2,950.74	-874.93	1,913.64	1,825.04	88.61	21.597	
9,750.00	4,278.37	4,025.00	4,077.92	48.38	67.59	66.980	-2,950.74	-874.93	1,961.51	1,872.99	88.52	22.160	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toelface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
5,900.00	4,316.05	4,284.12	4,316.05	20.07	15.29	99.699	-2,967.69	-473.40	1,984.59	1,954.95	29.64	66.964	
5,950.00	4,315.56	4,283.63	4,315.56	20.34	15.29	99.459	-2,967.69	-473.40	1,934.67	1,905.03	29.64	65.272	
6,000.00	4,315.08	4,283.15	4,315.08	20.62	15.29	99.218	-2,967.69	-473.40	1,884.76	1,855.12	29.64	63.580	
6,050.00	4,314.59	4,282.66	4,314.59	20.90	15.29	98.977	-2,967.69	-473.40	1,834.86	1,805.21	29.65	61.887	
6,100.00	4,314.10	4,282.17	4,314.10	21.18	15.29	98.736	-2,967.69	-473.40	1,784.96	1,755.31	29.65	60.195	
6,150.00	4,313.61	4,281.68	4,313.61	21.48	15.29	98.494	-2,967.69	-473.40	1,735.07	1,705.41	29.66	58.502	
6,200.00	4,313.12	4,281.19	4,313.12	21.77	15.28	98.252	-2,967.69	-473.40	1,685.18	1,655.51	29.66	56.810	
6,250.00	4,312.63	4,280.70	4,312.63	22.07	15.28	98.010	-2,967.69	-473.40	1,635.30	1,605.63	29.67	55.116	
6,300.00	4,312.14	4,280.21	4,312.14	22.38	15.28	97.768	-2,967.69	-473.40	1,585.42	1,555.75	29.68	53.424	
6,350.00	4,311.65	4,279.72	4,311.65	22.69	15.28	97.525	-2,967.69	-473.40	1,535.56	1,505.88	29.68	51.731	
6,400.00	4,311.16	4,279.23	4,311.16	23.00	15.28	97.282	-2,967.69	-473.40	1,485.70	1,456.01	29.69	50.039	
6,450.00	4,310.67	4,278.74	4,310.67	23.32	15.28	97.039	-2,967.69	-473.40	1,435.86	1,406.16	29.70	48.346	
6,500.00	4,310.18	4,278.25	4,310.18	23.64	15.27	96.795	-2,967.69	-473.40	1,386.02	1,356.31	29.71	46.654	
6,550.00	4,309.69	4,277.76	4,309.69	23.96	15.27	96.551	-2,967.69	-473.40	1,336.20	1,306.48	29.72	44.961	
6,600.00	4,309.20	4,277.27	4,309.20	24.29	15.27	96.307	-2,967.69	-473.40	1,286.39	1,256.66	29.73	43.269	
6,650.00	4,308.71	4,276.78	4,308.71	24.62	15.27	96.063	-2,967.69	-473.40	1,236.59	1,206.85	29.74	41.577	
6,700.00	4,308.22	4,276.29	4,308.22	24.95	15.27	95.819	-2,967.69	-473.40	1,186.81	1,157.06	29.76	39.885	
6,750.00	4,307.73	4,275.80	4,307.73	25.29	15.27	95.574	-2,967.69	-473.40	1,137.06	1,107.28	29.77	38.193	
6,800.00	4,307.25	4,275.32	4,307.25	25.63	15.26	95.329	-2,967.69	-473.40	1,087.32	1,057.53	29.79	36.501	
6,850.00	4,306.76	4,274.83	4,306.76	25.97	15.26	95.084	-2,967.69	-473.40	1,037.61	1,007.80	29.81	34.809	
6,900.00	4,306.27	4,274.34	4,306.27	26.32	15.26	94.839	-2,967.69	-473.40	987.93	958.09	29.83	33.117	
6,950.00	4,305.78	4,273.85	4,305.78	26.67	15.26	94.593	-2,967.69	-473.40	938.28	908.42	29.86	31.424	
7,000.00	4,305.29	4,273.36	4,305.29	27.01	15.26	94.348	-2,967.69	-473.40	888.67	858.78	29.89	29.732	
7,050.00	4,304.80	4,272.87	4,304.80	27.37	15.26	94.102	-2,967.69	-473.40	839.10	809.17	29.93	28.038	
7,100.00	4,304.31	4,272.38	4,304.31	27.72	15.25	93.856	-2,967.69	-473.40	789.59	759.62	29.97	26.344	
7,150.00	4,303.82	4,271.89	4,303.82	28.08	15.25	93.610	-2,967.69	-473.40	740.15	710.12	30.03	24.650	
7,200.00	4,303.33	4,271.40	4,303.33	28.44	15.25	93.364	-2,967.69	-473.40	690.78	660.69	30.09	22.954	
7,250.00	4,302.84	4,270.91	4,302.84	28.80	15.25	93.118	-2,967.69	-473.40	641.52	611.34	30.18	21.256	
7,300.00	4,302.35	4,270.42	4,302.35	29.16	15.25	92.871	-2,967.69	-473.40	592.37	562.09	30.29	19.557	
7,350.00	4,301.86	4,269.93	4,301.86	29.53	15.25	92.625	-2,967.69	-473.40	543.39	512.96	30.43	17.856	
7,400.00	4,301.37	4,269.44	4,301.37	29.89	15.24	92.378	-2,967.69	-473.40	494.60	463.98	30.62	16.152	
7,450.00	4,300.88	4,268.95	4,300.88	30.26	15.24	92.131	-2,967.69	-473.40	446.09	415.21	30.88	14.446	
7,500.00	4,300.39	4,268.46	4,300.39	30.63	15.24	91.884	-2,967.69	-473.40	397.94	366.69	31.24	12.738	
7,550.00	4,299.90	4,267.98	4,299.90	31.00	15.24	91.638	-2,967.69	-473.40	350.30	318.54	31.76	11.030	
7,600.00	4,299.42	4,267.49	4,299.42	31.38	15.24	91.391	-2,967.69	-473.40	303.43	270.91	32.52	9.330	
7,650.00	4,298.93	4,267.00	4,298.93	31.75	15.24	91.144	-2,967.69	-473.40	257.74	224.05	33.69	7.651	
7,700.00	4,298.44	4,266.51	4,298.44	32.13	15.23	90.897	-2,967.69	-473.40	213.98	178.48	35.51	6.027	
7,750.00	4,297.95	4,266.02	4,297.95	32.51	15.23	90.650	-2,967.69	-473.40	173.63	135.29	38.34	4.528	
7,800.00	4,297.46	4,265.53	4,297.46	32.88	15.23	90.402	-2,967.69	-473.40	139.66	97.19	42.47	3.288	
7,850.00	4,296.97	4,265.04	4,296.97	33.26	15.23	90.155	-2,967.69	-473.40	117.74	70.80	46.93	2.508	
7,881.43	4,296.66	4,264.73	4,296.66	33.50	15.23	90.000	-2,967.69	-473.40	113.46	65.06	48.40	2.344 CC, ES, SF	
7,900.00	4,296.48	4,264.55	4,296.48	33.65	15.23	89.908	-2,967.69	-473.40	114.97	66.60	48.37	2.377	
7,950.00	4,295.99	4,264.06	4,295.99	34.03	15.23	89.661	-2,967.69	-473.40	132.57	86.92	45.65	2.904	
8,000.00	4,295.50	4,263.57	4,295.50	34.41	15.22	89.414	-2,967.69	-473.40	164.10	122.20	41.91	3.916	
8,050.00	4,295.01	4,263.08	4,295.01	34.80	15.22	89.167	-2,967.69	-473.40	203.19	164.24	38.94	5.218	
8,100.00	4,294.52	4,262.59	4,294.52	35.18	15.22	88.920	-2,967.69	-473.40	246.25	209.38	36.88	6.678	
8,150.00	4,294.03	4,262.10	4,294.03	35.57	15.22	88.673	-2,967.69	-473.40	291.54	256.08	35.45	8.223	
8,200.00	4,293.54	4,261.61	4,293.54	35.96	15.22	88.426	-2,967.69	-473.40	338.15	303.70	34.46	9.814	
8,250.00	4,293.05	4,261.12	4,293.05	36.35	15.22	88.179	-2,967.69	-473.40	385.62	351.87	33.74	11.428	
8,300.00	4,292.56	4,260.63	4,292.56	36.74	15.21	87.932	-2,967.69	-473.40	433.65	400.44	33.21	13.056	
8,350.00	4,292.07	4,260.15	4,292.07	37.13	15.21	87.686	-2,967.69	-473.40	482.08	449.27	32.82	14.690	
8,400.00	4,291.59	4,259.66	4,291.59	37.52	15.21	87.439	-2,967.69	-473.40	530.81	498.30	32.51	16.327	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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)	Reference Vertical Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis 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		
8,450.00	4,291.10	4,259.17	4,291.10	37.92	15.21	87.192	-2,967.69	-473.40	579.75	547.48	32.27	17.965		
8,500.00	4,290.61	4,258.68	4,290.61	38.31	15.21	86.946	-2,967.69	-473.40	628.86	596.77	32.08	19.602		
8,550.00	4,290.12	4,258.19	4,290.12	38.70	15.21	86.699	-2,967.69	-473.40	678.09	646.16	31.93	21.237		
8,600.00	4,289.63	4,257.70	4,289.63	39.10	15.20	86.453	-2,967.69	-473.40	727.43	695.63	31.81	22.872		
8,650.00	4,289.14	4,257.21	4,289.14	39.50	15.20	86.207	-2,967.69	-473.40	776.86	745.15	31.70	24.503		
8,700.00	4,288.65	4,256.72	4,288.65	39.89	15.20	85.961	-2,967.69	-473.40	826.35	794.73	31.62	26.133		
8,750.00	4,288.16	4,256.23	4,288.16	40.29	15.20	85.715	-2,967.69	-473.40	875.90	844.35	31.55	27.760		
8,800.00	4,287.67	4,255.74	4,287.67	40.69	15.20	85.470	-2,967.69	-473.40	925.50	894.01	31.50	29.384		
8,850.00	4,287.18	4,255.25	4,287.18	41.09	15.20	85.224	-2,967.69	-473.40	975.14	943.69	31.45	31.006		
8,900.00	4,286.69	4,254.76	4,286.69	41.49	15.19	84.979	-2,967.69	-473.40	1,024.82	993.40	31.41	32.626		
8,950.00	4,286.20	4,254.27	4,286.20	41.89	15.19	84.734	-2,967.69	-473.40	1,074.52	1,043.14	31.38	34.242		
9,000.00	4,285.71	4,253.78	4,285.71	42.29	15.19	84.489	-2,967.69	-473.40	1,124.25	1,092.90	31.35	35.856		
9,050.00	4,285.22	4,253.29	4,285.22	42.69	15.19	84.244	-2,967.69	-473.40	1,174.00	1,142.67	31.33	37.467		
9,100.00	4,284.73	4,252.80	4,284.73	43.10	15.19	84.000	-2,967.69	-473.40	1,223.78	1,192.46	31.32	39.075		
9,150.00	4,284.24	4,252.32	4,284.24	43.50	15.19	83.755	-2,967.69	-473.40	1,273.57	1,242.26	31.31	40.681		
9,200.00	4,283.76	4,251.83	4,283.76	43.90	15.18	83.511	-2,967.69	-473.40	1,323.37	1,292.08	31.30	42.283		
9,250.00	4,283.27	4,251.34	4,283.27	44.31	15.18	83.267	-2,967.69	-473.40	1,373.19	1,341.90	31.29	43.883		
9,300.00	4,282.78	4,250.85	4,282.78	44.71	15.18	83.024	-2,967.69	-473.40	1,423.03	1,391.74	31.29	45.480		
9,350.00	4,282.29	4,250.36	4,282.29	45.12	15.18	82.781	-2,967.69	-473.40	1,472.87	1,441.58	31.29	47.074		
9,400.00	4,281.80	4,249.87	4,281.80	45.52	15.18	82.537	-2,967.69	-473.40	1,522.73	1,491.44	31.29	48.666		
9,450.00	4,281.31	4,249.38	4,281.31	45.93	15.18	82.295	-2,967.69	-473.40	1,572.59	1,541.30	31.29	50.254		
9,500.00	4,280.82	4,248.89	4,280.82	46.33	15.17	82.052	-2,967.69	-473.40	1,622.46	1,591.16	31.30	51.840		
9,550.00	4,280.33	4,248.40	4,280.33	46.74	15.17	81.810	-2,967.69	-473.40	1,672.34	1,641.03	31.30	53.422		
9,600.00	4,279.84	4,247.91	4,279.84	47.15	15.17	81.568	-2,967.69	-473.40	1,722.22	1,690.91	31.31	55.002		
9,650.00	4,279.35	4,247.42	4,279.35	47.56	15.17	81.326	-2,967.69	-473.40	1,772.12	1,740.80	31.32	56.579		
9,700.00	4,278.86	4,246.93	4,278.86	47.97	15.17	81.085	-2,967.69	-473.40	1,822.01	1,790.68	31.33	58.153		
9,750.00	4,278.37	4,246.44	4,278.37	48.38	15.17	80.844	-2,967.69	-473.40	1,871.92	1,840.57	31.34	59.723		
9,800.00	4,277.88	4,245.95	4,277.88	48.78	15.17	80.603	-2,967.69	-473.40	1,921.83	1,890.47	31.36	61.291		
9,850.00	4,277.39	4,245.46	4,277.39	49.19	15.16	80.363	-2,967.69	-473.40	1,971.74	1,940.37	31.37	62.856		

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
6,500.00	4,310.18	4,266.61	4,288.97	23.64	15.12	87.905	-3,554.31	-418.32	1,968.34	1,938.94	29.40	66.955	
6,550.00	4,309.69	4,266.65	4,289.01	23.96	15.12	87.953	-3,554.31	-418.32	1,918.36	1,888.95	29.41	65.236	
6,600.00	4,309.20	4,266.70	4,289.06	24.29	15.12	88.001	-3,554.31	-418.32	1,868.38	1,838.97	29.42	63.517	
6,650.00	4,308.71	4,266.74	4,289.10	24.62	15.12	88.050	-3,554.31	-418.32	1,818.40	1,788.98	29.42	61.799	
6,700.00	4,308.22	4,266.79	4,289.15	24.95	15.12	88.098	-3,554.31	-418.32	1,768.42	1,738.99	29.43	60.081	
6,750.00	4,307.73	4,266.83	4,289.20	25.29	15.12	88.147	-3,554.31	-418.32	1,718.45	1,689.00	29.44	58.364	
6,800.00	4,307.25	4,266.88	4,289.24	25.63	15.12	88.197	-3,554.31	-418.32	1,668.47	1,639.02	29.45	56.648	
6,850.00	4,306.76	4,266.93	4,289.29	25.97	15.12	88.246	-3,554.31	-418.32	1,618.50	1,589.04	29.46	54.932	
6,900.00	4,306.27	4,266.97	4,289.34	26.32	15.12	88.296	-3,554.31	-418.32	1,568.53	1,539.05	29.47	53.218	
6,950.00	4,305.78	4,267.02	4,289.38	26.67	15.12	88.347	-3,554.31	-418.32	1,518.56	1,489.07	29.48	51.503	
7,000.00	4,305.29	4,267.07	4,289.43	27.01	15.12	88.397	-3,554.31	-418.32	1,468.59	1,439.09	29.50	49.790	
7,050.00	4,304.80	4,267.11	4,289.48	27.37	15.12	88.448	-3,554.32	-418.32	1,418.62	1,389.12	29.51	48.078	
7,100.00	4,304.31	4,267.16	4,289.52	27.72	15.12	88.499	-3,554.32	-418.32	1,368.66	1,339.14	29.52	46.367	
7,150.00	4,303.82	4,267.21	4,289.57	28.08	15.12	88.551	-3,554.32	-418.32	1,318.70	1,289.17	29.53	44.656	
7,200.00	4,303.33	4,267.26	4,289.62	28.44	15.12	88.603	-3,554.32	-418.32	1,268.74	1,239.20	29.54	42.946	
7,250.00	4,302.84	4,267.31	4,289.67	28.80	15.12	88.655	-3,554.32	-418.32	1,218.79	1,189.23	29.56	41.238	
7,300.00	4,302.35	4,267.36	4,289.72	29.16	15.12	88.707	-3,554.32	-418.32	1,168.84	1,139.27	29.57	39.530	
7,350.00	4,301.86	4,267.41	4,289.77	29.53	15.12	88.760	-3,554.32	-418.32	1,118.89	1,089.31	29.58	37.823	
7,400.00	4,301.37	4,267.46	4,289.82	29.89	15.12	88.813	-3,554.32	-418.32	1,068.95	1,039.36	29.60	36.118	
7,450.00	4,300.88	4,267.51	4,289.87	30.26	15.12	88.867	-3,554.32	-418.32	1,019.02	989.41	29.61	34.413	
7,500.00	4,300.39	4,267.56	4,289.92	30.63	15.12	88.921	-3,554.32	-418.32	969.09	939.46	29.63	32.710	
7,550.00	4,299.90	4,267.61	4,289.97	31.00	15.12	88.975	-3,554.32	-418.32	919.17	889.53	29.64	31.007	
7,600.00	4,299.42	4,267.66	4,290.02	31.38	15.12	89.030	-3,554.32	-418.32	869.26	839.60	29.66	29.306	
7,650.00	4,298.93	4,267.71	4,290.07	31.75	15.12	89.085	-3,554.32	-418.32	819.36	789.68	29.68	27.605	
7,700.00	4,298.44	4,267.76	4,290.12	32.13	15.12	89.140	-3,554.32	-418.32	769.47	739.77	29.70	25.905	
7,750.00	4,297.95	4,267.81	4,290.17	32.51	15.12	89.196	-3,554.32	-418.32	719.60	689.87	29.73	24.206	
7,800.00	4,297.46	4,267.86	4,290.23	32.88	15.12	89.252	-3,554.32	-418.32	669.75	639.99	29.76	22.507	
7,850.00	4,296.97	4,267.92	4,290.28	33.26	15.12	89.308	-3,554.32	-418.32	619.92	590.13	29.79	20.809	
7,900.00	4,296.48	4,267.97	4,290.33	33.65	15.12	89.365	-3,554.32	-418.32	570.13	540.29	29.83	19.111	
7,950.00	4,295.99	4,268.02	4,290.39	34.03	15.12	89.423	-3,554.33	-418.32	520.37	490.48	29.88	17.413	
8,000.00	4,295.50	4,268.08	4,290.44	34.41	15.12	89.480	-3,554.33	-418.32	470.66	440.71	29.95	15.713	
8,050.00	4,295.01	4,268.13	4,290.49	34.80	15.12	89.538	-3,554.33	-418.32	421.02	390.97	30.05	14.012	
8,100.00	4,294.52	4,268.19	4,290.55	35.18	15.12	89.597	-3,554.33	-418.32	371.48	341.30	30.18	12.309	
8,150.00	4,294.03	4,268.24	4,290.60	35.57	15.12	89.655	-3,554.33	-418.32	322.08	291.69	30.38	10.600	
8,200.00	4,293.54	4,268.30	4,290.66	35.96	15.12	89.715	-3,554.33	-418.32	272.90	242.19	30.71	8.886	
8,250.00	4,293.05	4,268.35	4,290.71	36.35	15.12	89.774	-3,554.33	-418.32	224.08	192.80	31.28	7.164	
8,300.00	4,292.56	4,268.41	4,290.77	36.74	15.12	89.834	-3,554.33	-418.32	175.92	143.56	32.37	5.435	
8,350.00	4,292.07	4,268.46	4,290.83	37.13	15.12	89.895	-3,554.33	-418.32	129.18	94.49	34.69	3.724	
8,400.00	4,291.59	4,268.52	4,290.88	37.52	15.12	89.955	-3,554.33	-418.32	86.17	45.95	40.22	2.142	
8,450.00	4,291.10	4,268.58	4,290.94	37.92	15.13	90.017	-3,554.33	-418.32	56.24	5.27	50.97	1.103 SF = 1.25	
8,467.62	4,290.92	4,268.60	4,290.96	38.05	15.13	90.038	-3,554.33	-418.32	53.41	0.35	53.07	1.007 SF = 1.25, CC, ES, SF	
8,500.00	4,290.61	4,268.63	4,291.00	38.31	15.13	90.078	-3,554.33	-418.32	62.46	13.22	49.25	1.268 SF = 1.50	
8,550.00	4,290.12	4,268.69	4,291.05	38.70	15.13	90.140	-3,554.33	-418.32	98.18	57.79	40.39	2.431	
8,600.00	4,289.63	4,268.75	4,291.11	39.10	15.13	90.203	-3,554.33	-418.32	142.75	106.71	36.04	3.961	
8,650.00	4,289.14	4,268.81	4,291.17	39.50	15.13	90.266	-3,554.33	-418.32	190.04	156.08	33.96	5.596	
8,700.00	4,288.65	4,268.87	4,291.23	39.89	15.13	90.329	-3,554.33	-418.32	238.44	205.59	32.86	7.257	
8,750.00	4,288.16	4,268.93	4,291.29	40.29	15.13	90.393	-3,554.34	-418.32	287.39	255.18	32.20	8.924	
8,800.00	4,287.67	4,268.99	4,291.35	40.69	15.13	90.458	-3,554.34	-418.32	336.65	304.85	31.79	10.588	
8,850.00	4,287.18	4,269.05	4,291.41	41.09	15.13	90.522	-3,554.34	-418.32	386.09	354.57	31.52	12.249	
8,900.00	4,286.69	4,269.11	4,291.47	41.49	15.13	90.588	-3,554.34	-418.32	435.67	404.34	31.33	13.906	
8,950.00	4,286.20	4,269.17	4,291.53	41.89	15.13	90.653	-3,554.34	-418.32	485.33	454.13	31.20	15.558	
9,000.00	4,285.71	4,269.23	4,291.59	42.29	15.13	90.719	-3,554.34	-418.32	535.05	503.96	31.10	17.206	

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



Anticollision Report



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Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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
Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
9,050.00	4,285.22	4,269.29	4,291.66	42.69	15.13	90.786	-3,554.34	-418.32	584.83	553.80	31.02	18.850		
9,100.00	4,284.73	4,269.36	4,291.72	43.10	15.13	90.853	-3,554.34	-418.32	634.63	603.66	30.97	20.491		
9,150.00	4,284.24	4,269.42	4,291.78	43.50	15.13	90.921	-3,554.34	-418.32	684.47	653.54	30.93	22.128		
9,200.00	4,283.76	4,269.48	4,291.85	43.90	15.13	90.989	-3,554.34	-418.32	734.33	703.42	30.90	23.762		
9,250.00	4,283.27	4,269.55	4,291.91	44.31	15.13	91.058	-3,554.34	-418.32	784.20	753.32	30.88	25.392		
9,300.00	4,282.78	4,269.61	4,291.97	44.71	15.13	91.127	-3,554.34	-418.32	834.09	803.22	30.87	27.019		
9,350.00	4,282.29	4,269.68	4,292.04	45.12	15.13	91.196	-3,554.34	-418.32	884.00	853.13	30.86	28.643		
9,400.00	4,281.80	4,269.74	4,292.10	45.52	15.13	91.266	-3,554.34	-418.32	933.91	903.05	30.86	30.263		
9,450.00	4,281.31	4,269.81	4,292.17	45.93	15.13	91.337	-3,554.34	-418.32	983.83	952.97	30.86	31.880		
9,500.00	4,280.82	4,269.87	4,292.24	46.33	15.13	91.408	-3,554.35	-418.32	1,033.76	1,002.90	30.86	33.494		
9,550.00	4,280.33	4,269.94	4,292.30	46.74	15.13	91.480	-3,554.35	-418.32	1,083.70	1,052.83	30.87	35.105		
9,600.00	4,279.84	4,270.01	4,292.37	47.15	15.13	91.552	-3,554.35	-418.32	1,133.64	1,102.76	30.88	36.713		
9,650.00	4,279.35	4,270.08	4,292.44	47.56	15.13	91.625	-3,554.35	-418.32	1,183.59	1,152.70	30.89	38.317		
9,700.00	4,278.86	4,270.15	4,292.51	47.97	15.13	91.698	-3,554.35	-418.32	1,233.54	1,202.64	30.90	39.919		
9,750.00	4,278.37	4,270.21	4,292.58	48.38	15.13	91.772	-3,554.35	-418.32	1,283.49	1,252.58	30.92	41.517		
9,800.00	4,277.88	4,270.28	4,292.65	48.78	15.13	91.846	-3,554.35	-418.32	1,333.45	1,302.52	30.93	43.112		
9,850.00	4,277.39	4,270.35	4,292.72	49.19	15.13	91.921	-3,554.35	-418.32	1,383.41	1,352.47	30.95	44.704		
9,900.00	4,276.90	4,270.42	4,292.79	49.60	15.13	91.997	-3,554.35	-418.32	1,433.38	1,402.41	30.96	46.292		
9,950.00	4,276.42	4,270.50	4,292.86	50.01	15.13	92.073	-3,554.35	-418.32	1,483.34	1,452.36	30.98	47.878		
10,000.00	4,275.93	4,270.57	4,292.93	50.43	15.13	92.150	-3,554.35	-418.32	1,533.31	1,502.31	31.00	49.460		
10,050.00	4,275.44	4,270.64	4,293.00	50.84	15.13	92.227	-3,554.35	-418.32	1,583.28	1,552.26	31.02	51.039		
10,094.57	4,275.00	4,270.70	4,293.07	51.20	15.13	92.297	-3,554.35	-418.32	1,627.83	1,596.79	31.04	52.444		

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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
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
7,450.00	4,300.88	3,495.00	3,464.75	30.26	62.24	-36.082	-4,217.55	226.84	1,965.34	1,892.65	72.69	27.037	
7,500.00	4,300.39	3,495.00	3,464.75	30.63	62.24	-36.082	-4,217.55	226.84	1,922.69	1,850.06	72.62	26.474	
7,550.00	4,299.90	3,495.00	3,464.75	31.00	62.24	-36.082	-4,217.55	226.84	1,880.39	1,807.84	72.56	25.916	
7,600.00	4,299.42	3,495.00	3,464.75	31.38	62.24	-36.082	-4,217.55	226.84	1,838.49	1,766.00	72.49	25.363	
7,650.00	4,298.93	3,495.00	3,464.75	31.75	62.24	-36.082	-4,217.55	226.84	1,797.00	1,724.59	72.41	24.816	
7,700.00	4,298.44	3,495.00	3,464.75	32.13	62.24	-36.082	-4,217.55	226.84	1,755.95	1,683.62	72.33	24.276	
7,750.00	4,297.95	3,495.00	3,464.75	32.51	62.24	-36.082	-4,217.55	226.84	1,715.38	1,643.13	72.25	23.742	
7,800.00	4,297.46	3,495.00	3,464.75	32.88	62.24	-36.082	-4,217.55	226.84	1,675.32	1,603.15	72.16	23.216	
7,850.00	4,296.97	3,495.00	3,464.75	33.26	62.24	-36.082	-4,217.55	226.84	1,635.80	1,563.73	72.07	22.697	
7,900.00	4,296.48	3,495.00	3,464.75	33.65	62.24	-36.082	-4,217.55	226.84	1,596.87	1,524.90	71.97	22.187	
7,950.00	4,295.99	3,495.00	3,464.75	34.03	62.24	-36.082	-4,217.55	226.84	1,558.58	1,486.71	71.87	21.687	
8,000.00	4,295.50	3,495.00	3,464.75	34.41	62.24	-36.082	-4,217.55	226.84	1,520.96	1,449.21	71.75	21.197	
8,050.00	4,295.01	3,495.00	3,464.75	34.80	62.24	-36.082	-4,217.55	226.84	1,484.08	1,412.45	71.63	20.719	
8,100.00	4,294.52	3,495.00	3,464.75	35.18	62.24	-36.082	-4,217.55	226.84	1,447.98	1,376.48	71.50	20.252	
8,150.00	4,294.03	3,495.00	3,464.75	35.57	62.24	-36.082	-4,217.55	226.84	1,412.73	1,341.37	71.36	19.798	
8,200.00	4,293.54	3,495.00	3,464.75	35.96	62.24	-36.082	-4,217.55	226.84	1,378.39	1,307.19	71.20	19.359	
8,250.00	4,293.05	3,495.00	3,464.75	36.35	62.24	-36.082	-4,217.55	226.84	1,345.04	1,274.00	71.04	18.935	
8,300.00	4,292.56	3,495.00	3,464.75	36.74	62.24	-36.082	-4,217.55	226.84	1,312.74	1,241.88	70.86	18.527	
8,350.00	4,292.07	3,495.00	3,464.75	37.13	62.24	-36.082	-4,217.55	226.84	1,281.58	1,210.91	70.67	18.136	
8,400.00	4,291.59	3,495.00	3,464.75	37.52	62.24	-36.082	-4,217.55	226.84	1,251.64	1,181.18	70.46	17.763	
8,450.00	4,291.10	3,495.00	3,464.75	37.92	62.24	-36.082	-4,217.55	226.84	1,223.01	1,152.77	70.25	17.410	
8,500.00	4,290.61	3,495.00	3,464.75	38.31	62.24	-36.082	-4,217.55	226.84	1,195.79	1,125.77	70.02	17.078	
8,550.00	4,290.12	3,495.00	3,464.75	38.70	62.24	-36.082	-4,217.55	226.84	1,170.08	1,100.29	69.79	16.766	
8,600.00	4,289.63	3,495.00	3,464.75	39.10	62.24	-36.082	-4,217.55	226.84	1,145.97	1,076.42	69.55	16.476	
8,650.00	4,289.14	3,495.00	3,464.75	39.50	62.24	-36.082	-4,217.55	226.84	1,123.57	1,054.25	69.32	16.209	
8,700.00	4,288.65	3,495.00	3,464.75	39.89	62.24	-36.082	-4,217.55	226.84	1,102.98	1,033.88	69.09	15.963	
8,750.00	4,288.16	3,495.00	3,464.75	40.29	62.24	-36.082	-4,217.55	226.84	1,084.31	1,015.42	68.89	15.740	
8,800.00	4,287.67	3,495.00	3,464.75	40.69	62.24	-36.082	-4,217.55	226.84	1,067.65	998.94	68.71	15.538	
8,850.00	4,287.18	3,495.00	3,464.75	41.09	62.24	-36.082	-4,217.55	226.84	1,053.11	984.53	68.58	15.356	
8,900.00	4,286.69	3,495.00	3,464.75	41.49	62.24	-36.082	-4,217.55	226.84	1,040.77	972.27	68.50	15.193	
8,950.00	4,286.20	3,495.00	3,464.75	41.89	62.24	-36.082	-4,217.55	226.84	1,030.71	962.21	68.49	15.048	
9,000.00	4,285.71	3,495.00	3,464.75	42.29	62.24	-36.082	-4,217.55	226.84	1,023.00	954.43	68.57	14.920	
9,050.00	4,285.22	3,495.00	3,464.75	42.69	62.24	-36.082	-4,217.55	226.84	1,017.68	948.95	68.73	14.807	
9,100.00	4,284.73	3,495.00	3,464.75	43.10	62.24	-36.082	-4,217.55	226.84	1,014.81	945.82	68.99	14.709	
9,133.40	4,284.41	3,495.00	3,464.75	43.36	62.24	-36.082	-4,217.55	226.84	1,014.26	945.04	69.23	14.651 CC, ES	
9,150.00	4,284.24	3,495.00	3,464.75	43.50	62.24	-36.082	-4,217.55	226.84	1,014.40	945.04	69.36	14.626	
9,200.00	4,283.76	3,495.00	3,464.75	43.90	62.24	-36.082	-4,217.55	226.84	1,016.45	946.63	69.82	14.559	
9,250.00	4,283.27	3,495.00	3,464.75	44.31	62.24	-36.082	-4,217.55	226.84	1,020.94	950.57	70.37	14.509	
9,300.00	4,282.78	3,495.00	3,464.75	44.71	62.24	-36.082	-4,217.55	226.84	1,027.85	956.86	70.99	14.478	
9,350.00	4,282.29	3,495.00	3,464.75	45.12	62.24	-36.082	-4,217.55	226.84	1,037.13	965.45	71.68	14.469 SF	
9,400.00	4,281.80	3,495.00	3,464.75	45.52	62.24	-36.082	-4,217.55	226.84	1,048.71	976.30	72.41	14.482	
9,450.00	4,281.31	3,495.00	3,464.75	45.93	62.24	-36.082	-4,217.55	226.84	1,062.53	989.35	73.17	14.521	
9,500.00	4,280.82	3,495.00	3,464.75	46.33	62.24	-36.082	-4,217.55	226.84	1,078.48	1,004.54	73.94	14.586	
9,550.00	4,280.33	3,495.00	3,464.75	46.74	62.24	-36.082	-4,217.55	226.84	1,096.49	1,021.78	74.71	14.677	
9,600.00	4,279.84	3,495.00	3,464.75	47.15	62.24	-36.082	-4,217.55	226.84	1,116.44	1,040.99	75.45	14.796	
9,650.00	4,279.35	3,495.00	3,464.75	47.56	62.24	-36.082	-4,217.55	226.84	1,138.25	1,062.07	76.17	14.943	
9,700.00	4,278.86	3,495.00	3,464.75	47.97	62.24	-36.082	-4,217.55	226.84	1,161.79	1,084.93	76.86	15.116	
9,750.00	4,278.37	3,495.00	3,464.75	48.38	62.24	-36.082	-4,217.55	226.84	1,186.98	1,109.47	77.51	15.315	
9,800.00	4,277.88	3,495.00	3,464.75	48.78	62.24	-36.082	-4,217.55	226.84	1,213.71	1,135.60	78.11	15.539	
9,850.00	4,277.39	3,495.00	3,464.75	49.19	62.24	-36.082	-4,217.55	226.84	1,241.87	1,163.20	78.67	15.786	
9,900.00	4,276.90	3,495.00	3,464.75	49.60	62.24	-36.082	-4,217.55	226.84	1,271.38	1,192.20	79.18	16.057	
9,950.00	4,276.42	3,495.00	3,464.75	50.01	62.24	-36.082	-4,217.55	226.84	1,302.14	1,222.49	79.65	16.348	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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
10,000.00	4,275.93	3,495.00	3,464.75	50.43	62.24	-36.082	-4,217.55	226.84	1,334.06	1,253.98	80.08	16.659	
10,050.00	4,275.44	3,495.00	3,464.75	50.84	62.24	-36.082	-4,217.55	226.84	1,367.07	1,286.61	80.46	16.990	
10,094.57	4,275.00	3,495.00	3,464.75	51.20	62.24	-36.082	-4,217.55	226.84	1,397.35	1,316.57	80.78	17.299	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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						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	53.70	-1.30	0.00	0.18	-44.204	962.06	-935.70	1,342.05				
50.00	50.00	102.66	47.66	0.05	0.35	-44.230	961.69	-936.18	1,342.12	1,341.71	0.41	3,296.946	
100.00	100.00	154.36	99.35	0.14	0.54	-44.259	961.25	-936.71	1,342.18	1,341.49	0.68	1,967.164	
150.00	150.00	206.07	151.06	0.32	0.72	-44.278	960.94	-937.02	1,342.17	1,341.12	1.05	1,281.749	
200.00	200.00	255.73	200.72	0.50	0.90	-44.293	960.68	-937.25	1,342.14	1,340.74	1.40	955.612	
250.00	250.00	305.64	250.63	0.68	1.08	-44.309	960.39	-937.51	1,342.12	1,340.35	1.76	761.381	
300.00	300.00	355.76	300.75	0.86	1.26	-44.325	960.12	-937.75	1,342.09	1,339.97	2.12	632.538	
350.00	350.00	406.00	350.99	1.04	1.44	-27.784	959.89	-937.94	1,341.67	1,339.19	2.48	540.713	
400.00	399.98	457.14	402.13	1.22	1.62	-27.836	959.62	-938.13	1,340.46	1,337.61	2.84	471.296	
450.00	449.93	508.24	453.22	1.40	1.81	-27.917	959.26	-938.35	1,338.43	1,335.22	3.21	417.196	
500.00	499.84	557.62	502.60	1.58	1.99	-28.022	958.89	-938.57	1,335.62	1,332.06	3.57	374.537	
550.00	549.68	607.17	552.15	1.76	2.16	-28.152	958.54	-938.80	1,332.06	1,328.14	3.92	339.419	
600.00	599.45	656.53	601.50	1.95	2.34	-28.307	958.19	-939.02	1,327.75	1,323.47	4.28	310.048	
650.00	649.13	705.80	650.78	2.13	2.52	-28.488	957.86	-939.26	1,322.69	1,318.05	4.64	285.078	
700.00	698.70	754.60	699.57	2.31	2.69	-28.693	957.57	-939.49	1,316.91	1,311.91	5.00	263.626	
750.00	748.15	803.37	748.34	2.49	2.87	-28.924	957.33	-939.70	1,310.39	1,305.04	5.35	244.911	
800.00	797.47	852.52	797.49	2.67	3.04	-29.181	957.14	-939.88	1,303.15	1,297.45	5.71	228.340	
850.00	846.63	901.63	846.60	2.85	3.22	-29.464	957.02	-940.01	1,295.18	1,289.12	6.06	213.625	
900.00	895.62	951.37	896.34	3.03	3.40	-29.785	956.80	-940.21	1,286.47	1,280.04	6.42	200.347	
950.00	944.44	1,006.75	951.72	3.21	3.59	-30.165	956.53	-940.23	1,276.88	1,270.09	6.80	187.911	
1,000.00	993.06	1,066.39	1,011.35	3.40	3.79	-30.588	956.31	-939.62	1,266.25	1,259.08	7.18	176.454	
1,050.00	1,041.46	1,124.59	1,069.54	3.58	3.99	-31.026	956.12	-938.32	1,254.50	1,246.95	7.55	166.177	
1,100.00	1,089.64	1,183.63	1,128.54	3.77	4.19	-31.491	955.99	-936.27	1,241.66	1,233.73	7.92	156.683	
1,150.00	1,137.58	1,247.14	1,191.98	3.96	4.40	-32.003	955.92	-933.09	1,227.63	1,219.31	8.31	147.655	
1,200.00	1,185.27	1,307.99	1,252.69	4.15	4.61	-32.533	955.70	-929.12	1,212.30	1,203.60	8.69	139.454	
1,250.00	1,232.68	1,366.18	1,310.72	4.34	4.81	-33.107	955.09	-924.90	1,195.83	1,186.77	9.06	131.926	
1,300.00	1,279.82	1,416.93	1,361.31	4.53	4.98	-33.681	954.38	-920.86	1,178.35	1,168.94	9.41	125.186	
1,350.00	1,326.65	1,462.46	1,406.66	4.73	5.14	-34.239	954.14	-916.87	1,160.23	1,150.48	9.75	119.040	
1,400.00	1,373.21	1,513.90	1,457.86	4.93	5.32	-34.744	954.24	-911.87	1,141.45	1,131.35	10.10	113.037	
1,450.00	1,419.73	1,566.90	1,500.63	5.13	5.47	-35.071	954.49	-907.45	1,122.54	1,112.12	10.42	107.712	
1,500.00	1,466.25	1,598.89	1,542.41	5.33	5.62	-35.400	954.82	-903.24	1,103.84	1,093.10	10.74	102.760	
1,550.00	1,512.78	1,644.83	1,588.12	5.53	5.79	-35.769	955.30	-898.70	1,085.29	1,074.21	11.08	97.977	
1,600.00	1,559.30	1,693.41	1,636.44	5.74	5.96	-36.158	955.95	-893.64	1,066.69	1,055.27	11.42	93.412	
1,650.00	1,605.82	1,742.15	1,684.88	5.94	6.14	-36.552	956.66	-888.37	1,048.01	1,036.24	11.76	89.083	
1,700.00	1,652.34	1,790.80	1,733.25	6.14	6.32	-36.978	957.04	-883.20	1,029.25	1,017.14	12.11	84.996	
1,750.00	1,698.87	1,839.48	1,781.66	6.35	6.49	-37.438	957.13	-878.10	1,010.41	997.95	12.46	81.115	
1,800.00	1,745.39	1,888.13	1,830.04	6.55	6.67	-37.921	957.06	-872.94	991.49	978.68	12.80	77.439	
1,850.00	1,791.91	1,933.49	1,875.14	6.76	6.84	-38.394	956.89	-868.11	972.54	959.40	13.15	73.985	
1,900.00	1,838.43	1,977.59	1,919.00	6.97	7.01	-38.878	956.67	-863.54	953.72	940.24	13.49	70.724	
1,950.00	1,884.96	2,026.05	1,967.21	7.17	7.19	-39.435	956.38	-858.56	934.99	921.15	13.84	67.578	
2,000.00	1,931.48	2,078.15	2,018.98	7.38	7.38	-40.038	956.16	-852.76	916.04	901.85	14.19	64.545	
2,050.00	1,978.00	2,124.99	2,065.49	7.59	7.56	-40.585	956.05	-847.18	896.94	882.40	14.54	61.682	
2,100.00	2,024.52	2,169.64	2,109.82	7.80	7.73	-41.119	956.06	-841.81	877.93	863.04	14.89	58.970	
2,150.00	2,071.05	2,214.05	2,153.90	8.01	7.90	-41.664	956.19	-836.45	859.04	843.81	15.24	56.382	
2,200.00	2,117.57	2,258.29	2,197.82	8.22	8.07	-42.227	956.41	-831.13	840.31	824.72	15.59	53.917	
2,250.00	2,164.09	2,302.79	2,242.00	8.42	8.24	-42.814	956.70	-825.82	821.73	805.79	15.94	51.561	
2,300.00	2,210.61	2,347.66	2,286.55	8.63	8.41	-43.427	957.07	-820.47	803.28	786.99	16.29	49.310	
2,350.00	2,257.14	2,393.11	2,331.67	8.84	8.59	-44.071	957.52	-815.06	784.97	768.32	16.65	47.157	
2,400.00	2,303.66	2,440.04	2,378.26	9.05	8.77	-44.765	957.99	-809.42	766.71	749.70	17.00	45.089	
2,450.00	2,350.18	2,486.93	2,424.80	9.26	8.95	-45.490	958.44	-803.72	748.48	731.11	17.36	43.107	
2,500.00	2,396.70	2,532.59	2,470.12	9.47	9.13	-46.232	958.85	-798.15	730.33	712.61	17.72	41.206	
2,550.00	2,443.23	2,578.76	2,515.94	9.68	9.30	-47.019	959.25	-792.51	712.28	694.20	18.09	39.384	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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							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	2,489.75	2,626.72	2,563.52	9.89	9.49	-47.870	959.70	-786.52	694.26	675.81	18.45	37.631		
2,650.00	2,536.27	2,674.63	2,611.03	10.10	9.68	-48.752	960.22	-780.31	676.22	657.41	18.81	35.943		
2,700.00	2,582.79	2,717.85	2,653.90	10.32	9.85	-49.601	960.57	-774.80	658.35	639.17	19.18	34.323		
2,750.00	2,629.32	2,761.68	2,697.39	10.53	10.02	-50.531	960.74	-769.45	640.76	621.21	19.55	32.773		
2,800.00	2,675.84	2,803.55	2,738.98	10.74	10.19	-51.483	960.80	-764.58	623.55	603.63	19.93	31.294		
2,850.00	2,722.36	2,845.49	2,780.66	10.95	10.35	-52.494	960.85	-759.98	606.82	586.52	20.30	29.889		
2,900.00	2,768.88	2,890.74	2,825.67	11.16	10.52	-53.651	960.90	-755.24	590.51	569.83	20.68	28.554		
2,950.00	2,815.41	2,937.30	2,871.97	11.37	10.70	-54.908	960.88	-750.34	574.40	553.34	21.06	27.273		
3,000.00	2,861.93	2,983.95	2,918.35	11.58	10.89	-56.239	960.81	-745.36	558.49	537.04	21.44	26.044		
3,050.00	2,908.45	3,030.62	2,964.75	11.79	11.07	-57.642	960.73	-740.30	542.78	520.95	21.83	24.864		
3,100.00	2,954.97	3,076.58	3,010.43	12.01	11.25	-59.096	960.66	-735.24	527.34	505.12	22.22	23.732		
3,150.00	3,001.53	3,122.15	3,055.72	12.22	11.42	-59.751	960.63	-730.22	512.27	489.65	22.61	22.653		
3,200.00	3,048.74	3,168.73	3,102.02	12.42	11.61	-57.807	960.63	-725.07	498.01	475.00	23.00	21.648		
3,250.00	3,096.71	3,216.43	3,149.42	12.62	11.79	-54.748	960.68	-719.74	484.56	461.18	23.39	20.719		
3,300.00	3,145.31	3,264.60	3,197.27	12.81	11.98	-49.892	960.78	-714.29	471.83	448.07	23.76	19.857		
3,350.00	3,194.40	3,313.06	3,245.43	13.00	12.17	-41.981	960.77	-708.80	459.77	435.64	24.12	19.058		
3,400.00	3,243.86	3,361.65	3,293.70	13.17	12.36	-28.490	960.64	-703.29	448.32	423.85	24.48	18.316		
3,450.00	3,293.54	3,410.28	3,342.02	13.34	12.55	-5.448	960.41	-697.83	437.52	412.71	24.81	17.632		
3,500.00	3,343.31	3,457.18	3,388.63	13.49	12.74	26.053	960.10	-692.64	427.44	402.30	25.14	17.001		
3,550.00	3,393.03	3,502.69	3,433.90	13.63	12.91	52.945	959.89	-687.94	418.43	392.97	25.46	16.437		
3,600.00	3,442.57	3,550.36	3,481.35	13.77	13.10	70.021	959.77	-683.34	410.57	384.82	25.75	15.945		
3,650.00	3,491.79	3,600.43	3,531.17	13.89	13.29	80.996	959.70	-678.40	403.57	377.56	26.02	15.512		
3,700.00	3,540.56	3,648.80	3,579.29	14.01	13.48	88.802	959.66	-673.47	397.61	371.34	26.27	15.134		
3,750.00	3,588.74	3,695.69	3,625.94	14.12	13.66	94.923	959.55	-668.77	393.12	366.60	26.52	14.824		
3,800.00	3,636.20	3,742.60	3,672.62	14.23	13.84	100.154	959.37	-664.16	390.40	363.64	26.75	14.593		
3,843.11	3,676.43	3,782.92	3,712.75	14.31	14.00	104.249	959.20	-660.16	389.60	362.66	26.94	14.461 CC		
3,850.00	3,682.81	3,789.31	3,719.11	14.33	14.03	104.876	959.17	-659.52	389.63	362.65	26.97	14.446 ES		
3,900.00	3,728.44	3,834.59	3,764.15	14.42	14.20	109.199	958.96	-654.96	391.14	363.95	27.19	14.386 SF		
3,950.00	3,772.97	3,878.19	3,807.54	14.51	14.37	113.189	958.83	-650.57	395.34	367.93	27.41	14.425		
4,000.00	3,816.27	3,920.72	3,849.85	14.59	14.54	116.912	958.76	-646.31	402.52	374.90	27.62	14.572		
4,050.00	3,858.24	3,962.48	3,891.40	14.67	14.70	120.392	958.68	-642.13	412.85	385.01	27.84	14.829		
4,100.00	3,898.74	4,002.88	3,931.60	14.75	14.86	123.583	958.55	-638.10	426.46	398.40	28.06	15.197		
4,150.00	3,937.67	4,041.40	3,969.92	14.82	15.01	126.443	958.42	-634.25	443.41	415.12	28.29	15.675		
4,200.00	3,974.93	4,078.14	4,006.47	14.89	15.15	128.983	958.36	-630.53	463.71	435.20	28.51	16.263		
4,250.00	4,010.41	4,113.03	4,041.19	14.96	15.28	131.195	958.36	-626.96	487.29	458.55	28.74	16.956		
4,300.00	4,044.02	4,146.13	4,074.11	15.02	15.41	133.070	958.35	-623.60	514.01	485.06	28.96	17.752		
4,350.00	4,075.66	4,177.36	4,105.19	15.09	15.53	134.605	958.32	-620.49	543.68	514.51	29.16	18.642		
4,400.00	4,105.24	4,206.65	4,134.34	15.16	15.65	135.790	958.28	-617.60	576.08	546.72	29.36	19.621		
4,450.00	4,132.69	4,232.26	4,159.82	15.24	15.75	136.468	958.27	-615.12	611.03	581.49	29.55	20.681		
4,500.00	4,158.10	4,256.21	4,183.66	15.31	15.84	137.534	958.30	-612.83	648.21	618.49	29.71	21.815		
4,550.00	4,183.10	4,279.66	4,207.01	15.41	15.93	139.538	958.37	-610.63	686.39	656.52	29.87	22.978		
4,600.00	4,208.10	4,303.51	4,230.76	15.50	16.02	141.449	958.47	-608.41	725.21	695.19	30.02	24.155		
4,650.00	4,233.10	4,328.18	4,255.32	15.61	16.12	143.297	958.58	-606.13	764.55	734.37	30.18	25.336		
4,700.00	4,257.80	4,352.58	4,279.62	15.73	16.21	143.454	958.68	-603.90	804.47	774.15	30.33	26.527		
4,750.00	4,279.35	4,373.85	4,300.80	15.85	16.29	140.401	958.76	-601.96	846.39	815.93	30.46	27.785		
4,800.00	4,296.88	4,391.26	4,318.14	15.97	16.36	135.895	958.83	-600.38	890.35	859.77	30.58	29.120		
4,850.00	4,310.27	4,405.22	4,332.04	16.09	16.41	129.313	958.87	-599.10	935.97	905.31	30.67	30.522		
4,900.00	4,319.40	4,414.70	4,341.48	16.21	16.45	119.531	958.90	-598.22	982.87	952.14	30.73	31.983		
4,950.00	4,324.22	4,419.62	4,346.37	16.32	16.47	105.411	958.92	-597.75	1,030.67	999.89	30.77	33.492		
5,000.00	4,324.86	4,420.10	4,346.85	16.44	16.47	92.487	958.92	-597.71	1,078.95	1,048.15	30.80	35.036		
5,050.00	4,324.37	4,419.39	4,346.14	16.57	16.47	92.336	958.92	-597.78	1,127.41	1,096.59	30.82	36.586		
5,100.00	4,323.88	4,418.67	4,345.43	16.70	16.47	92.185	958.91	-597.84	1,176.00	1,145.18	30.82	38.152		

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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	4,323.39	4,417.95	4,344.71	16.85	16.46	92.033	958.91	-597.91	1,224.71	1,193.87	30.84	39.716	
5,200.00	4,322.91	4,417.23	4,343.99	17.00	16.46	91.881	958.91	-597.98	1,273.51	1,242.66	30.85	41.279	
5,250.00	4,322.42	4,416.51	4,343.27	17.17	16.46	91.729	958.91	-598.05	1,322.40	1,291.54	30.86	42.847	
5,300.00	4,321.93	4,415.78	4,342.55	17.34	16.46	91.576	958.91	-598.12	1,371.38	1,340.50	30.88	44.416	
5,350.00	4,321.44	4,415.05	4,341.83	17.53	16.45	91.423	958.90	-598.19	1,420.42	1,389.53	30.89	45.987	
5,400.00	4,320.95	4,414.33	4,341.10	17.72	16.45	91.270	958.90	-598.25	1,469.53	1,438.63	30.90	47.559	
5,450.00	4,320.46	4,413.60	4,340.38	17.92	16.45	91.117	958.90	-598.32	1,518.70	1,487.79	30.91	49.132	
5,500.00	4,319.97	4,412.86	4,339.65	18.13	16.44	90.963	958.90	-598.39	1,567.91	1,536.99	30.92	50.706	
5,550.00	4,319.48	4,412.13	4,338.92	18.35	16.44	90.809	958.89	-598.46	1,617.18	1,586.25	30.93	52.281	
5,600.00	4,318.99	4,411.40	4,338.19	18.57	16.44	90.654	958.89	-598.53	1,666.49	1,635.55	30.94	53.857	
5,650.00	4,318.50	4,410.66	4,337.45	18.81	16.44	90.499	958.89	-598.60	1,715.84	1,684.89	30.95	55.433	
5,700.00	4,318.01	4,409.92	4,336.72	19.04	16.43	90.344	958.89	-598.67	1,765.23	1,734.26	30.96	57.009	
5,750.00	4,317.52	4,409.18	4,335.98	19.29	16.43	90.189	958.89	-598.74	1,814.64	1,783.67	30.97	58.585	
5,800.00	4,317.03	4,408.43	4,335.24	19.54	16.43	90.033	958.88	-598.81	1,864.09	1,833.11	30.98	60.162	
5,850.00	4,316.54	4,407.69	4,334.50	19.81	16.42	89.877	958.88	-598.87	1,913.57	1,882.58	30.99	61.738	
5,900.00	4,316.05	4,406.94	4,333.75	20.07	16.42	89.720	958.88	-598.94	1,963.08	1,932.07	31.01	63.315	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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 Tooface (")	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	46.98	-2.02	0.00	0.08	-80.297	198.19	-1,159.11	1,175.93				
50.00	50.00	94.91	45.91	0.05	0.17	-80.297	198.21	-1,159.23	1,176.06	1,175.84	0.22	5,249.862	
100.00	100.00	143.56	94.56	0.14	0.34	-80.297	198.26	-1,159.43	1,176.27	1,175.79	0.48	2,455.104	
150.00	150.00	192.30	143.29	0.32	0.51	-80.294	198.35	-1,159.66	1,176.53	1,175.69	0.83	1,412.745	
200.00	200.00	246.84	197.84	0.50	0.70	-80.293	198.40	-1,159.88	1,176.73	1,175.53	1.20	979.076	
250.00	250.00	302.47	253.47	0.68	0.89	-80.304	198.18	-1,159.89	1,176.71	1,175.13	1.57	747.532	
300.00	300.00	350.99	301.99	0.86	1.06	-80.311	198.02	-1,159.81	1,176.60	1,174.68	1.92	612.877	
350.00	350.00	399.82	350.81	1.04	1.23	-63.762	198.13	-1,159.73	1,176.34	1,174.08	2.27	519.055	
400.00	399.98	448.59	399.59	1.22	1.40	-63.819	198.33	-1,159.69	1,175.76	1,173.14	2.62	449.378	
450.00	449.93	497.34	448.34	1.40	1.57	-63.923	198.44	-1,159.71	1,174.84	1,171.87	2.97	396.053	
500.00	499.84	547.67	498.67	1.58	1.75	-64.079	198.50	-1,159.77	1,173.56	1,170.23	3.32	353.031	
550.00	549.68	598.04	549.03	1.76	1.93	-64.281	198.53	-1,159.80	1,171.88	1,168.20	3.68	318.229	
600.00	599.45	650.76	601.76	1.95	2.11	-64.543	198.52	-1,159.77	1,169.77	1,165.73	4.04	289.198	
650.00	649.13	703.47	654.46	2.13	2.29	-64.858	198.44	-1,159.60	1,167.18	1,162.77	4.41	264.820	
700.00	698.70	752.22	703.21	2.31	2.46	-65.198	198.37	-1,159.41	1,164.20	1,159.44	4.75	244.894	
750.00	748.15	801.10	752.10	2.49	2.63	-65.581	198.37	-1,159.23	1,160.91	1,155.80	5.10	227.551	
800.00	797.47	843.19	794.19	2.67	2.78	-65.952	198.49	-1,159.21	1,157.47	1,152.04	5.43	213.197	
850.00	846.63	891.88	842.87	2.85	2.95	-66.409	198.77	-1,159.39	1,153.96	1,148.18	5.78	199.621	
900.00	895.62	947.27	898.26	3.03	3.14	-66.980	198.92	-1,159.40	1,149.97	1,143.82	6.16	186.802	
950.00	944.44	1,002.34	953.33	3.21	3.33	-67.616	198.87	-1,159.13	1,145.46	1,138.92	6.53	175.366	
1,000.00	993.06	1,053.76	1,004.75	3.40	3.51	-68.253	199.15	-1,158.64	1,140.52	1,133.62	6.89	165.431	
1,050.00	1,041.46	1,107.12	1,058.10	3.58	3.70	-68.937	200.00	-1,157.91	1,135.20	1,127.94	7.27	156.233	
1,100.00	1,089.64	1,163.14	1,114.09	3.77	3.89	-69.689	201.35	-1,156.77	1,129.40	1,121.75	7.65	147.665	
1,150.00	1,137.58	1,215.93	1,166.83	3.96	4.08	-70.447	202.93	-1,155.37	1,123.12	1,115.10	8.02	139.999	
1,200.00	1,185.27	1,266.91	1,217.77	4.15	4.26	-71.234	204.54	-1,153.85	1,116.55	1,108.16	8.39	133.081	
1,250.00	1,232.68	1,314.18	1,264.99	4.34	4.43	-72.022	206.09	-1,152.37	1,109.78	1,101.03	8.75	126.849	
1,300.00	1,279.82	1,360.56	1,311.32	4.53	4.60	-72.845	207.65	-1,150.96	1,102.95	1,093.85	9.11	121.136	
1,350.00	1,326.65	1,408.39	1,359.10	4.73	4.77	-73.740	209.26	-1,149.53	1,096.08	1,086.62	9.47	115.750	
1,400.00	1,373.21	1,456.27	1,406.93	4.93	4.94	-74.619	210.77	-1,148.05	1,089.18	1,079.35	9.83	110.749	
1,450.00	1,419.73	1,504.95	1,455.57	5.13	5.11	-75.460	212.31	-1,146.49	1,082.43	1,072.22	10.21	106.061	
1,500.00	1,466.25	1,553.86	1,504.42	5.33	5.29	-76.306	214.01	-1,144.84	1,075.82	1,065.24	10.58	101.703	
1,550.00	1,512.78	1,597.13	1,547.64	5.53	5.44	-77.062	215.55	-1,143.40	1,069.49	1,058.55	10.93	97.806	
1,600.00	1,559.30	1,640.11	1,590.58	5.74	5.60	-77.825	216.96	-1,142.12	1,063.57	1,052.28	11.29	94.194	
1,650.00	1,605.82	1,687.36	1,637.79	5.94	5.76	-78.677	218.40	-1,140.84	1,058.02	1,046.36	11.66	90.710	
1,700.00	1,652.34	1,737.66	1,688.04	6.14	5.95	-79.592	219.97	-1,139.34	1,052.61	1,040.57	12.05	87.378	
1,750.00	1,698.87	1,783.43	1,733.76	6.35	6.11	-80.433	221.38	-1,137.89	1,047.38	1,034.96	12.42	84.354	
1,800.00	1,745.39	1,827.33	1,777.63	6.55	6.27	-81.253	222.60	-1,136.60	1,042.53	1,029.75	12.78	81.570	
1,850.00	1,791.91	1,874.89	1,825.16	6.76	6.44	-82.153	223.82	-1,135.28	1,038.05	1,024.89	13.16	78.888	
1,900.00	1,838.43	1,925.29	1,875.51	6.97	6.62	-83.107	225.26	-1,133.75	1,033.71	1,020.16	13.55	76.315	
1,950.00	1,884.96	1,977.58	1,927.75	7.17	6.81	-84.096	226.96	-1,131.98	1,029.45	1,015.51	13.94	73.853	
2,000.00	1,931.48	2,030.71	1,980.79	7.38	7.00	-85.099	228.92	-1,129.90	1,025.20	1,010.86	14.34	71.514	
2,050.00	1,978.00	2,075.12	2,025.14	7.59	7.16	-85.939	230.65	-1,128.09	1,021.12	1,006.42	14.71	69.433	
2,100.00	2,024.52	2,119.16	2,069.11	7.80	7.32	-86.778	232.34	-1,126.42	1,017.46	1,002.38	15.08	67.488	
2,150.00	2,071.05	2,165.15	2,115.04	8.01	7.49	-87.661	234.07	-1,124.76	1,014.17	998.72	15.45	65.631	
2,200.00	2,117.57	2,211.55	2,161.38	8.22	7.66	-88.558	235.77	-1,123.10	1,011.19	995.36	15.83	63.878	
2,250.00	2,164.09	2,255.64	2,205.41	8.42	7.82	-89.415	237.35	-1,121.58	1,008.57	992.37	16.20	62.254	
2,300.00	2,210.61	2,299.17	2,248.90	8.63	7.97	-90.263	238.91	-1,120.23	1,006.39	989.82	16.57	60.738	
2,350.00	2,257.14	2,351.83	2,301.50	8.84	8.16	-91.290	240.84	-1,118.61	1,004.52	987.55	16.97	59.203	
2,400.00	2,303.66	2,409.19	2,358.77	9.05	8.37	-92.410	243.16	-1,116.36	1,002.49	985.11	17.38	57.683	
2,450.00	2,350.18	2,454.45	2,403.95	9.26	8.54	-93.296	245.05	-1,114.41	1,000.56	982.80	17.75	56.356	
2,500.00	2,396.70	2,499.94	2,449.35	9.47	8.70	-94.192	246.90	-1,112.49	998.98	980.85	18.13	55.104	
2,550.00	2,443.23	2,546.56	2,495.89	9.68	8.87	-95.113	248.77	-1,110.57	997.74	979.24	18.51	53.910	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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						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	2,489.75	2,593.25	2,542.51	9.89	9.04	-96.036	250.66	-1,108.66	996.82	977.93	18.89	52.782	
2,650.00	2,536.27	2,637.12	2,586.31	10.10	9.20	-96.903	252.42	-1,106.93	996.26	977.00	19.25	51.742	
2,686.59	2,570.32	2,669.04	2,618.19	10.26	9.32	-97.535	253.65	-1,105.75	996.14	976.61	19.52	51.024	
2,700.00	2,582.79	2,680.73	2,629.86	10.32	9.36	-97.767	254.10	-1,105.34	996.15	976.53	19.62	50.770	
2,750.00	2,629.32	2,725.32	2,674.40	10.53	9.53	-98.652	255.73	-1,103.82	996.48	976.49	19.99	49.848	
2,800.00	2,675.84	2,770.20	2,719.22	10.74	9.69	-99.545	257.26	-1,102.34	997.21	976.85	20.36	48.980	
2,850.00	2,722.36	2,816.59	2,765.56	10.95	9.86	-100.472	258.75	-1,100.85	998.31	977.58	20.73	48.151	
2,900.00	2,768.88	2,863.72	2,812.65	11.16	10.03	-101.413	260.23	-1,099.30	999.71	978.60	21.11	47.361	
2,950.00	2,815.41	2,910.67	2,859.54	11.37	10.20	-102.350	261.67	-1,097.73	1,001.40	979.92	21.48	46.615	
3,000.00	2,861.93	2,957.52	2,906.35	11.58	10.37	-103.283	263.10	-1,096.17	1,003.39	981.54	21.85	45.912	
3,050.00	2,908.45	3,003.86	2,952.64	11.79	10.54	-104.201	264.54	-1,094.64	1,005.69	983.47	22.22	45.251	
3,100.00	2,954.97	3,050.02	2,998.75	12.01	10.70	-105.105	266.06	-1,093.20	1,008.32	985.72	22.59	44.629	
3,150.00	3,001.53	3,096.28	3,044.96	12.22	10.87	-105.450	267.65	-1,091.84	1,011.21	988.25	22.96	44.042	
3,200.00	3,048.74	3,143.09	3,091.73	12.42	11.04	-103.896	269.22	-1,090.48	1,013.39	990.07	23.32	43.447	
3,250.00	3,096.71	3,194.42	3,143.01	12.62	11.23	-101.269	270.92	-1,088.94	1,014.37	990.67	23.70	42.799	
3,300.00	3,145.31	3,248.68	3,197.20	12.81	11.43	-96.887	272.80	-1,087.05	1,013.84	989.76	24.08	42.100	
3,350.00	3,194.40	3,300.08	3,248.53	13.00	11.61	-89.434	274.67	-1,085.07	1,011.78	987.33	24.45	41.388	
3,400.00	3,243.86	3,351.33	3,299.70	13.17	11.80	-76.442	276.61	-1,083.02	1,008.23	983.43	24.80	40.650	
3,450.00	3,293.54	3,401.89	3,350.19	13.34	11.99	-53.963	278.55	-1,080.94	1,003.19	978.05	25.15	39.891	
3,500.00	3,343.31	3,452.46	3,400.67	13.49	12.17	-23.098	280.47	-1,078.78	996.66	971.18	25.48	39.109	
3,550.00	3,393.03	3,498.50	3,446.64	13.63	12.34	3.098	282.18	-1,076.86	988.77	962.97	25.79	38.333	
3,600.00	3,442.57	3,545.48	3,493.55	13.77	12.51	19.347	283.86	-1,075.01	979.58	953.48	26.10	37.531	
3,650.00	3,491.79	3,594.23	3,542.23	13.89	12.69	29.319	285.57	-1,073.11	969.05	942.64	26.41	36.698	
3,700.00	3,540.56	3,641.61	3,589.55	14.01	12.86	36.056	287.22	-1,071.27	957.19	930.49	26.70	35.848	
3,750.00	3,588.74	3,686.01	3,633.90	14.12	13.02	41.085	288.70	-1,069.62	944.19	917.21	26.98	34.997	
3,800.00	3,636.20	3,730.18	3,678.01	14.23	13.18	45.206	290.08	-1,068.10	930.18	902.93	27.25	34.135	
3,850.00	3,682.81	3,776.24	3,724.03	14.33	13.35	48.878	291.45	-1,066.53	915.17	887.65	27.52	33.252	
3,900.00	3,728.44	3,821.30	3,769.05	14.42	13.52	52.299	292.75	-1,064.95	899.24	871.46	27.78	32.365	
3,950.00	3,772.97	3,863.58	3,811.28	14.51	13.67	55.561	293.91	-1,063.47	882.61	854.57	28.03	31.487	
4,000.00	3,816.27	3,904.81	3,852.47	14.59	13.82	58.782	294.99	-1,062.07	865.47	837.20	28.27	30.616	
4,050.00	3,858.24	3,947.01	3,894.64	14.67	13.97	62.088	296.14	-1,060.67	847.99	819.49	28.50	29.750	
4,100.00	3,898.74	3,987.85	3,935.44	14.75	14.12	65.441	297.47	-1,059.36	830.35	801.62	28.73	28.903	
4,150.00	3,937.67	4,026.43	3,973.97	14.82	14.26	68.794	298.89	-1,058.15	812.84	783.89	28.94	28.084	
4,200.00	3,974.93	4,063.02	4,010.51	14.89	14.39	72.120	300.21	-1,056.95	795.79	766.64	29.15	27.304	
4,250.00	4,010.41	4,097.82	4,045.28	14.96	14.52	75.396	301.42	-1,055.76	779.53	750.19	29.34	26.569	
4,300.00	4,044.02	4,129.27	4,076.69	15.02	14.64	78.489	302.48	-1,054.67	764.44	734.92	29.52	25.893	
4,350.00	4,075.66	4,158.71	4,106.09	15.09	14.74	81.426	303.46	-1,053.68	750.92	721.22	29.70	25.285	
4,400.00	4,105.24	4,186.15	4,133.50	15.16	14.84	84.166	304.36	-1,052.79	739.33	709.46	29.87	24.753	
4,450.00	4,132.69	4,212.09	4,159.42	15.24	14.94	86.702	305.20	-1,051.96	730.03	699.99	30.03	24.308	
4,500.00	4,158.10	4,236.24	4,183.54	15.31	15.03	88.769	305.97	-1,051.18	723.32	693.13	30.19	23.959	
4,550.00	4,183.10	4,259.99	4,207.27	15.41	15.11	90.437	306.72	-1,050.42	719.28	688.92	30.36	23.690	
4,600.00	4,208.10	4,283.76	4,231.01	15.50	15.20	92.109	307.47	-1,049.64	717.93	687.40	30.53	23.514	
4,600.00	4,208.14	4,283.80	4,231.06	15.50	15.20	92.112	307.47	-1,049.64	717.93	687.40	30.53	23.514 CC, ES	
4,650.00	4,233.10	4,306.88	4,254.11	15.61	15.28	93.735	308.20	-1,048.89	719.28	688.57	30.71	23.419	
4,700.00	4,257.80	4,329.50	4,276.71	15.73	15.37	95.135	308.94	-1,048.17	723.38	692.49	30.89	23.418 SF	
4,750.00	4,279.35	4,348.94	4,296.13	15.85	15.44	95.827	309.58	-1,047.57	730.56	699.51	31.05	23.528	
4,800.00	4,296.88	4,364.39	4,311.56	15.97	15.49	95.922	310.10	-1,047.10	741.05	709.86	31.19	23.761	
4,850.00	4,310.27	4,375.73	4,322.89	16.09	15.53	95.365	310.48	-1,046.76	754.89	723.59	31.30	24.120	
4,900.00	4,319.40	4,382.94	4,330.09	16.21	15.56	94.119	310.73	-1,046.55	771.98	740.60	31.38	24.603	
4,950.00	4,324.22	4,386.03	4,333.18	16.32	15.57	92.169	310.84	-1,046.46	792.11	760.68	31.43	25.203	
5,000.00	4,324.86	4,384.93	4,332.08	16.44	15.57	90.271	310.80	-1,046.49	814.95	783.49	31.45	25.908	
5,050.00	4,324.37	4,382.70	4,329.85	16.57	15.56	90.093	310.72	-1,046.55	840.15	808.67	31.49	26.681	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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	4,323.88	4,383.52	4,327.63	16.70	15.56	89.914	310.65	-1,046.62	867.51	836.00	31.51	27.533	
5,150.00	4,323.39	4,385.75	4,325.41	16.85	15.57	89.736	310.57	-1,046.69	896.81	865.27	31.54	28.432	
5,200.00	4,322.91	4,376.28	4,323.44	17.00	15.54	89.579	310.50	-1,046.74	927.88	896.35	31.53	29.424	
5,250.00	4,322.42	4,374.17	4,321.33	17.17	15.53	89.409	310.43	-1,046.81	960.55	928.99	31.55	30.442	
5,300.00	4,321.93	4,372.06	4,319.22	17.34	15.52	89.240	310.36	-1,046.87	994.65	963.08	31.57	31.508	
5,350.00	4,321.44	4,369.95	4,317.12	17.53	15.51	89.072	310.29	-1,046.93	1,030.04	998.46	31.58	32.613	
5,400.00	4,320.95	4,367.86	4,315.02	17.72	15.50	88.904	310.22	-1,047.00	1,066.61	1,035.01	31.60	33.757	
5,450.00	4,320.46	4,365.76	4,312.93	17.92	15.50	88.737	310.14	-1,047.06	1,104.22	1,072.61	31.61	34.933	
5,500.00	4,319.97	4,363.68	4,310.85	18.13	15.49	88.570	310.07	-1,047.12	1,142.77	1,111.15	31.62	36.141	
5,550.00	4,319.48	4,361.60	4,308.78	18.35	15.48	88.405	310.00	-1,047.18	1,182.18	1,150.55	31.63	37.374	
5,600.00	4,318.99	4,359.53	4,306.71	18.57	15.47	88.239	309.93	-1,047.25	1,222.37	1,190.73	31.64	38.634	
5,650.00	4,318.50	4,357.47	4,304.65	18.81	15.47	88.074	309.86	-1,047.31	1,263.24	1,231.60	31.65	39.913	
5,700.00	4,318.01	4,355.41	4,302.59	19.04	15.46	87.910	309.79	-1,047.37	1,304.76	1,273.10	31.66	41.216	
5,750.00	4,317.52	4,353.36	4,300.54	19.29	15.45	87.746	309.73	-1,047.43	1,346.84	1,315.18	31.67	42.534	
5,800.00	4,317.03	4,351.31	4,298.50	19.54	15.44	87.583	309.66	-1,047.50	1,389.45	1,357.78	31.67	43.870	
5,850.00	4,316.54	4,349.28	4,296.46	19.81	15.44	87.421	309.59	-1,047.56	1,432.53	1,400.85	31.68	45.220	
5,900.00	4,316.05	4,347.24	4,294.43	20.07	15.43	87.259	309.52	-1,047.62	1,476.04	1,444.36	31.68	46.585	
5,950.00	4,315.56	4,345.22	4,292.41	20.34	15.42	87.097	309.45	-1,047.68	1,519.95	1,488.26	31.69	47.961	
6,000.00	4,315.08	4,343.20	4,290.39	20.62	15.42	86.937	309.39	-1,047.74	1,564.23	1,532.53	31.70	49.350	
6,050.00	4,314.59	4,341.18	4,288.38	20.90	15.41	86.776	309.32	-1,047.81	1,608.83	1,577.13	31.70	50.747	
6,100.00	4,314.10	4,339.18	4,286.37	21.18	15.40	86.617	309.25	-1,047.87	1,653.75	1,622.04	31.71	52.155	
6,150.00	4,313.61	4,337.18	4,284.37	21.48	15.39	86.458	309.19	-1,047.93	1,698.94	1,667.23	31.71	53.570	
6,200.00	4,313.12	4,335.18	4,282.38	21.77	15.39	86.299	309.12	-1,047.99	1,744.39	1,712.68	31.72	54.995	
6,250.00	4,312.63	4,333.19	4,280.39	22.07	15.38	86.141	309.06	-1,048.06	1,790.09	1,758.36	31.72	56.425	
6,300.00	4,312.14	4,331.21	4,278.41	22.38	15.37	85.984	308.99	-1,048.12	1,836.00	1,804.28	31.73	57.864	
6,350.00	4,311.65	4,329.23	4,276.44	22.69	15.36	85.827	308.93	-1,048.18	1,882.13	1,850.39	31.74	59.307	
6,400.00	4,311.16	4,327.26	4,274.47	23.00	15.36	85.671	308.86	-1,048.24	1,928.44	1,896.70	31.74	60.756	
6,450.00	4,310.67	4,325.30	4,272.51	23.32	15.35	85.515	308.80	-1,048.30	1,974.93	1,943.18	31.75	62.210	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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												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	0.00	0.00	0.00	0.00	-89.427	0.20	-20.00	20.00				
50.00	50.00	50.00	50.00	0.05	0.07	-89.427	0.20	-20.00	20.00	19.88	0.13	159.415	
100.00	100.00	100.00	100.00	0.14	0.14	-89.427	0.20	-20.00	20.00	19.71	0.29	69.744	
150.00	150.00	150.00	150.00	0.32	0.32	-89.427	0.20	-20.00	20.00	19.36	0.65	30.997	
200.00	200.00	200.00	200.00	0.50	0.50	-89.427	0.20	-20.00	20.00	19.00	1.00	19.927	
250.00	250.00	250.00	250.00	0.68	0.68	-89.427	0.20	-20.00	20.00	18.64	1.36	14.683	
300.00	300.00	300.00	300.00	0.86	0.86	-89.427	0.20	-20.00	20.00	18.28	1.72	11.624	CC
350.00	350.00	349.74	349.74	1.04	1.04	-73.205	0.50	-20.32	20.19	18.12	2.08	9.721	ES
400.00	399.98	399.48	399.46	1.22	1.22	-74.199	1.38	-21.26	20.77	18.34	2.43	8.537	
450.00	449.93	449.21	449.14	1.40	1.39	-75.736	2.86	-22.83	21.75	18.96	2.79	7.799	
500.00	499.84	498.91	498.75	1.58	1.57	-77.664	4.92	-25.04	23.14	20.00	3.14	7.362	
550.00	549.68	548.59	548.28	1.76	1.75	-79.821	7.57	-27.86	24.96	21.46	3.50	7.135	
600.00	599.45	598.25	597.71	1.95	1.93	-82.055	10.81	-31.31	27.23	23.37	3.85	7.067	SF
650.00	649.13	647.86	647.01	2.13	2.11	-84.249	14.63	-35.39	29.95	25.74	4.21	7.115	
700.00	698.70	697.44	696.16	2.31	2.29	-86.322	19.03	-40.08	33.13	28.57	4.57	7.258	
750.00	748.15	746.96	745.15	2.49	2.47	-88.225	24.00	-45.38	36.78	31.86	4.92	7.471	
800.00	797.47	796.44	793.96	2.67	2.65	-89.937	29.55	-51.30	40.90	35.62	5.28	7.743	
850.00	846.63	845.85	842.55	2.85	2.83	-91.458	35.66	-57.82	45.48	39.83	5.64	8.058	
900.00	895.62	895.20	890.93	3.03	3.01	-92.794	42.34	-64.94	50.51	44.51	6.00	8.413	
950.00	944.44	944.48	939.06	3.21	3.19	-93.961	49.58	-72.66	56.01	49.64	6.37	8.796	
1,000.00	993.06	993.69	986.93	3.40	3.38	-94.976	57.37	-80.96	61.95	55.22	6.73	9.200	
1,050.00	1,041.46	1,042.81	1,034.52	3.58	3.56	-95.856	65.71	-89.85	68.34	61.24	7.10	9.624	
1,100.00	1,089.64	1,091.85	1,081.81	3.77	3.75	-96.618	74.58	-99.32	75.18	67.71	7.47	10.062	
1,150.00	1,137.58	1,140.80	1,128.78	3.96	3.94	-97.276	84.00	-109.36	82.46	74.61	7.84	10.511	
1,200.00	1,185.27	1,189.66	1,175.43	4.15	4.13	-97.843	93.94	-119.96	90.17	81.95	8.22	10.970	
1,250.00	1,232.68	1,238.41	1,221.72	4.34	4.32	-98.332	104.40	-131.11	98.31	89.71	8.60	11.432	
1,300.00	1,279.82	1,287.07	1,267.65	4.53	4.51	-98.751	115.37	-142.82	106.88	97.90	8.98	11.901	
1,350.00	1,326.65	1,335.61	1,313.21	4.73	4.71	-99.111	126.86	-155.06	115.87	106.51	9.37	12.372	
1,400.00	1,373.21	1,384.06	1,358.37	4.93	4.91	-99.464	138.84	-167.84	125.26	115.51	9.75	12.845	
1,450.00	1,419.73	1,432.41	1,403.15	5.13	5.11	-99.556	151.31	-181.14	134.94	124.80	10.14	13.306	
1,500.00	1,466.25	1,480.65	1,447.51	5.33	5.31	-99.325	164.28	-194.97	144.88	134.35	10.53	13.760	
1,550.00	1,512.78	1,528.75	1,491.42	5.53	5.52	-98.835	177.71	-209.29	155.10	144.18	10.92	14.205	
1,600.00	1,559.30	1,576.70	1,534.85	5.74	5.73	-98.138	191.60	-224.10	165.60	154.30	11.31	14.647	
1,650.00	1,605.82	1,624.45	1,577.77	5.94	5.94	-97.277	205.92	-239.38	176.42	164.72	11.69	15.086	
1,700.00	1,652.34	1,671.99	1,620.14	6.14	6.15	-96.287	220.67	-255.10	187.57	175.49	12.08	15.528	
1,750.00	1,698.87	1,719.29	1,661.94	6.35	6.36	-95.196	235.82	-271.25	199.08	186.62	12.46	15.976	
1,800.00	1,745.39	1,767.18	1,703.95	6.55	6.58	-94.045	251.54	-288.02	210.92	198.07	12.85	16.413	
1,850.00	1,791.91	1,815.58	1,746.38	6.76	6.81	-92.990	267.47	-305.00	222.86	209.62	13.25	16.821	
1,900.00	1,838.43	1,863.98	1,788.81	6.97	7.04	-92.042	283.39	-321.99	234.87	221.22	13.65	17.208	
1,950.00	1,884.96	1,912.37	1,831.24	7.17	7.26	-91.186	299.32	-338.97	246.93	232.88	14.05	17.573	
2,000.00	1,931.48	1,960.77	1,873.66	7.38	7.49	-90.410	315.25	-355.95	259.04	244.59	14.45	17.921	
2,050.00	1,978.00	2,009.17	1,916.09	7.59	7.73	-89.703	331.18	-372.94	271.19	256.33	14.86	18.250	
2,100.00	2,024.52	2,057.56	1,958.52	7.80	7.96	-89.056	347.10	-389.92	283.38	268.11	15.27	18.563	
2,150.00	2,071.05	2,105.96	2,000.95	8.01	8.19	-88.462	363.03	-406.91	295.59	279.92	15.67	18.860	
2,200.00	2,117.57	2,154.36	2,043.38	8.22	8.43	-87.916	378.96	-423.89	307.84	291.76	16.08	19.142	
2,250.00	2,164.09	2,202.75	2,085.81	8.42	8.66	-87.411	394.88	-440.87	320.11	303.62	16.49	19.411	
2,300.00	2,210.61	2,251.15	2,128.23	8.63	8.90	-86.943	410.81	-457.86	332.40	315.50	16.90	19.667	
2,350.00	2,257.14	2,300.45	2,170.66	8.84	9.14	-86.509	426.74	-474.84	344.71	327.39	17.32	19.907	
2,400.00	2,303.66	2,347.94	2,213.09	9.05	9.37	-86.104	442.66	-491.82	357.03	339.31	17.72	20.144	
2,450.00	2,350.18	2,403.66	2,255.52	9.26	9.65	-85.727	458.59	-508.81	369.38	351.21	18.17	20.329	
2,500.00	2,396.70	2,444.74	2,297.95	9.47	9.85	-85.374	474.52	-525.79	381.73	363.18	18.55	20.579	
2,550.00	2,443.23	2,506.86	2,340.37	9.68	10.16	-85.043	490.44	-542.78	394.10	375.08	19.03	20.714	

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Anticollision Report



Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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 SIERRA NEVADA 23 STATE COM - 10H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
2,600.00	2,489.75	2,541.53	2,382.80	9.89	10.33	-84.732	506.37	-559.76	406.48	387.11	19.38	20.977	
2,650.00	2,536.27	2,589.93	2,425.23	10.10	10.57	-84.439	522.30	-576.74	418.88	399.08	19.79	21.164	
2,700.00	2,582.79	2,638.33	2,467.66	10.32	10.81	-84.164	538.23	-593.73	431.28	411.07	20.21	21.343	
2,750.00	2,629.32	2,686.72	2,510.09	10.53	11.05	-83.903	554.15	-610.71	443.69	423.07	20.62	21.514	
2,800.00	2,675.84	2,735.12	2,552.52	10.74	11.30	-83.657	570.08	-627.69	456.11	435.07	21.04	21.679	
2,850.00	2,722.36	2,783.52	2,594.94	10.95	11.54	-83.424	586.01	-644.68	468.53	447.08	21.46	21.837	
2,900.00	2,768.88	2,831.91	2,637.37	11.16	11.78	-83.203	601.93	-661.66	480.97	459.09	21.87	21.989	
2,950.00	2,815.41	2,880.31	2,679.80	11.37	12.02	-82.993	617.86	-678.65	493.41	471.11	22.29	22.135	
3,000.00	2,861.93	2,928.71	2,722.23	11.58	12.27	-82.793	633.79	-695.63	505.85	483.14	22.71	22.276	
3,050.00	2,908.45	2,977.11	2,764.66	11.79	12.51	-82.603	649.71	-712.61	518.30	495.18	23.13	22.412	
3,100.00	2,954.97	3,025.50	2,807.08	12.01	12.75	-82.422	665.64	-729.60	530.76	507.21	23.54	22.544	
3,150.00	3,001.53	3,070.99	2,847.50	12.22	12.98	-82.050	679.17	-745.47	543.34	519.41	23.93	22.705	
3,200.00	3,048.74	3,116.45	2,888.78	12.42	13.19	-80.449	689.96	-761.14	555.92	531.61	24.31	22.871	
3,250.00	3,096.71	3,161.79	2,930.68	12.62	13.40	-77.916	697.95	-776.50	568.39	543.73	24.67	23.043	
3,300.00	3,145.31	3,206.99	2,972.99	12.81	13.59	-73.813	703.13	-791.48	580.73	555.72	25.00	23.225	
3,350.00	3,194.40	3,252.01	3,015.53	13.00	13.78	-66.893	705.52	-806.02	592.89	567.57	25.32	23.414	
3,400.00	3,243.86	3,296.85	3,058.10	13.17	13.94	-54.651	705.12	-820.07	604.86	579.25	25.61	23.614	
3,450.00	3,293.54	3,341.48	3,100.52	13.34	14.10	-33.133	701.98	-833.56	616.61	590.73	25.88	23.825	
3,500.00	3,343.31	3,385.87	3,142.59	13.49	14.24	-3.435	696.15	-846.45	628.10	601.98	26.12	24.045	
3,550.00	3,393.03	3,430.01	3,184.15	13.63	14.36	21.386	687.70	-858.69	639.33	612.99	26.34	24.274	
3,600.00	3,442.57	3,473.89	3,225.01	13.77	14.48	36.067	676.72	-870.24	650.26	623.73	26.53	24.510	
3,650.00	3,491.79	3,517.47	3,265.03	13.89	14.58	44.259	663.30	-881.05	660.87	634.17	26.70	24.751	
3,700.00	3,540.56	3,560.74	3,304.05	14.01	14.67	49.012	647.54	-891.12	671.15	644.30	26.85	24.997	
3,750.00	3,588.74	3,603.69	3,341.93	14.12	14.75	51.875	629.57	-900.39	681.07	654.10	26.98	25.247	
3,800.00	3,636.20	3,646.30	3,378.55	14.23	14.82	53.627	609.50	-908.87	690.62	663.54	27.08	25.501	
3,850.00	3,682.81	3,688.56	3,413.77	14.33	14.88	54.683	587.46	-916.52	699.78	672.61	27.17	25.758	
3,900.00	3,728.44	3,730.45	3,447.51	14.42	14.93	55.280	563.60	-923.35	708.54	681.30	27.24	26.015	
3,950.00	3,772.97	3,771.95	3,479.67	14.51	14.97	55.562	538.06	-929.34	716.88	689.59	27.28	26.274	
4,000.00	3,816.27	3,813.07	3,510.16	14.59	15.01	55.621	510.97	-934.51	724.79	697.47	27.32	26.531	
4,050.00	3,858.24	3,853.79	3,538.93	14.67	15.04	55.520	482.49	-938.84	732.26	704.92	27.34	26.787	
4,100.00	3,898.74	3,894.10	3,565.92	14.75	15.06	55.302	452.75	-942.35	739.27	711.93	27.34	27.039	
4,150.00	3,937.67	3,934.00	3,591.07	14.82	15.07	54.996	421.91	-945.06	745.83	718.50	27.33	27.287	
4,200.00	3,974.93	3,973.49	3,614.38	14.89	15.08	54.626	390.10	-946.97	751.92	724.60	27.32	27.527	
4,250.00	4,010.41	4,012.55	3,635.80	14.96	15.08	54.208	357.47	-948.11	757.53	730.24	27.29	27.759	
4,300.00	4,044.02	4,055.09	3,657.41	15.02	15.08	53.717	320.82	-948.58	762.62	735.33	27.29	27.943	
4,350.00	4,075.66	4,104.43	3,682.07	15.09	15.08	53.283	278.10	-948.95	766.66	739.29	27.37	28.011	
4,400.00	4,105.24	4,154.12	3,706.92	15.16	15.07	53.043	235.07	-949.32	769.44	741.95	27.49	27.994	
4,450.00	4,132.69	4,204.03	3,731.87	15.24	15.08	53.004	191.85	-949.70	770.91	743.28	27.63	27.901	
4,500.00	4,158.10	4,246.36	3,752.97	15.31	15.08	53.076	155.15	-950.01	771.25	743.50	27.75	27.795	
4,550.00	4,183.10	4,273.95	3,765.79	15.41	15.08	53.009	130.71	-950.23	772.48	744.72	27.76	27.823	
4,600.00	4,208.10	4,300.00	3,776.79	15.50	15.08	52.875	107.11	-950.43	775.17	747.40	27.76	27.922	
4,650.00	4,233.10	4,328.51	3,787.59	15.61	15.08	52.649	80.73	-950.66	779.31	751.53	27.78	28.052	
4,700.00	4,257.80	4,350.00	3,794.85	15.73	15.08	52.252	60.51	-950.84	784.75	756.99	27.75	28.275	
4,750.00	4,279.35	4,381.92	3,804.23	15.85	15.07	51.597	30.00	-951.10	789.43	761.61	27.82	28.381	
4,800.00	4,296.88	4,400.00	3,808.79	15.97	15.07	51.197	12.50	-951.25	793.00	765.15	27.85	28.475	
4,850.00	4,310.27	4,435.17	3,816.06	16.09	15.06	50.879	-21.90	-951.55	795.13	767.14	28.00	28.402	
4,900.00	4,319.40	4,461.78	3,820.15	16.21	15.05	50.762	-48.19	-951.78	796.07	767.92	28.15	28.282	
4,950.00	4,324.22	4,488.39	3,823.01	16.32	15.04	50.806	-74.64	-952.01	795.72	767.38	28.34	28.076	
5,000.00	4,324.86	4,515.01	3,824.64	16.44	15.03	50.960	-101.21	-952.24	794.20	765.62	28.58	27.793	
5,050.00	4,324.37	4,545.31	3,825.00	16.57	15.01	50.997	-131.50	-952.50	793.44	764.61	28.83	27.521	
5,052.27	4,324.35	4,549.78	3,825.07	16.57	15.01	50.998	-127.03	-952.46	793.42	764.56	28.86	27.490	
5,100.00	4,323.88	4,588.57	3,824.36	16.70	15.00	50.985	-174.75	-952.88	793.58	764.48	29.09	27.276	

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Anticollision Report



Company:	Spur Energy Partners, LLC	Local Co-ordinate Reference:	Well 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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		SIERRA NEVADA 23 STATE COM - 10H - Wellbore #1 - PERMIT											Offset Site Error: 0.00 usft	
Survey Program: 0-MWD+IFR1+SAG+FDIR													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis		Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,150.00	4,323.39	4,638.57	3,823.63	16.85	15.00	50.972	-224.75	-953.31	793.74	764.35	29.39	27.006		
5,200.00	4,322.91	4,688.57	3,822.89	17.00	15.09	50.959	-274.74	-953.74	793.90	764.21	29.69	26.740		
5,250.00	4,322.42	4,738.57	3,822.16	17.17	15.24	50.945	-324.73	-954.18	794.06	764.05	30.01	26.456		
5,300.00	4,321.93	4,788.57	3,821.42	17.34	15.42	50.932	-374.72	-954.61	794.23	763.88	30.34	26.175		
5,350.00	4,321.44	4,838.57	3,820.69	17.53	15.62	50.919	-424.71	-955.04	794.39	763.69	30.70	25.880		
5,400.00	4,320.95	4,888.57	3,819.95	17.72	15.83	50.905	-474.71	-955.48	794.55	763.50	31.05	25.589		
5,450.00	4,320.46	4,938.56	3,819.22	17.92	16.05	50.892	-524.70	-955.91	794.72	763.29	31.43	25.286		
5,500.00	4,319.97	4,988.56	3,818.48	18.13	16.28	50.879	-574.69	-956.34	794.88	763.07	31.81	24.989		
5,550.00	4,319.48	5,038.56	3,817.74	18.35	16.52	50.865	-624.68	-956.78	795.04	762.83	32.21	24.682		
5,600.00	4,318.99	5,088.56	3,817.01	18.57	16.76	50.852	-674.67	-957.21	795.20	762.59	32.62	24.381		
5,650.00	4,318.50	5,138.56	3,816.27	18.81	17.01	50.839	-724.67	-957.64	795.37	762.33	33.04	24.074		
5,700.00	4,318.01	5,188.56	3,815.54	19.04	17.26	50.825	-774.66	-958.08	795.53	762.06	33.47	23.772		
5,750.00	4,317.52	5,238.56	3,814.80	19.29	17.52	50.812	-824.65	-958.51	795.69	761.78	33.91	23.466		
5,800.00	4,317.03	5,288.56	3,814.07	19.54	17.79	50.799	-874.64	-958.94	795.86	761.50	34.36	23.165		
5,850.00	4,316.54	5,338.56	3,813.33	19.81	18.07	50.785	-924.63	-959.38	796.02	761.20	34.82	22.862		
5,900.00	4,316.05	5,388.56	3,812.60	20.07	18.34	50.772	-974.63	-959.81	796.18	760.90	35.28	22.566		
5,950.00	4,315.56	5,438.56	3,811.86	20.34	18.63	50.759	-1,024.62	-960.24	796.35	760.58	35.76	22.268		
6,000.00	4,315.08	5,488.56	3,811.12	20.62	18.92	50.746	-1,074.61	-960.68	796.51	760.26	36.24	21.976		
6,050.00	4,314.59	5,538.56	3,810.39	20.90	19.21	50.732	-1,124.60	-961.11	796.67	759.93	36.74	21.684		
6,100.00	4,314.10	5,588.56	3,809.65	21.18	19.51	50.719	-1,174.60	-961.54	796.84	759.60	37.24	21.399		
6,150.00	4,313.61	5,638.56	3,808.92	21.48	19.82	50.706	-1,224.59	-961.98	797.00	759.25	37.75	21.114		
6,200.00	4,313.12	5,688.56	3,808.18	21.77	20.13	50.693	-1,274.58	-962.41	797.16	758.90	38.26	20.836		
6,250.00	4,312.63	5,738.55	3,807.45	22.07	20.44	50.679	-1,324.57	-962.84	797.33	758.54	38.78	20.559		
6,300.00	4,312.14	5,788.55	3,806.71	22.38	20.75	50.666	-1,374.56	-963.28	797.49	758.18	39.31	20.288		
6,350.00	4,311.65	5,838.55	3,805.98	22.69	21.08	50.653	-1,424.56	-963.71	797.65	757.81	39.84	20.019		
6,400.00	4,311.16	5,888.55	3,805.24	23.00	21.40	50.640	-1,474.55	-964.14	797.82	757.43	40.38	19.757		
6,450.00	4,310.67	5,938.55	3,804.51	23.32	21.73	50.626	-1,524.54	-964.58	797.98	757.05	40.93	19.497		
6,500.00	4,310.18	5,988.55	3,803.77	23.64	22.06	50.613	-1,574.53	-965.01	798.14	756.67	41.48	19.243		
6,550.00	4,309.69	6,038.55	3,803.03	23.96	22.39	50.600	-1,624.52	-965.45	798.31	756.27	42.04	18.991		
6,600.00	4,309.20	6,088.55	3,802.30	24.29	22.73	50.587	-1,674.52	-965.88	798.47	755.88	42.59	18.746		
6,650.00	4,308.71	6,138.55	3,801.56	24.62	23.07	50.574	-1,724.51	-966.31	798.63	755.47	43.16	18.503		
6,700.00	4,308.22	6,188.55	3,800.83	24.95	23.41	50.560	-1,774.50	-966.75	798.80	755.07	43.73	18.267		
6,750.00	4,307.73	6,238.55	3,800.09	25.29	23.76	50.547	-1,824.49	-967.18	798.96	754.66	44.31	18.033		
6,800.00	4,307.25	6,288.55	3,799.36	25.63	24.11	50.534	-1,874.48	-967.61	799.13	754.24	44.88	17.805		
6,850.00	4,306.76	6,338.55	3,798.62	25.97	24.46	50.521	-1,924.48	-968.05	799.29	753.82	45.47	17.579		
6,900.00	4,306.27	6,388.55	3,797.89	26.32	24.81	50.508	-1,974.47	-968.48	799.45	753.40	46.05	17.360		
6,950.00	4,305.78	6,438.55	3,797.15	26.67	25.17	50.494	-2,024.46	-968.91	799.62	752.97	46.64	17.143		
7,000.00	4,305.29	6,488.55	3,796.41	27.01	25.53	50.481	-2,074.45	-969.35	799.78	752.54	47.24	16.931		
7,050.00	4,304.80	6,538.55	3,795.68	27.37	25.89	50.468	-2,124.45	-969.78	799.95	752.11	47.84	16.723		
7,100.00	4,304.31	6,588.54	3,794.94	27.72	26.25	50.455	-2,174.44	-970.21	800.11	751.68	48.44	16.519		
7,150.00	4,303.82	6,638.54	3,794.21	28.08	26.61	50.442	-2,224.43	-970.65	800.27	751.23	49.04	16.319		
7,200.00	4,303.33	6,688.54	3,793.47	28.44	26.98	50.429	-2,274.42	-971.08	800.44	750.79	49.65	16.123		
7,250.00	4,302.84	6,738.54	3,792.74	28.80	27.35	50.416	-2,324.41	-971.51	800.60	750.35	50.26	15.930		
7,300.00	4,302.35	6,788.54	3,792.00	29.16	27.72	50.402	-2,374.41	-971.95	800.77	749.90	50.87	15.742		
7,350.00	4,301.86	6,838.54	3,791.27	29.53	28.09	50.389	-2,424.40	-972.38	800.93	749.45	51.49	15.556		
7,400.00	4,301.37	6,888.54	3,790.53	29.89	28.46	50.376	-2,474.39	-972.81	801.10	748.99	52.10	15.375		
7,450.00	4,300.88	6,938.54	3,789.80	30.26	28.84	50.363	-2,524.38	-973.25	801.26	748.54	52.72	15.197		
7,500.00	4,300.39	6,988.54	3,789.06	30.63	29.22	50.350	-2,574.37	-973.68	801.43	748.08	53.35	15.023		
7,550.00	4,299.90	7,038.54	3,788.32	31.00	29.59	50.337	-2,624.37	-974.11	801.59	747.62	53.97	14.852		
7,600.00	4,299.42	7,088.54	3,787.59	31.38	29.97	50.324	-2,674.36	-974.55	801.75	747.16	54.60	14.684		
7,650.00	4,298.93	7,138.54	3,786.85	31.75	30.35	50.311	-2,724.35	-974.98	801.92	746.69	55.23	14.520		
7,700.00	4,298.44	7,188.54	3,786.12	32.13	30.74	50.298	-2,774.34	-975.41	802.08	746.22	55.86	14.359		

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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 SIERRA NEVADA 23 STATE COM - 10H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
7,750.00	4,297.95	7,238.54	3,785.38	32.51	31.12	50.284	-2,824.33	-975.85	802.25	745.75	56.50	14.200	
7,800.00	4,297.46	7,288.54	3,784.65	32.88	31.50	50.271	-2,874.33	-976.28	802.41	745.28	57.13	14.045	
7,850.00	4,296.97	7,338.54	3,783.91	33.26	31.89	50.258	-2,924.32	-976.71	802.58	744.81	57.77	13.893	
7,900.00	4,296.48	7,388.53	3,783.18	33.65	32.28	50.245	-2,974.31	-977.15	802.74	744.34	58.41	13.744	
7,950.00	4,295.99	7,438.53	3,782.44	34.03	32.66	50.232	-3,024.30	-977.58	802.91	743.86	59.05	13.597	
8,000.00	4,295.50	7,488.53	3,781.71	34.41	33.05	50.219	-3,074.30	-978.02	803.07	743.38	59.69	13.454	
8,050.00	4,295.01	7,538.53	3,780.97	34.80	33.44	50.206	-3,124.29	-978.45	803.24	742.90	60.34	13.313	
8,100.00	4,294.52	7,588.53	3,780.23	35.18	33.83	50.193	-3,174.28	-978.88	803.40	742.42	60.98	13.174	
8,150.00	4,294.03	7,638.53	3,779.50	35.57	34.23	50.180	-3,224.27	-979.32	803.57	741.94	61.63	13.038	
8,200.00	4,293.54	7,688.53	3,778.76	35.96	34.62	50.167	-3,274.26	-979.75	803.73	741.45	62.28	12.905	
8,250.00	4,293.05	7,738.53	3,778.03	36.35	35.01	50.154	-3,324.26	-980.18	803.90	740.97	62.93	12.775	
8,300.00	4,292.56	7,788.53	3,777.29	36.74	35.41	50.141	-3,374.25	-980.62	804.06	740.48	63.58	12.646	
8,350.00	4,292.07	7,838.53	3,776.56	37.13	35.80	50.128	-3,424.24	-981.05	804.23	739.99	64.23	12.520	
8,400.00	4,291.59	7,888.53	3,775.82	37.52	36.20	50.115	-3,474.23	-981.48	804.39	739.51	64.89	12.397	
8,450.00	4,291.10	7,938.53	3,775.09	37.92	36.60	50.102	-3,524.22	-981.92	804.56	739.01	65.54	12.275	
8,500.00	4,290.61	7,988.53	3,774.35	38.31	36.99	50.089	-3,574.22	-982.35	804.72	738.52	66.20	12.156	
8,550.00	4,290.12	8,038.53	3,773.61	38.70	37.39	50.076	-3,624.21	-982.78	804.89	738.03	66.86	12.039	
8,600.00	4,289.63	8,088.53	3,772.88	39.10	37.79	50.063	-3,674.20	-983.22	805.06	737.54	67.52	11.924	
8,650.00	4,289.14	8,138.53	3,772.14	39.50	38.19	50.050	-3,724.19	-983.65	805.22	737.04	68.18	11.811	
8,700.00	4,288.65	8,188.53	3,771.41	39.89	38.59	50.037	-3,774.18	-984.08	805.39	736.55	68.84	11.700	
8,750.00	4,288.16	8,238.52	3,770.67	40.29	38.99	50.024	-3,824.18	-984.52	805.55	736.05	69.50	11.591	
8,800.00	4,287.67	8,288.52	3,769.94	40.69	39.40	50.011	-3,874.17	-984.95	805.72	735.55	70.16	11.484	
8,850.00	4,287.18	8,338.52	3,769.20	41.09	39.80	49.998	-3,924.16	-985.38	805.88	735.06	70.83	11.378	
8,900.00	4,286.69	8,388.52	3,768.47	41.49	40.20	49.985	-3,974.15	-985.82	806.05	734.56	71.49	11.275	
8,950.00	4,286.20	8,438.52	3,767.73	41.89	40.61	49.972	-4,024.15	-986.25	806.21	734.06	72.16	11.173	
9,000.00	4,285.71	8,488.52	3,767.00	42.29	41.01	49.959	-4,074.14	-986.68	806.38	733.56	72.82	11.073	
9,050.00	4,285.22	8,538.52	3,766.26	42.69	41.42	49.946	-4,124.13	-987.12	806.55	733.06	73.49	10.975	
9,100.00	4,284.73	8,588.52	3,765.52	43.10	41.82	49.933	-4,174.12	-987.55	806.71	732.55	74.16	10.878	
9,150.00	4,284.24	8,638.52	3,764.79	43.50	42.23	49.920	-4,224.11	-987.98	806.88	732.05	74.83	10.783	
9,200.00	4,283.76	8,688.52	3,764.05	43.90	42.63	49.907	-4,274.11	-988.42	807.04	731.55	75.50	10.690	
9,250.00	4,283.27	8,738.52	3,763.32	44.31	43.04	49.894	-4,324.10	-988.85	807.21	731.04	76.17	10.598	
9,300.00	4,282.78	8,788.52	3,762.58	44.71	43.45	49.882	-4,374.09	-989.29	807.38	730.54	76.84	10.508	
9,350.00	4,282.29	8,838.52	3,761.85	45.12	43.86	49.869	-4,424.08	-989.72	807.54	730.03	77.51	10.419	
9,400.00	4,281.80	8,888.52	3,761.11	45.52	44.27	49.856	-4,474.07	-990.15	807.71	729.53	78.18	10.331	
9,450.00	4,281.31	8,938.52	3,760.38	45.93	44.68	49.843	-4,524.07	-990.59	807.87	729.02	78.85	10.245	
9,500.00	4,280.82	8,988.52	3,759.64	46.33	45.08	49.830	-4,574.06	-991.02	808.04	728.51	79.53	10.161	
9,550.00	4,280.33	9,038.51	3,758.90	46.74	45.49	49.817	-4,624.05	-991.45	808.21	728.01	80.20	10.077	
9,600.00	4,279.84	9,088.51	3,758.17	47.15	45.90	49.804	-4,674.04	-991.89	808.37	727.50	80.88	9.995	
9,650.00	4,279.35	9,138.51	3,757.43	47.56	46.32	49.791	-4,724.03	-992.32	808.54	726.99	81.55	9.915	
9,700.00	4,278.86	9,188.51	3,756.70	47.97	46.73	49.778	-4,774.03	-992.75	808.71	726.48	82.23	9.835	
9,750.00	4,278.37	9,238.51	3,755.96	48.38	47.14	49.766	-4,824.02	-993.19	808.87	725.97	82.90	9.757	
9,800.00	4,277.88	9,288.51	3,755.23	48.78	47.55	49.753	-4,874.01	-993.62	809.04	725.46	83.58	9.680	
9,850.00	4,277.39	9,338.51	3,754.49	49.19	47.96	49.740	-4,924.00	-994.05	809.20	724.95	84.26	9.604	
9,900.00	4,276.90	9,388.51	3,753.76	49.60	48.37	49.727	-4,974.00	-994.49	809.37	724.44	84.93	9.530	
9,950.00	4,276.42	9,438.51	3,753.02	50.01	48.79	49.714	-5,023.99	-994.92	809.54	723.93	85.61	9.456	
10,000.00	4,275.93	9,488.51	3,752.29	50.43	49.20	49.701	-5,073.98	-995.35	809.70	723.41	86.29	9.384	
10,050.00	4,275.44	9,538.51	3,751.55	50.84	49.61	49.688	-5,123.97	-995.79	809.87	722.90	86.97	9.312	
10,094.57	4,275.00	9,583.08	3,750.89	51.20	49.98	49.677	-5,168.54	-996.17	810.02	722.45	87.57	9.250	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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 SIERRA NEVADA 23 STATE COM - 61H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF												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	0.00	0.00	0.00	0.00	90.573	-0.20	20.00	20.00				
50.00	50.00	50.00	50.00	0.05	0.07	90.573	-0.20	20.00	20.00	19.88	0.13	159.415	
100.00	100.00	100.00	100.00	0.14	0.14	90.573	-0.20	20.00	20.00	19.71	0.29	69.744	
150.00	150.00	150.00	150.00	0.32	0.32	90.573	-0.20	20.00	20.00	19.36	0.65	30.997	
200.00	200.00	200.00	200.00	0.50	0.50	90.573	-0.20	20.00	20.00	19.00	1.00	19.927	
250.00	250.00	250.00	250.00	0.68	0.68	90.573	-0.20	20.00	20.00	18.64	1.36	14.683	
300.00	300.00	300.00	300.00	0.86	0.86	90.573	-0.20	20.00	20.00	18.28	1.72	11.624	CC, ES
350.00	350.00	349.77	349.77	1.04	1.04	107.364	0.13	20.28	20.41	18.33	2.08	9.823	
400.00	399.98	399.53	399.51	1.22	1.22	107.988	1.12	21.12	21.63	19.20	2.43	8.884	
450.00	449.93	449.24	449.17	1.40	1.40	108.881	2.76	22.52	23.67	20.88	2.79	8.475	
500.00	499.84	498.89	498.73	1.58	1.58	109.894	5.06	24.47	26.54	23.38	3.15	8.422	
550.00	549.68	548.46	548.15	1.76	1.76	110.907	8.00	26.98	30.22	26.71	3.51	8.606	
600.00	599.45	597.93	597.39	1.95	1.94	111.841	11.59	30.03	34.74	30.86	3.87	8.969	
650.00	649.13	647.28	646.43	2.13	2.13	112.661	15.81	33.62	40.07	35.83	4.24	9.451	
700.00	698.70	696.48	695.22	2.31	2.33	113.357	20.66	37.75	46.23	41.62	4.61	10.035	
750.00	748.15	745.53	743.74	2.49	2.53	113.933	26.13	42.40	53.20	48.22	4.98	10.678	
800.00	797.47	794.40	791.95	2.67	2.73	114.404	32.21	47.58	60.98	55.63	5.36	11.382	
850.00	846.63	843.08	839.83	2.85	2.95	114.782	38.89	53.26	69.57	63.82	5.74	12.112	
900.00	895.62	891.54	887.34	3.03	3.17	115.081	46.15	59.43	78.95	72.82	6.13	12.879	
950.00	944.44	939.77	934.46	3.21	3.40	115.313	53.98	66.10	89.12	82.60	6.53	13.652	
1,000.00	993.06	987.75	981.17	3.40	3.63	115.488	62.38	73.24	100.08	93.15	6.93	14.446	
1,050.00	1,041.46	1,035.48	1,027.42	3.58	3.88	115.614	71.31	80.84	111.81	104.47	7.34	15.233	
1,100.00	1,089.64	1,082.92	1,073.21	3.77	4.14	115.699	80.78	88.89	124.31	116.56	7.75	16.031	
1,150.00	1,137.58	1,130.08	1,118.51	3.96	4.40	115.748	90.75	97.38	137.57	129.39	8.18	16.816	
1,200.00	1,185.27	1,176.93	1,163.30	4.15	4.67	115.765	101.23	106.30	151.59	142.97	8.61	17.603	
1,250.00	1,232.68	1,223.46	1,207.55	4.34	4.96	115.754	112.18	115.61	166.34	157.29	9.05	18.374	
1,300.00	1,279.82	1,269.66	1,251.25	4.53	5.25	115.718	123.60	125.33	181.83	172.32	9.50	19.138	
1,350.00	1,326.65	1,315.52	1,294.39	4.73	5.55	115.660	135.46	135.42	198.03	188.08	9.96	19.890	
1,400.00	1,373.21	1,361.05	1,336.95	4.93	5.86	115.719	147.75	145.88	214.91	204.49	10.42	20.618	
1,450.00	1,419.73	1,406.32	1,379.03	5.13	6.18	115.762	160.49	156.71	232.18	221.29	10.89	21.324	
1,500.00	1,466.25	1,451.35	1,420.60	5.33	6.51	115.645	173.66	167.92	249.79	238.43	11.36	21.981	
1,550.00	1,512.78	1,496.11	1,461.66	5.53	6.85	115.402	187.23	179.47	267.75	255.91	11.84	22.620	
1,600.00	1,559.30	1,540.57	1,502.16	5.74	7.19	115.057	201.21	191.36	286.06	273.74	12.32	23.227	
1,650.00	1,605.82	1,586.56	1,543.85	5.94	7.56	114.658	215.99	203.93	304.61	291.79	12.82	23.758	
1,700.00	1,652.34	1,632.95	1,585.90	6.14	7.94	114.298	230.91	216.63	323.17	309.84	13.34	24.232	
1,750.00	1,698.87	1,679.33	1,627.95	6.35	8.32	113.978	245.83	229.32	341.75	327.89	13.85	24.667	
1,800.00	1,745.39	1,725.72	1,670.00	6.55	8.70	113.691	260.75	242.02	360.33	345.96	14.38	25.066	
1,850.00	1,791.91	1,772.11	1,712.05	6.76	9.09	113.431	275.67	254.71	378.93	364.03	14.90	25.433	
1,900.00	1,838.43	1,818.50	1,754.09	6.97	9.47	113.197	290.60	267.41	397.52	382.10	15.42	25.773	
1,950.00	1,884.96	1,864.89	1,796.14	7.17	9.86	112.983	305.52	280.10	416.13	400.17	15.95	26.086	
2,000.00	1,931.48	1,911.28	1,838.19	7.38	10.25	112.787	320.44	292.80	434.73	418.25	16.48	26.379	
2,050.00	1,978.00	1,957.67	1,880.24	7.59	10.64	112.607	335.36	305.49	453.35	436.33	17.01	26.649	
2,100.00	2,024.52	2,004.06	1,922.29	7.80	11.03	112.442	350.28	318.19	471.96	454.42	17.54	26.902	
2,150.00	2,071.05	2,050.45	1,964.34	8.01	11.43	112.289	365.20	330.88	490.58	472.50	18.08	27.137	
2,200.00	2,117.57	2,103.16	2,006.39	8.22	11.87	112.147	380.12	343.58	509.20	490.54	18.66	27.288	
2,250.00	2,164.09	2,143.22	2,048.44	8.42	12.21	112.015	395.05	356.27	527.82	508.67	19.15	27.565	
2,300.00	2,210.61	2,189.61	2,090.49	8.63	12.61	111.893	409.97	368.97	546.45	526.76	19.68	27.760	
2,350.00	2,257.14	2,236.00	2,132.54	8.84	13.01	111.778	424.89	381.66	565.08	544.85	20.22	27.943	
2,400.00	2,303.66	2,282.39	2,174.59	9.05	13.40	111.671	439.81	394.36	583.71	562.94	20.76	28.115	
2,450.00	2,350.18	2,328.78	2,216.64	9.26	13.80	111.570	454.73	407.05	602.34	581.04	21.30	28.278	
2,500.00	2,396.70	2,375.17	2,258.68	9.47	14.20	111.475	469.65	419.75	620.97	599.13	21.84	28.432	
2,550.00	2,443.23	2,421.56	2,300.73	9.68	14.60	111.386	484.57	432.44	639.60	617.22	22.38	28.578	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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 SIERRA NEVADA 23 STATE COM - 61H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF												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
2,600.00	2,489.75	2,467.95	2,342.78	9.89	15.00	111.302	499.49	445.14	658.24	635.32	22.92	28.716	
2,650.00	2,536.27	2,514.34	2,384.83	10.10	15.40	111.223	514.42	457.83	676.87	653.41	23.46	28.847	
2,700.00	2,582.79	2,560.73	2,426.88	10.32	15.80	111.147	529.34	470.53	695.51	671.51	24.01	28.971	
2,750.00	2,629.32	2,607.12	2,468.93	10.53	16.20	111.076	544.26	483.22	714.15	689.60	24.55	29.090	
2,800.00	2,675.84	2,653.50	2,510.98	10.74	16.60	111.008	559.18	495.92	732.79	707.70	25.09	29.202	
2,850.00	2,722.36	2,700.11	2,553.03	10.95	17.00	110.944	574.10	508.61	751.43	725.79	25.64	29.308	
2,900.00	2,768.88	2,746.28	2,595.08	11.16	17.40	110.883	589.02	521.31	770.07	743.89	26.18	29.413	
2,950.00	2,815.41	2,807.33	2,637.13	11.37	17.93	110.824	603.94	534.01	788.71	761.87	26.84	29.387	
3,000.00	2,861.93	2,839.06	2,679.18	11.58	18.21	110.769	618.87	546.70	807.36	780.08	27.27	29.605	
3,050.00	2,908.45	2,885.45	2,721.23	11.79	18.61	110.716	633.79	559.40	826.00	798.18	27.82	29.694	
3,100.00	2,954.97	2,931.84	2,763.27	12.01	19.01	110.665	648.71	572.09	844.64	816.28	28.36	29.780	
3,150.00	3,001.53	2,978.23	2,805.33	12.22	19.41	111.543	663.63	584.79	863.28	834.37	28.91	29.864	
3,200.00	3,048.74	3,024.62	2,847.38	12.42	19.82	115.015	678.55	597.48	881.72	852.28	29.43	29.956	
3,250.00	3,096.71	3,070.91	2,889.33	12.62	20.22	119.262	693.44	610.15	899.88	869.94	29.94	30.059	
3,300.00	3,145.31	3,116.96	2,931.08	12.81	20.62	124.929	708.25	622.75	917.76	887.34	30.41	30.177	
3,350.00	3,194.40	3,162.66	2,972.50	13.00	21.02	133.274	722.95	635.26	935.36	904.50	30.86	30.310	
3,400.00	3,243.86	3,207.88	3,013.49	13.17	21.41	146.815	737.50	647.63	952.72	921.44	31.28	30.462	
3,450.00	3,293.54	3,252.49	3,053.93	13.34	21.80	169.519	751.85	659.84	969.87	938.22	31.66	30.637	
3,500.00	3,343.31	3,303.63	3,093.70	13.49	22.24	-159.695	765.96	671.85	986.89	954.83	32.06	30.786	
3,550.00	3,393.03	3,339.40	3,132.71	13.63	22.55	-133.870	779.80	683.63	1,003.81	971.50	32.31	31.068	
3,600.00	3,442.57	3,381.47	3,170.84	13.77	22.92	-118.254	793.33	695.14	1,020.74	988.16	32.58	31.329	
3,650.00	3,491.79	3,422.45	3,207.99	13.89	23.28	-109.179	806.52	706.35	1,037.73	1,004.92	32.81	31.626	
3,700.00	3,540.56	3,462.24	3,244.05	14.01	23.62	-103.579	819.31	717.24	1,054.88	1,021.87	33.01	31.960	
3,750.00	3,588.74	3,501.28	3,279.44	14.12	23.96	-99.906	831.87	727.93	1,072.27	1,039.11	33.17	32.331	
3,800.00	3,636.20	3,552.30	3,326.34	14.23	24.38	-97.734	846.40	741.77	1,089.73	1,056.30	33.43	32.598	
3,850.00	3,682.81	3,607.40	3,378.12	14.33	24.78	-96.315	858.19	756.40	1,106.96	1,073.28	33.68	32.863	
3,900.00	3,728.44	3,667.20	3,435.30	14.42	25.15	-95.415	866.32	771.82	1,123.81	1,089.88	33.93	33.124	
3,950.00	3,772.97	3,732.38	3,498.35	14.51	25.47	-94.883	869.58	787.96	1,140.07	1,105.92	34.15	33.385	
4,000.00	3,816.27	3,803.62	3,567.51	14.59	25.74	-94.614	866.43	804.65	1,155.52	1,121.18	34.34	33.645	
4,050.00	3,858.24	3,881.53	3,642.65	14.67	25.90	-94.519	855.01	821.57	1,169.91	1,135.43	34.48	33.929	
4,100.00	3,898.74	3,966.48	3,723.00	14.75	25.97	-94.514	833.21	838.21	1,182.95	1,148.38	34.57	34.223	
4,150.00	3,937.67	4,058.46	3,806.86	14.82	25.92	-94.513	798.97	853.84	1,194.33	1,159.75	34.58	34.537	
4,200.00	3,974.93	4,156.87	3,891.44	14.89	25.74	-94.427	750.72	867.53	1,203.75	1,169.23	34.52	34.868	
4,250.00	4,010.41	4,250.00	3,958.67	14.96	25.46	-94.086	700.05	876.54	1,210.95	1,176.58	34.37	35.237	
4,300.00	4,044.02	4,366.86	4,047.10	15.02	24.99	-93.700	612.02	885.16	1,215.74	1,181.49	34.25	35.499	
4,350.00	4,075.66	4,473.76	4,109.99	15.09	24.48	-92.975	525.73	887.70	1,218.03	1,183.93	34.11	35.714	
4,400.00	4,105.24	4,537.15	4,142.07	15.16	24.16	-92.369	471.06	887.39	1,218.51	1,184.49	34.02	35.812	
4,450.00	4,132.69	4,587.06	4,167.02	15.24	23.91	-91.997	427.84	887.04	1,218.74	1,184.80	33.95	35.902	
4,500.00	4,158.10	4,637.05	4,192.02	15.31	23.68	-91.852	384.55	886.69	1,218.80	1,184.88	33.91	35.941	
4,550.00	4,183.10	4,687.05	4,217.02	15.41	23.47	-91.852	341.25	886.33	1,218.81	1,184.90	33.91	35.944	
4,600.00	4,208.10	4,739.74	4,242.12	15.50	23.25	-91.786	294.94	885.96	1,218.79	1,184.84	33.95	35.898	
4,650.00	4,233.10	4,792.65	4,263.07	15.61	23.03	-91.497	246.38	885.56	1,218.64	1,184.57	34.06	35.775	
4,700.00	4,257.80	4,844.08	4,279.06	15.73	22.81	-91.023	197.51	885.17	1,218.43	1,184.21	34.22	35.604	
4,750.00	4,279.35	4,894.36	4,290.39	15.85	22.61	-90.524	148.55	884.77	1,218.30	1,183.88	34.41	35.402	
4,792.86	4,294.63	4,936.69	4,296.57	15.95	22.45	-90.096	106.68	884.43	1,218.26	1,183.66	34.60	35.210	
4,800.00	4,296.88	4,943.68	4,297.29	15.97	22.43	-90.025	99.73	884.37	1,218.26	1,183.63	34.63	35.178	
4,850.00	4,310.27	4,992.10	4,299.96	16.09	22.26	-89.531	51.40	883.98	1,218.32	1,183.45	34.88	34.932	
4,900.00	4,319.40	5,041.01	4,299.81	16.21	22.10	-89.091	2.49	883.59	1,218.46	1,183.28	35.17	34.641	
4,950.00	4,324.22	5,109.26	4,299.57	16.32	21.96	-88.844	-47.23	883.18	1,218.57	1,183.02	35.55	34.276	
5,000.00	4,324.86	5,140.72	4,299.33	16.44	21.92	-88.799	-97.21	882.78	1,218.60	1,182.77	35.83	34.011	
5,050.00	4,324.37	5,209.28	4,299.08	16.57	21.95	-88.811	-147.21	882.37	1,218.62	1,182.28	36.33	33.540	
5,100.00	4,323.88	5,240.72	4,298.84	16.70	21.99	-88.822	-197.21	881.97	1,218.63	1,181.95	36.68	33.225	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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 SIERRA NEVADA 23 STATE COM - 61H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF												Offset Well Error:	0.00 usft
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	4,323.39	5,309.28	4,298.59	16.85	22.29	-88.834	-247.21	881.56	1,218.64	1,181.33	37.31	32.661	
5,200.00	4,322.91	5,340.72	4,298.35	17.00	22.48	-88.845	-297.20	881.16	1,218.66	1,180.93	37.72	32.304	
5,250.00	4,322.42	5,409.28	4,298.11	17.17	23.03	-88.857	-347.20	880.75	1,218.67	1,180.19	38.48	31.671	
5,300.00	4,321.93	5,440.72	4,297.86	17.34	23.31	-88.868	-397.20	880.34	1,218.68	1,179.73	38.95	31.286	
5,350.00	4,321.44	5,509.29	4,297.62	17.53	24.01	-88.880	-447.19	879.94	1,218.70	1,178.88	39.82	30.608	
5,400.00	4,320.95	5,540.71	4,297.38	17.72	24.35	-88.892	-497.19	879.53	1,218.71	1,178.36	40.34	30.208	
5,450.00	4,320.46	5,609.29	4,297.13	17.92	25.13	-88.903	-547.19	879.13	1,218.72	1,177.42	41.30	29.507	
5,500.00	4,319.97	5,640.71	4,296.89	18.13	25.51	-88.915	-597.19	878.72	1,218.74	1,176.86	41.88	29.100	
5,550.00	4,319.48	5,709.29	4,296.64	18.35	26.35	-88.926	-647.18	878.32	1,218.75	1,175.83	42.92	28.393	
5,600.00	4,318.99	5,740.71	4,296.40	18.57	26.76	-88.938	-697.18	877.91	1,218.76	1,175.22	43.54	27.989	
5,650.00	4,318.50	5,809.29	4,296.16	18.81	27.65	-88.949	-747.18	877.51	1,218.78	1,174.12	44.66	27.289	
5,700.00	4,318.01	5,840.71	4,295.91	19.04	28.08	-88.961	-797.17	877.10	1,218.79	1,173.47	45.32	26.893	
5,750.00	4,317.52	5,909.29	4,295.67	19.29	29.01	-88.972	-847.17	876.69	1,218.81	1,172.30	46.50	26.210	
5,800.00	4,317.03	5,940.71	4,295.43	19.54	29.45	-88.984	-897.17	876.29	1,218.82	1,171.62	47.19	25.825	
5,850.00	4,316.54	6,009.29	4,295.18	19.81	30.43	-88.996	-947.17	875.88	1,218.83	1,170.40	48.43	25.166	
5,900.00	4,316.05	6,040.71	4,294.94	20.07	30.88	-89.007	-997.16	875.48	1,218.85	1,169.69	49.15	24.796	
5,950.00	4,315.56	6,109.29	4,294.69	20.34	31.89	-89.019	-1,047.16	875.07	1,218.86	1,168.42	50.44	24.164	
6,000.00	4,315.08	6,140.71	4,294.45	20.62	32.36	-89.030	-1,097.16	874.67	1,218.87	1,167.68	51.19	23.811	
6,050.00	4,314.59	6,209.29	4,294.21	20.90	33.39	-89.042	-1,147.15	874.26	1,218.89	1,166.37	52.52	23.208	
6,100.00	4,314.10	6,240.71	4,293.96	21.18	33.87	-89.053	-1,197.15	873.86	1,218.90	1,165.61	53.29	22.872	
6,150.00	4,313.61	6,309.30	4,293.72	21.48	34.93	-89.065	-1,247.15	873.45	1,218.92	1,164.26	54.66	22.301	
6,200.00	4,313.12	6,340.70	4,293.48	21.77	35.42	-89.076	-1,297.15	873.04	1,218.93	1,163.48	55.45	21.981	
6,250.00	4,312.63	6,409.30	4,293.23	22.07	36.50	-89.088	-1,347.14	872.64	1,218.95	1,162.09	56.85	21.440	
6,300.00	4,312.14	6,440.70	4,292.99	22.38	37.00	-89.100	-1,397.14	872.23	1,218.96	1,161.30	57.67	21.139	
6,350.00	4,311.65	6,509.30	4,292.74	22.69	38.09	-89.111	-1,447.14	871.83	1,218.97	1,159.88	59.09	20.628	
6,400.00	4,311.16	6,540.70	4,292.50	23.00	38.60	-89.123	-1,497.13	871.42	1,218.99	1,159.07	59.92	20.342	
6,450.00	4,310.67	6,609.30	4,292.26	23.32	39.71	-89.134	-1,547.13	871.02	1,219.00	1,157.62	61.38	19.860	
6,500.00	4,310.18	6,640.70	4,292.01	23.64	40.23	-89.146	-1,597.13	870.61	1,219.02	1,156.79	62.22	19.591	
6,550.00	4,309.69	6,709.30	4,291.77	23.96	41.36	-89.157	-1,647.13	870.21	1,219.03	1,155.33	63.70	19.137	
6,600.00	4,309.20	6,740.70	4,291.53	24.29	41.88	-89.169	-1,697.12	869.80	1,219.05	1,154.49	64.56	18.882	
6,650.00	4,308.71	6,809.30	4,291.28	24.62	43.02	-89.181	-1,747.12	869.39	1,219.06	1,153.00	66.06	18.454	
6,700.00	4,308.22	6,840.70	4,291.04	24.95	43.55	-89.192	-1,797.12	868.99	1,219.08	1,152.15	66.93	18.215	
6,750.00	4,307.73	6,909.30	4,290.80	25.29	44.71	-89.204	-1,847.11	868.58	1,219.09	1,150.65	68.45	17.811	
6,800.00	4,307.25	6,940.70	4,290.55	25.63	45.24	-89.215	-1,897.11	868.18	1,219.11	1,149.78	69.33	17.585	
6,850.00	4,306.76	7,009.30	4,290.31	25.97	46.40	-89.227	-1,947.11	867.77	1,219.12	1,148.26	70.86	17.204	
6,900.00	4,306.27	7,040.70	4,290.06	26.32	46.94	-89.238	-1,997.11	867.37	1,219.14	1,147.38	71.75	16.991	
6,950.00	4,305.78	7,109.31	4,289.82	26.67	48.12	-89.250	-2,047.10	866.96	1,219.15	1,145.85	73.30	16.632	
7,000.00	4,305.29	7,140.69	4,289.58	27.01	48.66	-89.261	-2,097.10	866.56	1,219.17	1,144.97	74.20	16.430	
7,050.00	4,304.80	7,209.31	4,289.33	27.37	49.85	-89.273	-2,147.10	866.15	1,219.18	1,143.42	75.76	16.092	
7,100.00	4,304.31	7,240.69	4,289.09	27.72	50.39	-89.285	-2,197.09	865.74	1,219.20	1,142.52	76.67	15.901	
7,150.00	4,303.82	7,290.69	4,288.85	28.08	51.26	-89.296	-2,247.09	865.34	1,219.21	1,141.30	77.92	15.648	
7,200.00	4,303.33	7,340.69	4,288.60	28.44	52.13	-89.308	-2,297.09	864.93	1,219.23	1,140.06	79.16	15.401	
7,250.00	4,302.84	7,409.31	4,288.36	28.80	53.33	-89.319	-2,347.09	864.53	1,219.24	1,138.49	80.75	15.099	
7,300.00	4,302.35	7,440.69	4,288.11	29.16	53.89	-89.331	-2,397.08	864.12	1,219.26	1,137.59	81.67	14.929	
7,350.00	4,301.86	7,509.31	4,287.87	29.53	55.09	-89.342	-2,447.08	863.72	1,219.27	1,136.01	83.27	14.643	
7,400.00	4,301.37	7,540.69	4,287.63	29.89	55.65	-89.354	-2,497.08	863.31	1,219.29	1,135.09	84.20	14.481	
7,450.00	4,300.88	7,609.31	4,287.38	30.26	56.86	-89.365	-2,547.07	862.91	1,219.30	1,133.50	85.80	14.211	
7,500.00	4,300.39	7,640.69	4,287.14	30.63	57.42	-89.377	-2,597.07	862.50	1,219.32	1,132.58	86.74	14.058	
7,550.00	4,299.90	7,709.31	4,286.90	31.00	58.64	-89.388	-2,647.07	862.09	1,219.34	1,130.99	88.35	13.801	
7,600.00	4,299.42	7,740.69	4,286.65	31.38	59.20	-89.400	-2,697.07	861.69	1,219.35	1,130.06	89.29	13.656	
7,650.00	4,298.93	7,809.31	4,286.41	31.75	60.43	-89.412	-2,747.06	861.28	1,219.37	1,128.46	90.91	13.413	
7,700.00	4,298.44	7,840.69	4,286.16	32.13	60.99	-89.423	-2,797.06	860.88	1,219.38	1,127.52	91.86	13.275	

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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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 SIERRA NEVADA 23 STATE COM - 61H - Wellbore #1 - PERMIT												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,750.00	4,297.95	7,909.31	4,285.92	32.51	62.22	-89.435	-2,847.06	860.47	1,219.40	1,125.91	93.49	13.044	
7,800.00	4,297.46	7,940.68	4,285.68	32.88	62.79	-89.446	-2,897.05	860.07	1,219.41	1,124.98	94.44	12.913	
7,850.00	4,296.97	8,009.32	4,285.43	33.26	64.02	-89.458	-2,947.05	859.66	1,219.43	1,123.36	96.07	12.693	
7,900.00	4,296.48	8,040.68	4,285.19	33.65	64.59	-89.469	-2,997.05	859.26	1,219.45	1,122.42	97.03	12.568	
7,950.00	4,295.99	8,109.32	4,284.95	34.03	65.83	-89.481	-3,047.05	858.85	1,219.46	1,120.80	98.67	12.360	
8,000.00	4,295.50	8,140.68	4,284.70	34.41	66.39	-89.492	-3,097.04	858.44	1,219.48	1,119.85	99.62	12.241	
8,050.00	4,295.01	8,209.32	4,284.46	34.80	67.64	-89.504	-3,147.04	858.04	1,219.49	1,118.22	101.27	12.042	
8,100.00	4,294.52	8,240.68	4,284.21	35.18	68.21	-89.516	-3,197.04	857.63	1,219.51	1,117.28	102.23	11.929	
8,150.00	4,294.03	8,290.68	4,283.97	35.57	69.12	-89.527	-3,247.03	857.23	1,219.53	1,115.99	103.54	11.778	
8,200.00	4,293.54	8,340.68	4,283.73	35.96	70.03	-89.539	-3,297.03	856.82	1,219.54	1,114.69	104.85	11.631	
8,250.00	4,293.05	8,409.32	4,283.48	36.35	71.28	-89.550	-3,347.03	856.42	1,219.56	1,113.05	106.51	11.451	
8,300.00	4,292.56	8,440.68	4,283.24	36.74	71.85	-89.562	-3,397.03	856.01	1,219.58	1,112.10	107.47	11.348	
8,350.00	4,292.07	8,509.32	4,283.00	37.13	73.10	-89.573	-3,447.02	855.61	1,219.59	1,110.46	109.14	11.175	
8,400.00	4,291.59	8,540.68	4,282.75	37.52	73.68	-89.585	-3,497.02	855.20	1,219.61	1,109.50	110.11	11.077	
8,450.00	4,291.10	8,609.32	4,282.51	37.92	74.93	-89.596	-3,547.02	854.79	1,219.62	1,107.85	111.77	10.912	
8,500.00	4,290.61	8,640.68	4,282.26	38.31	75.51	-89.608	-3,597.01	854.39	1,219.64	1,106.90	112.75	10.818	
8,550.00	4,290.12	8,709.32	4,282.02	38.70	76.77	-89.619	-3,647.01	853.98	1,219.66	1,105.24	114.41	10.660	
8,600.00	4,289.63	8,740.68	4,281.78	39.10	77.34	-89.631	-3,697.01	853.58	1,219.67	1,104.28	115.39	10.570	
8,650.00	4,289.14	8,809.32	4,281.53	39.50	78.60	-89.643	-3,747.01	853.17	1,219.69	1,102.63	117.06	10.419	
8,700.00	4,288.65	8,840.67	4,281.29	39.89	79.18	-89.654	-3,797.00	852.77	1,219.71	1,101.66	118.04	10.333	
8,750.00	4,288.16	8,909.33	4,281.05	40.29	80.45	-89.666	-3,847.00	852.36	1,219.72	1,100.01	119.72	10.188	
8,800.00	4,287.67	8,940.67	4,280.80	40.69	81.02	-89.677	-3,897.00	851.96	1,219.74	1,099.04	120.70	10.105	
8,850.00	4,287.18	9,009.33	4,280.56	41.09	82.29	-89.689	-3,946.99	851.55	1,219.76	1,097.38	122.38	9.967	
8,900.00	4,286.69	9,040.67	4,280.32	41.49	82.87	-89.700	-3,996.99	851.14	1,219.78	1,096.41	123.36	9.888	
8,950.00	4,286.20	9,109.33	4,280.07	41.89	84.14	-89.712	-4,046.99	850.74	1,219.79	1,094.75	125.05	9.755	
9,000.00	4,285.71	9,140.67	4,279.83	42.29	84.72	-89.723	-4,096.99	850.33	1,219.81	1,093.78	126.03	9.679	
9,050.00	4,285.22	9,209.33	4,279.58	42.69	85.99	-89.735	-4,146.98	849.93	1,219.83	1,092.11	127.72	9.551	
9,100.00	4,284.73	9,240.67	4,279.34	43.10	86.57	-89.746	-4,196.98	849.52	1,219.84	1,091.14	128.70	9.478	
9,150.00	4,284.24	9,309.33	4,279.10	43.50	87.84	-89.758	-4,246.98	849.12	1,219.86	1,089.47	130.39	9.355	
9,200.00	4,283.76	9,340.67	4,278.85	43.90	88.42	-89.770	-4,296.97	848.71	1,219.88	1,088.50	131.38	9.285	
9,250.00	4,283.27	9,409.33	4,278.61	44.31	89.70	-89.781	-4,346.97	848.31	1,219.90	1,086.83	133.07	9.167	
9,300.00	4,282.78	9,440.67	4,278.37	44.71	90.28	-89.793	-4,396.97	847.90	1,219.91	1,085.85	134.06	9.100	
9,350.00	4,282.29	9,509.33	4,278.12	45.12	91.55	-89.804	-4,446.97	847.49	1,219.93	1,084.18	135.75	8.986	
9,400.00	4,281.80	9,540.67	4,277.88	45.52	92.14	-89.816	-4,496.96	847.09	1,219.95	1,083.20	136.75	8.921	
9,450.00	4,281.31	9,609.34	4,277.63	45.93	93.41	-89.827	-4,546.96	846.68	1,219.97	1,081.53	138.44	8.812	
9,500.00	4,280.82	9,640.66	4,277.39	46.33	94.00	-89.839	-4,596.96	846.28	1,219.98	1,080.55	139.43	8.750	
9,550.00	4,280.33	9,709.34	4,277.15	46.74	95.28	-89.850	-4,646.95	845.87	1,220.00	1,078.87	141.13	8.645	
9,600.00	4,279.84	9,740.66	4,276.90	47.15	95.86	-89.862	-4,696.95	845.47	1,220.02	1,077.89	142.13	8.584	
9,650.00	4,279.35	9,809.34	4,276.66	47.56	97.14	-89.873	-4,746.95	845.06	1,220.04	1,076.21	143.82	8.483	
9,700.00	4,278.86	9,840.66	4,276.42	47.97	97.72	-89.885	-4,796.95	844.66	1,220.05	1,075.23	144.82	8.425	
9,750.00	4,278.37	9,909.34	4,276.17	48.38	99.01	-89.896	-4,846.94	844.25	1,220.07	1,073.55	146.52	8.327	
9,800.00	4,277.88	9,940.66	4,275.93	48.78	99.59	-89.908	-4,896.94	843.84	1,220.09	1,072.57	147.52	8.271	
9,850.00	4,277.39	9,990.66	4,275.68	49.19	100.53	-89.920	-4,946.94	843.44	1,220.11	1,071.24	148.87	8.196	
9,900.00	4,276.90	10,040.66	4,275.44	49.60	101.46	-89.931	-4,996.94	843.03	1,220.12	1,069.91	150.22	8.122	
9,950.00	4,276.42	10,090.66	4,275.20	50.01	102.39	-89.943	-5,046.93	842.63	1,220.14	1,068.57	151.57	8.050	
9,950.00	4,276.42	10,090.66	4,275.20	50.01	102.39	-89.943	-5,046.93	842.63	1,220.14	1,068.57	151.57	8.050	
10,000.00	4,275.93	10,131.03	4,275.00	50.43	103.15	-89.952	-5,087.30	842.30	1,220.20	1,067.37	152.82	7.984	
10,050.00	4,275.44	10,131.03	4,275.00	50.84	103.15	-89.952	-5,087.30	842.30	1,221.64	1,068.11	153.52	7.957	
10,094.57	4,275.00	10,131.03	4,275.00	51.20	103.15	-89.952	-5,087.30	842.30	1,224.64	1,070.70	153.94	7.955 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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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

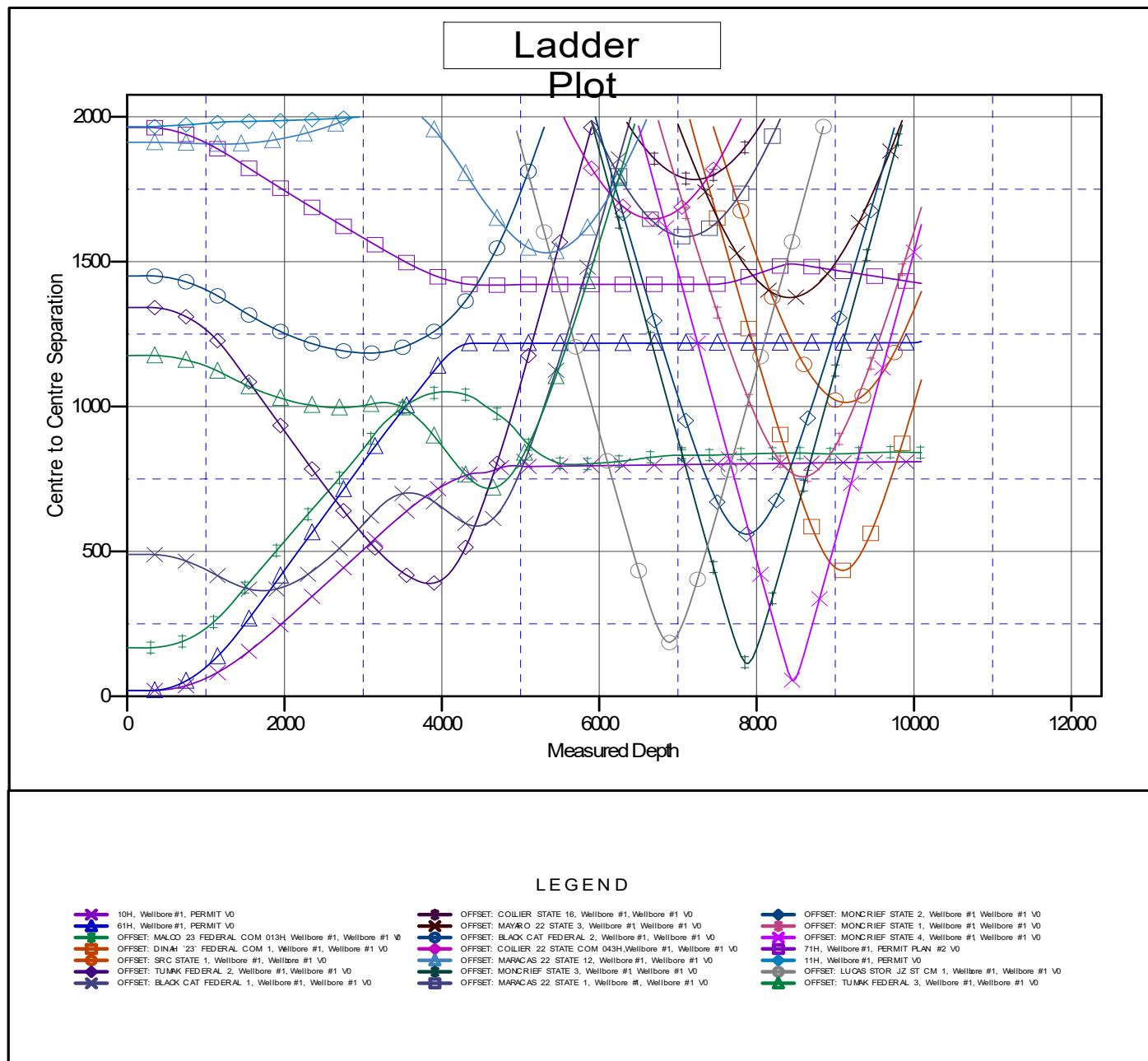
Reference Depths are relative to RKB =20' @ 3653.00usft (AKITA 57) Coordinates are relative to: 60H

Offset Depths are relative to Offset Datum

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

Central Meridian is -104.3333333

Grid Convergence at Surface is: 0.099°



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 60H
Project:	Eddy County, NM (NAD 83 - NME)	TVD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Reference Site:	SIERRA NEVADA 23 STATE COM	MD Reference:	RKB =20' @ 3653.00usft (AKITA 57)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	60H	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: 60H

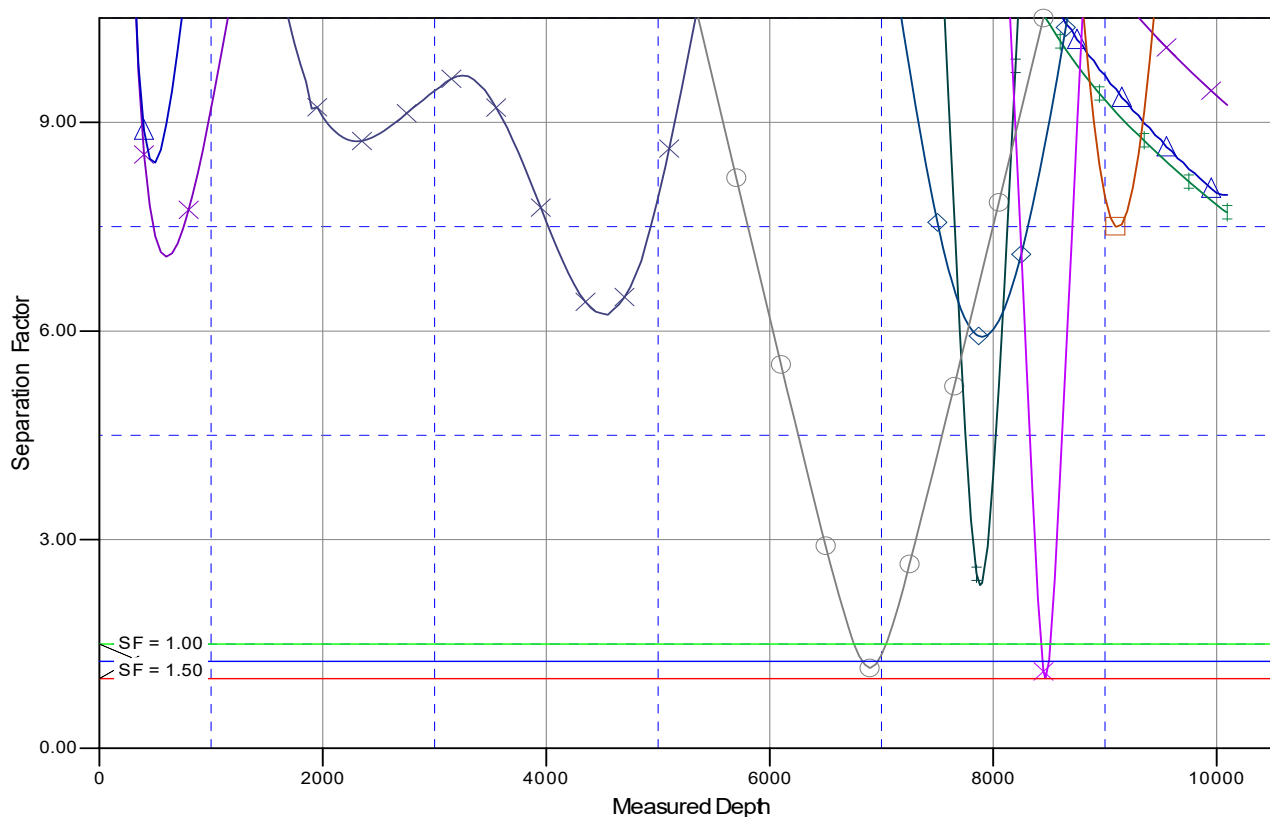
Offset Depths are relative to Offset Datum

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

Central Meridian is -104.3333333

Grid Convergence at Surface is: 0.099°

Separation Factor Plot



LEGEND

10H, Wellbore #1, PERMIT V0	OFFSET: COILIER STATE 16, Wellbore #1, Wellbore #1 V0	OFFSET: MONCRIEF STATE 2, Wellbore #1, Wellbore #1 V0
61H, Wellbore #1, PERMIT V0	OFFSET: MAYRO 22 STATE 3, Wellbore #1, Wellbore #1 V0	OFFSET: MONCRIEF STATE 1, Wellbore #1, Wellbore #1 V0
OFFSET: MALCO 23 FEDERAL COM 013H, Wellbore #1, Wellbore #1 V0	OFFSET: BLACK CAT FEDERAL 2, Wellbore #1, Wellbore #1 V0	OFFSET: MONCRIEF STATE 4, Wellbore #1, Wellbore #1 V0
OFFSET: DINAH 23 FEDERAL COM 1, Wellbore #1, Wellbore #1 V0	OFFSET: COILIER 22 STATE COM 043H, Wellbore #1, Wellbore #1 V0	71H, Wellbore #1, PERMIT PLAN #2 V0
OFFSET: SRC STATE 1, Wellbore #1, Wellbore #1 V0	OFFSET: MARCAS 22 STATE 12, Wellbore #1, Wellbore #1 V0	11H, Wellbore #1, PERMIT V0
OFFSET: TUMAK FEDERAL 2, Wellbore #1, Wellbore #1 V0	OFFSET: MONCRIEF STATE 3, Wellbore #1, Wellbore #1 V0	OFFSET: LUCKS STOR JJ ST CM 1, Wellbore #1, Wellbore #1 V0
OFFSET: BLACK CAT FEDERAL 1, Wellbore #1, Wellbore #1 V0	OFFSET: MARCAS 22 STATE 1, Wellbore #1, Wellbore #1 V0	OFFSET: TUMAK FEDERAL 3, Wellbore #1, Wellbore #1 V0

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

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:	



Natural Gas Management Plan – Attachment

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

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

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



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

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

Spur Energy Partners LLC – Sierra Nevada 23 State Com 60H

1. Geologic Formations

TVD of Target	4,275'
MD at TD	10,095'

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	10095	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 State Com 60H

	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	10095	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)	1249	13.2	1.81	9.81	N/A	Clas C Premium Plus Cement

Spur Energy Partners LLC – Sierra Nevada 23 State Com 60H

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	1979 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 State Com 60H

	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	10095	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 State Com 60H

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: 925.8 bbls.

Spur Energy Partners LLC – Sierra Nevada 23 State Com 60H

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

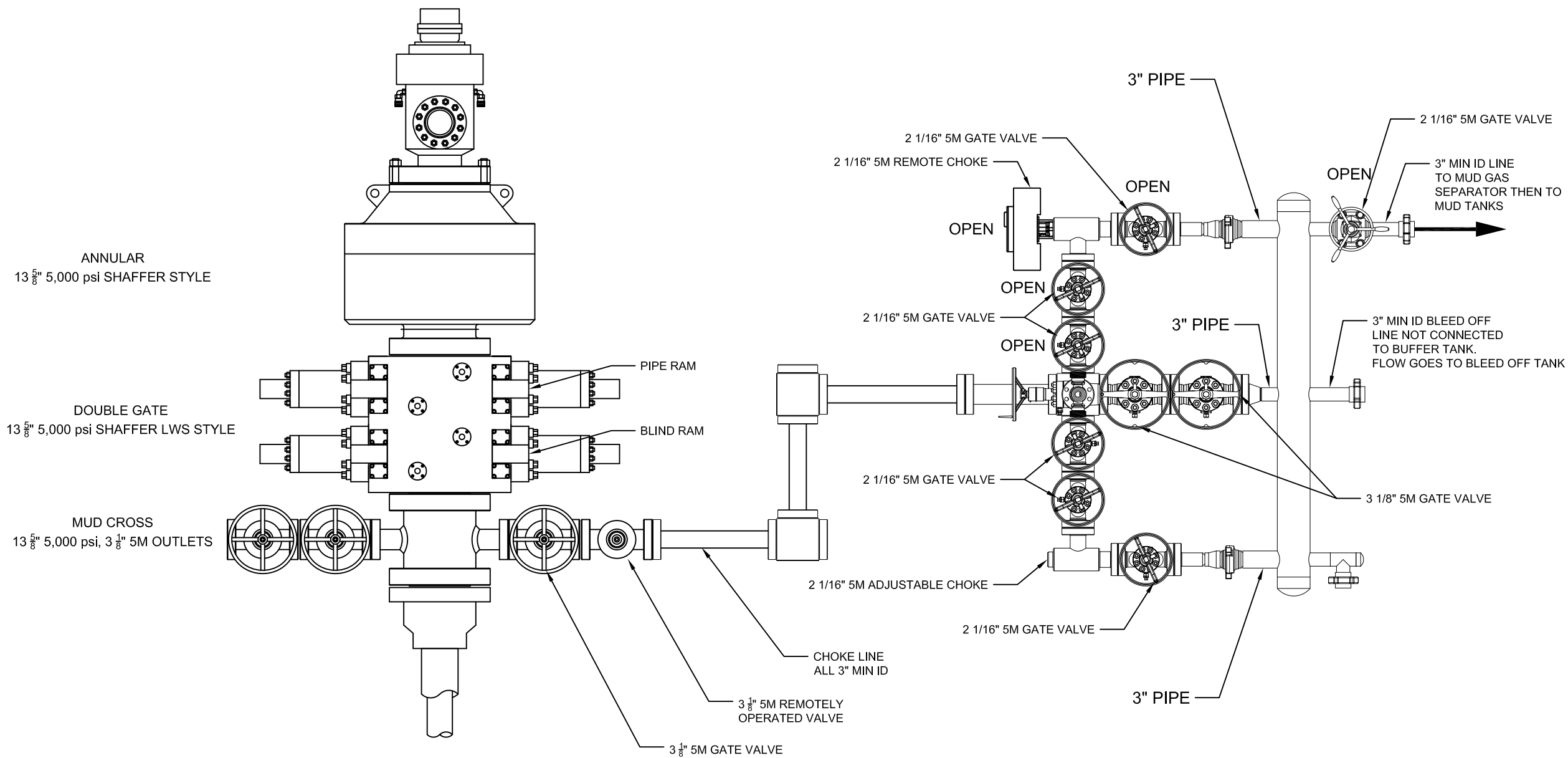
Attachments

- ☒ 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

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



Notes
-
-
-

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

The information contained in this drawing is the sole property of AKITA Drilling Ltd. Any reproduction in whole or part without the express written consent of AKITA Drilling Ltd. is prohibited.

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

**BLACK GOLD®**

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 "J. 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**

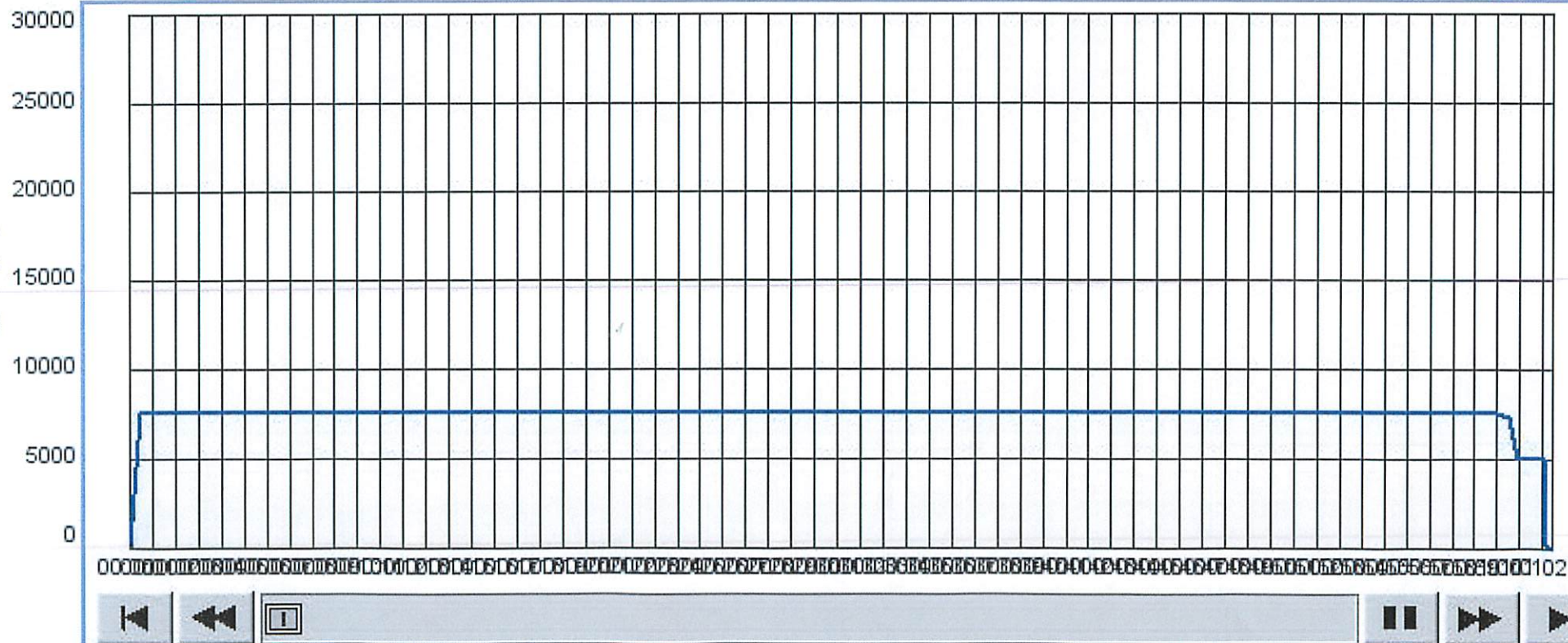
Description = **3.5 5K 3 1/8 FLG 5K**

Technician= **CHRIS OLIVO**

12/19/2017 16:53:26

17:55:52

P
S
I
G





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	
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					

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

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



U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

SUPO Data Report

08/15/2023

APD ID: 10400087620

Submission Date: 08/25/2022

Operator Name: SPUR ENERGY PARTNERS LLC

Well Name: SIERRA NEVADA 23 STATE COM

Well Number: 60H

Well Type: OIL WELL

Well Work Type: Drill

Highlighted data
reflects the most
recent changes

[Show Final Text](#)

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

SierraNevada23StateCom60H_ExistRoads_20220823115651.pdf

Existing Road Purpose: ACCESS

Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Operator Name: SPUR ENERGY PARTNERS LLC**Well Name:** SIERRA NEVADA 23 STATE COM**Well Number:** 60H

SierraNevada23StateCom60H_ExistWells_20220823115714.pdf

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: a. In the event the well is found to be productive, Sierra Nevada 23 Tank Battery would be utilized and the necessary production equipment will be installed at the well site. See proposed facilities layout diagram. b. Each well will have two (2) 4 surface flowlines operating around 90 psi from the well sites to the tank battery. The flowlines for the Sierra Nevada 23 wells will be routed to the Sierra Nevada 23 tank battery (on lease). The wells will produce into this battery at any given time. c. Gas line will follow a route approved by the BLM. Survey a strip of land 30 feet wide, being 200.10 feet in length, lying in Section 23, Township 17 South, Range 28 East, N.M.P.M., Eddy County, New Mexico being 15 feet left and 15 feet right of the centerline survey. d. Electric line will follow a route approved by the BLM. Survey a strip of land 30 feet wide, being 84.84 feet in length, lying in Section 14, Township 17 South, Range 28 East, N.M.P.M., Eddy County, New Mexico, being 15 feet left and 15 feet right of the centerline survey. Survey a strip of land 30 feet wide, being 210.06 feet in length, lying in Section 23, Township 17 South, Range 28 East, N.M.P.M., Eddy County, New Mexico, being 15 feet left and 15 feet right of the centerline survey. e. SWD line will follow a route approved by the BLM. Survey a strip of land 30 feet wide, being 2506.88 feet in length, lying in Section 14, Township 17 South, Range 28 East, N.M.P.M., Eddy County, New Mexico being 15 feet left and 15 feet right of the centerline survey. Survey a strip of land 30 feet wide, being 2057.71 feet in length, lying in Section 14, Township 17 South, Range 28 East, N.M.P.M., Eddy County, New Mexico being 15 feet left and 15 feet right of the centerline survey. Survey a strip of land 30 feet wide, being 270.32 feet in length, lying in Section 23, Township 17 South, Range 28 East, N.M.P.M., Eddy County, New Mexico being 15 feet left and 15 feet right of the centerline survey. f. See attached for additional information on the Sierra Nevada 23 Tank Battery.

Production Facilities map:

SierraNevada23StateCom60H_FacilityPLEL_20230531125649.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: GW WELL

Water source use type:	DUST CONTROL
	SURFACE CASING
	INTERMEDIATE/PRODUCTION CASING
	STIMULATION

Source latitude: 32.806108**Source longitude:** -104.155514**Source datum:** NAD83**Water source permit type:** WATER WELL**Water source transport method:** TRUCKING**Source land ownership:** PRIVATE

Operator Name: SPUR ENERGY PARTNERS LLC**Well Name:** SIERRA NEVADA 23 STATE COM**Well Number:** 60H**Source transportation land ownership:** PRIVATE**Water source volume (barrels):** 9000.000023**Source volume (acre-feet):** 1.16003787**Source volume (gal):** 377999.5**Water source and transportation**

SierraNevada23_FracPond_20230531125712.pdf

Water source comments: Water will be trucked from the existing Halberd Pond owned by Spur in Unit H (SENE) Section 27, Township 17 South, Range 28 East.**New water well?** N**New Water Well Info****Well latitude:****Well Longitude:****Well datum:****Well target aquifer:****Est. depth to top of aquifer(ft):****Est thickness of aquifer:****Aquifer comments:****Aquifer documentation:****Well depth (ft):****Well casing type:****Well casing outside diameter (in.):****Well casing inside diameter (in.):****New water well casing?****Used casing source:****Drilling method:****Drill material:****Grout material:****Grout depth:****Casing length (ft.):****Casing top depth (ft.):****Well Production type:****Completion Method:****Water well additional information:****State appropriation permit:****Additional information attachment:****Section 6 - Construction Materials****Using any construction materials:** YES

Construction Materials description: a. All caliche for the drilling pad and proposed access road will be obtained from an existing BLM/State/Fee approved pit from prevailing deposits found on location. Will use BLM recommended caliche from other locations close by for roads, if available. b. The secondary way obtaining caliche to build locations and roads will be by turning over the location. Amount will vary for each pad. The procedure below has been approved by BLM personnel: i. The top 6 of topsoil is pushed off and stockpiled along the side of location ii. An approximate 255 X 30 area on the western side of the well pad will be used within the proposed well site to remove caliche iii. Subsoil will be removed and piled alongside the 255 X 30 within the pad site iv. When caliche is found, material will be stockpiled within the pad site to build location and road v. Once the well is drilled, the stockpiled topsoil will be used for interim reclamation and spread along areas where caliche is picked up and the location size is reduced. Neither the caliche nor subsoil will be stockpiled outside of the well pad. Topsoil will be stockpiled along the eastern edge of the pad as depicted in our Site Plan

Operator Name: SPUR ENERGY PARTNERS LLC**Well Name:** SIERRA NEVADA 23 STATE COM**Well Number:** 60H**Construction Materials source location**

Mayaro_Sierra_Nevada_Caliche_Source_Aerial_Map_5_23_23_20230531125733.pdf

Section 7 - Methods for Handling**Waste type:** DRILLING**Waste content description:** Drill cuttings, mud, salts, and other chemicals**Amount of waste:** 925.8 barrels**Waste disposal frequency :** Daily**Safe containment description:** Steel mud tanks**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY**Disposal location ownership:** PRIVATE**Disposal type description:****Disposal location description:** Mud tanks will be hauled to R360's state approved (NM-01-0006) disposal site at Halfway, NM.**Waste type:** SEWAGE**Waste content description:** Black and gray matter**Amount of waste:** 5 barrels**Waste disposal frequency :** Daily**Safe containment description:** Plastic holding tanks and chemical toilets**Safe containmant attachment:****Waste disposal type:** OTHER**Disposal location ownership:** OTHER**Disposal type description:** Public**Disposal location description:** Artesia wastewater treatment plant**Waste type:** GARBAGE**Waste content description:** Trash**Amount of waste:** 10 barrels**Waste disposal frequency :** Daily**Safe containment description:** Portable trash cage**Safe containmant attachment:****Waste disposal type:** OTHER**Disposal location ownership:** OTHER**Disposal type description:** Public**Disposal location description:** Eddy County landfill

Operator Name: SPUR ENERGY PARTNERS LLC**Well Name:** SIERRA NEVADA 23 STATE COM**Well Number:** 60H

Reserve Pit

Reserve Pit being used? NO**Temporary disposal of produced water into reserve pit?** NO**Reserve pit length (ft.)****Reserve pit width (ft.)****Reserve pit depth (ft.)****Reserve pit volume (cu. yd.)****Is at least 50% of the reserve pit in cut?****Reserve pit liner****Reserve pit liner specifications and installation description**

Cuttings Area

Cuttings Area being used? NO**Are you storing cuttings on location?** Y**Description of cuttings location** Steel tank on pad**Cuttings area length (ft.)****Cuttings area width (ft.)****Cuttings area depth (ft.)****Cuttings area volume (cu. yd.)****Is at least 50% of the cuttings area in cut?****WCuttings area liner****Cuttings area liner specifications and installation description**

Section 8 - Ancillary

Are you requesting any Ancillary Facilities?: N**Ancillary Facilities****Comments:**

Section 9 - Well Site

Well Site Layout Diagram:

SierraNevada23StateCom60H_SpudderRig_20220823120623.pdf

SierraNevada23StateCom60H_RigSpecs_20220823120623.pdf

SierraNevada23StateCom60H_SitePlan_20220823120623.pdf

Comments:

Operator Name: SPUR ENERGY PARTNERS LLC**Well Name:** SIERRA NEVADA 23 STATE COM**Well Number:** 60H

Section 10 - Plans for Surface

Type of disturbance: New Surface Disturbance**Multiple Well Pad Name:** SIERRA NEVADA 23 FEDERAL STATE COM**Multiple Well Pad Number:** 10H, 60H, 61H

Recontouring

SierraNevada23StateCom60H_IR_20220823120637.pdf

Drainage/Erosion control construction: Crowned and ditched**Drainage/Erosion control reclamation:** Harrowed on the contour

Well pad proposed disturbance (acres): 3.02	Well pad interim reclamation (acres): 0.34	Well pad long term disturbance (acres): 2.68
Road proposed disturbance (acres):	Road interim reclamation (acres): 0	Road long term disturbance (acres): 0
Powerline proposed disturbance (acres): 0.203	Powerline interim reclamation (acres): 0.203	Powerline long term disturbance (acres): 0
Pipeline proposed disturbance (acres): 0.138	Pipeline interim reclamation (acres): 0	Pipeline long term disturbance (acres): 0.138
Other proposed disturbance (acres): 3.53	Other interim reclamation (acres): 0	Other long term disturbance (acres): 3.53
Total proposed disturbance: 6.891	Total interim reclamation: 0.543	Total long term disturbance: 6.348

Disturbance Comments:

Reconstruction method: a. After concluding drilling and/or completion operations, if the well is non-commercial, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road will be reclaimed as directed by the BLM COAs. The original topsoil will again be returned to the pad and contoured, as close as possible to the original topography, and the area will be seeded with an approved BLM mixture to re-establish vegetation. b. If the well is deemed commercially productive, caliche from the areas of the pad site will not be required for operations will be reclaimed. The original topsoil will be returned to the area of the drill pad not necessary to operate the well. The unused areas of the drill pad will be re-contoured as close as possible to the original topography, and the area will be seeded with an approved BLM mixture to re-establish vegetation.

Topsoil redistribution: The original topsoil will be returned to the area of the drill pad necessary to operate the wells.**Soil treatment:** To be determined by BLM.**Existing Vegetation at the well pad:** NA**Existing Vegetation at the well pad****Existing Vegetation Community at the road:** NA**Existing Vegetation Community at the road****Existing Vegetation Community at the pipeline:** NA**Existing Vegetation Community at the pipeline****Existing Vegetation Community at other disturbances:** NA

Operator Name: SPUR ENERGY PARTNERS LLC**Well Name:** SIERRA NEVADA 23 STATE COM**Well Number:** 60H**Existing Vegetation Community at other disturbances****Non native seed used?** N**Non native seed description:****Seedling transplant description:****Will seedlings be transplanted for this project?** N**Seedling transplant description****Will seed be harvested for use in site reclamation?****Seed harvest description:****Seed harvest description attachment:****Seed****Seed Table****Seed Summary****Total pounds/Acre:****Seed Type****Pounds/Acre****Seed reclamation****Operator Contact/Responsible Official****First Name:****Last Name:****Phone:****Email:****Seedbed prep:****Seed BMP:****Seed method:****Existing invasive species?** N**Existing invasive species treatment description:****Existing invasive species treatment****Weed treatment plan description:** To be determined by BLM.**Weed treatment plan****Monitoring plan description:** To be determined by BLM.**Monitoring plan**

Operator Name: SPUR ENERGY PARTNERS LLC**Well Name:** SIERRA NEVADA 23 STATE COM**Well Number:** 60H**Success standards:** To be determined by BLM.**Pit closure description:** No pit.**Pit closure attachment:**

Section 11 - Surface

Disturbance type: WELL PAD**Describe:****Surface Owner:** BUREAU OF LAND MANAGEMENT**Other surface owner description:****BIA Local Office:****BOR Local Office:****COE Local Office:****DOD Local Office:****NPS Local Office:****State Local Office:****Military Local Office:****USFWS Local Office:****Other Local Office:****USFS Region:****USFS Forest/Grassland:****USFS Ranger District:****Disturbance type:** EXISTING ACCESS ROAD**Describe:****Surface Owner:** BUREAU OF LAND MANAGEMENT**Other surface owner description:****BIA Local Office:****BOR Local Office:****COE Local Office:****DOD Local Office:****NPS Local Office:****State Local Office:**

Operator Name: SPUR ENERGY PARTNERS LLC

Well Name: SIERRA NEVADA 23 STATE COM

Well Number: 60H

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Disturbance type: PIPELINE

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Disturbance type: OTHER

Describe: ELECTRIC LINE

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

Operator Name: SPUR ENERGY PARTNERS LLC

Well Name: SIERRA NEVADA 23 STATE COM

Well Number: 60H

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Disturbance type: OTHER

Describe: SWD

Surface Owner: BUREAU OF LAND MANAGEMENT,PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Operator Name: SPUR ENERGY PARTNERS LLC**Well Name:** SIERRA NEVADA 23 STATE COM**Well Number:** 60H**Surface use plan certification:** NO**Surface use plan certification document:****Surface access agreement or bond:** AGREEMENT**Surface Access Agreement Need description:** Surface Agreement was provided to the private surface owner.**Surface Access Bond BLM or Forest Service:****BLM Surface Access Bond number:****USFS Surface access bond number:**

Section 12 - Other

Right of Way needed? Y**Use APD as ROW?** Y**ROW Type(s):** 288100 ROW – O&G Pipeline,288101 ROW – O&G Facility Sites,288103 ROW – Salt Water Disposal Pipeline/Facility,289001 ROW- O&G Well Pad,FLPMA (Powerline)

ROW

SUPO Additional Information: Wells will not produce Federal minerals, only back build. ROW is needed for proposed SWD line and electric line as they will cross lease lines.**Use a previously conducted onsite?** N**Previous Onsite information:**

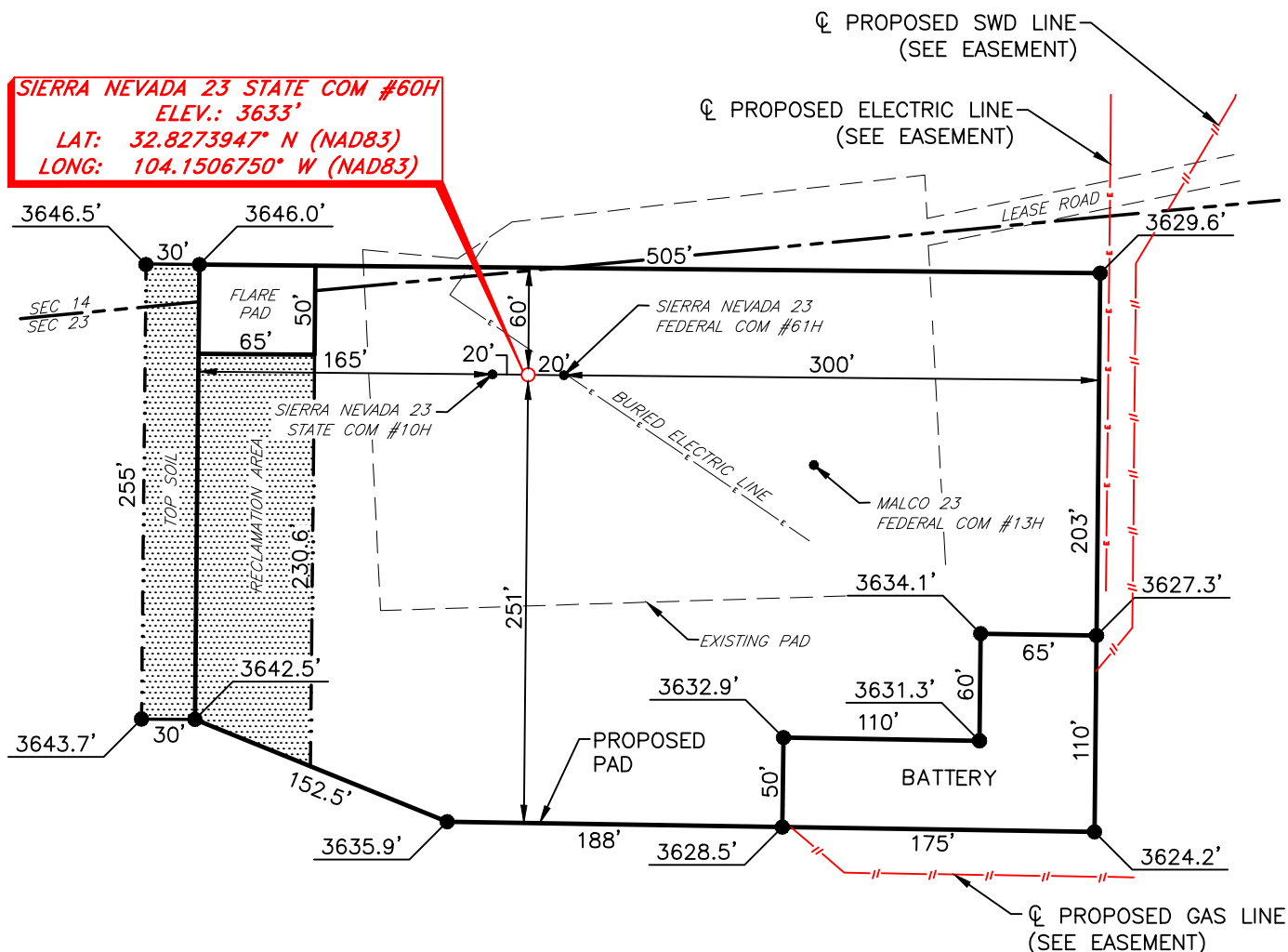
Other SUPO

SierraNevada23StateCom60H_LVM_20220823121202.pdf

SierraNevada23_NGMP_20220823121215.pdf

SierraNevada23StateCom60H_SUPO_20230620102720.pdf

SIERRA NEVADA 23 STATE COM #60H
ELEV.: 3633'
LAT: 32.8273947° N (NAD83)
LONG: 104.1506750° W (NAD83)

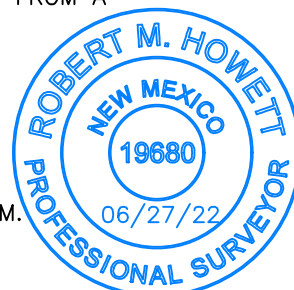


*From the intersection of U.S. Hwy 82 and CR #209 (Turkey Tract Rd.):
Go North on CR #209 approx. 2.3 miles to a lease road on the left;
Turn left and go West approx. 0.2 miles to a lease road on the left;
Turn left and go South approx. 0.4 miles to location on the left.*

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



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NO.	REVISION	DATE
JOB NO.: LS22060715		
DWG. NO.: 22060715-4		

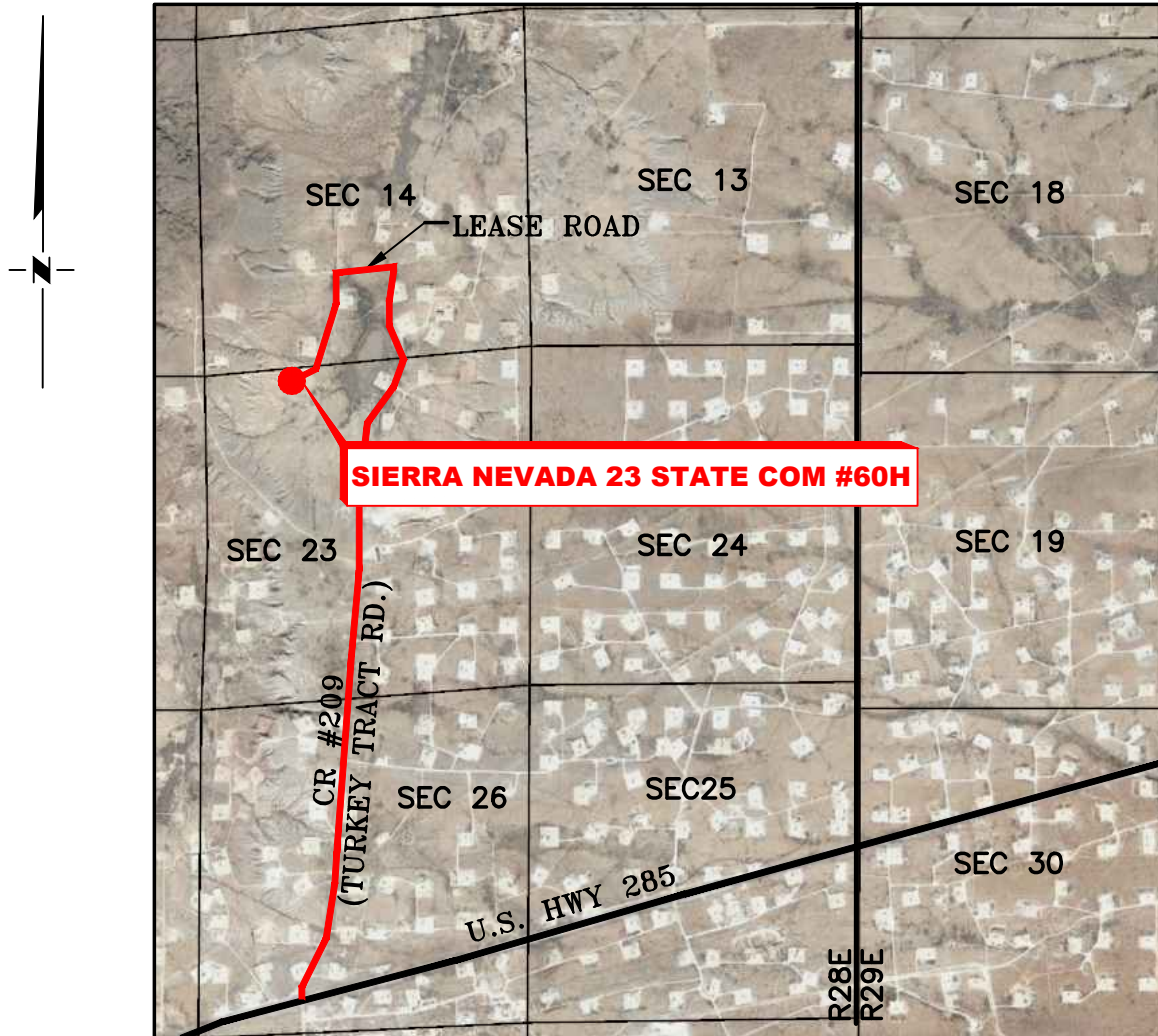


701 S. CECIL ST., HOBBS, NM 88240 (575) 964-8200

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

VICINITY MAP

NOT TO SCALE



*SECTION 23, TWP. 17 SOUTH, RGE. 28 EAST,
N. M. P. M., EDDY COUNTY, NEW MEXICO*

OPERATOR: Spur Energy Partners LLC.

LOCATION: 58' FNL & 1388' FWL

LEASE: Sierra Nevada 23 State Com

ELEVATION: 3633'

WELL NO.: 60H

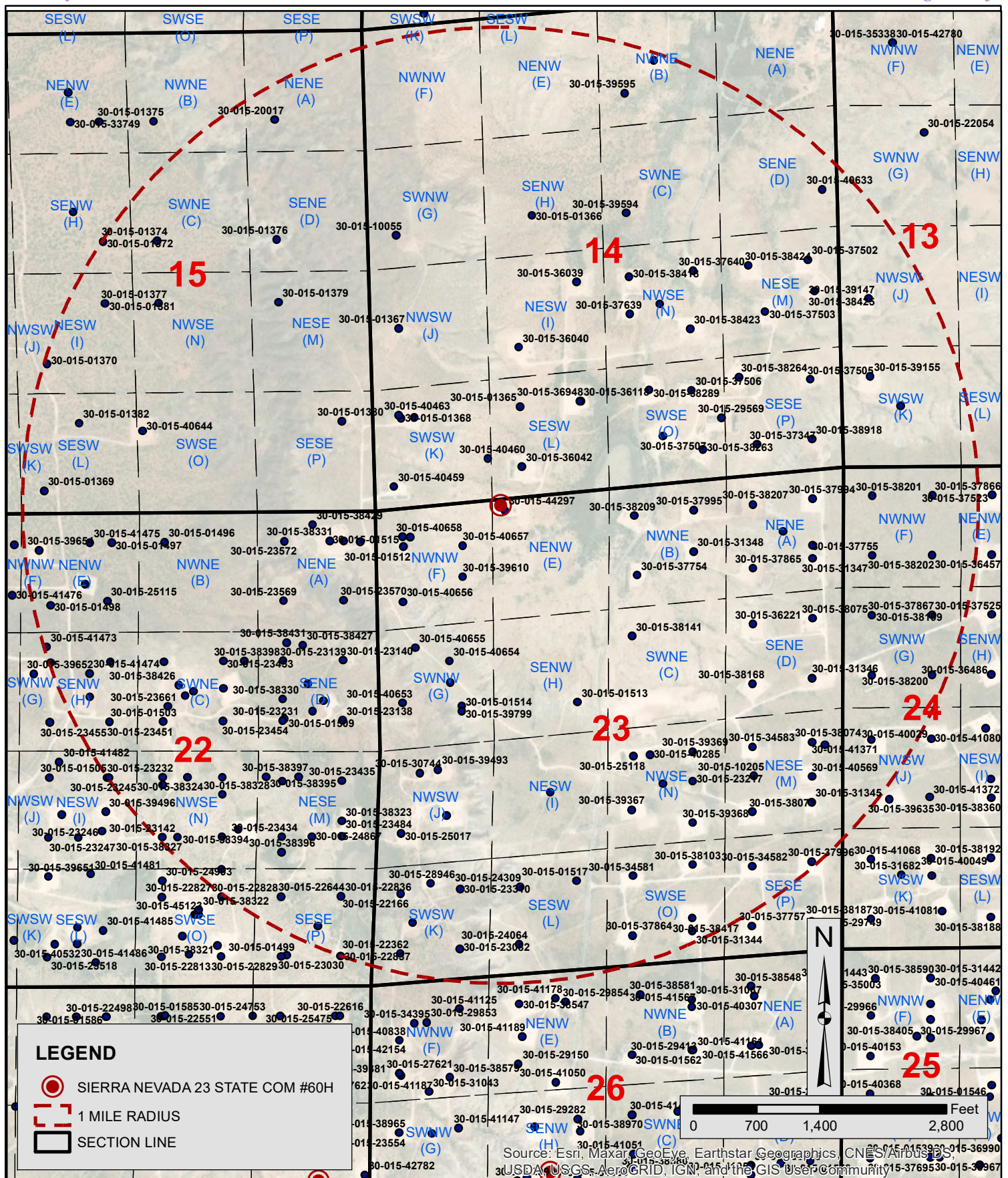
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NO.	REVISION	DATE
JOB NO.: LS22060715		
DWG. NO.: 22060715-3		



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SCALE: N.T.S.
DATE: 06/23/22
SURVEYED BY: JF/JM
DRAWN BY: BL
APPROVED BY: RMH
SHEET: 1 OF 1



RRC
ENERGY SERVICES, LLC.
701 S. Cecil Hobbs, NM 88240
(575) 964-8200

SIERRA NEVADA 23 STATE COM #60H
(58' FNL & 1388' FWL)
Section 23, Township 17 South, Range 28 East,
N. M. P. M., Eddy County, New Mexico

SPUR
ENERGY
PARTNERS

Date: 06/17/2022

ONE MILE RADIUS MAP

Approved By: RMH

Surveyed By: JF/JM

Job No. LS22060715

Dwg. No. 1-MILE (5,280 Ft.) - RADIUS

Drawn By: BL

Sierra Nevada 23 Facility Development

CTB Site:

All wells will have the ability to be routed to the Sierra Nevada Facility located on the Sierra Nevada pad with the Sierra Nevada 23 State Com 10H, Sierra Nevada 23 State Com 60H, and Sierra Nevada 23 Federal Com 61H wells.

Production Flowlines:

Each well will have two (2) 4" surface flowlines operating around 90 psi from the well sites to the CTB. The flowlines for the Sierra Nevada wells will be routed to the Sierra Nevada 23 tank battery co-located on the pad. The wells will produce into this battery at any given time.

Salt Water Disposal:

Produced water will be pumped into three (3) 4" HDPE SDR 7 surface lines operating around 110 psi. The produced water line will also connect to Spur's SWD System to be disposed of at a Spur operated SWD.

Frac Water System:

Water for the Sierra Nevada development will be trucked from the Halberd Pond owned by Spur in Unit H (SENE) Section 27, Township 17 South, Range 28 East.

Gas Sales

Gas will be sold via one (1) 4" HDPE SDR 7 surface line operating around 100 psi and tie in to an existing Durango line east of the Sierra Nevada battery.

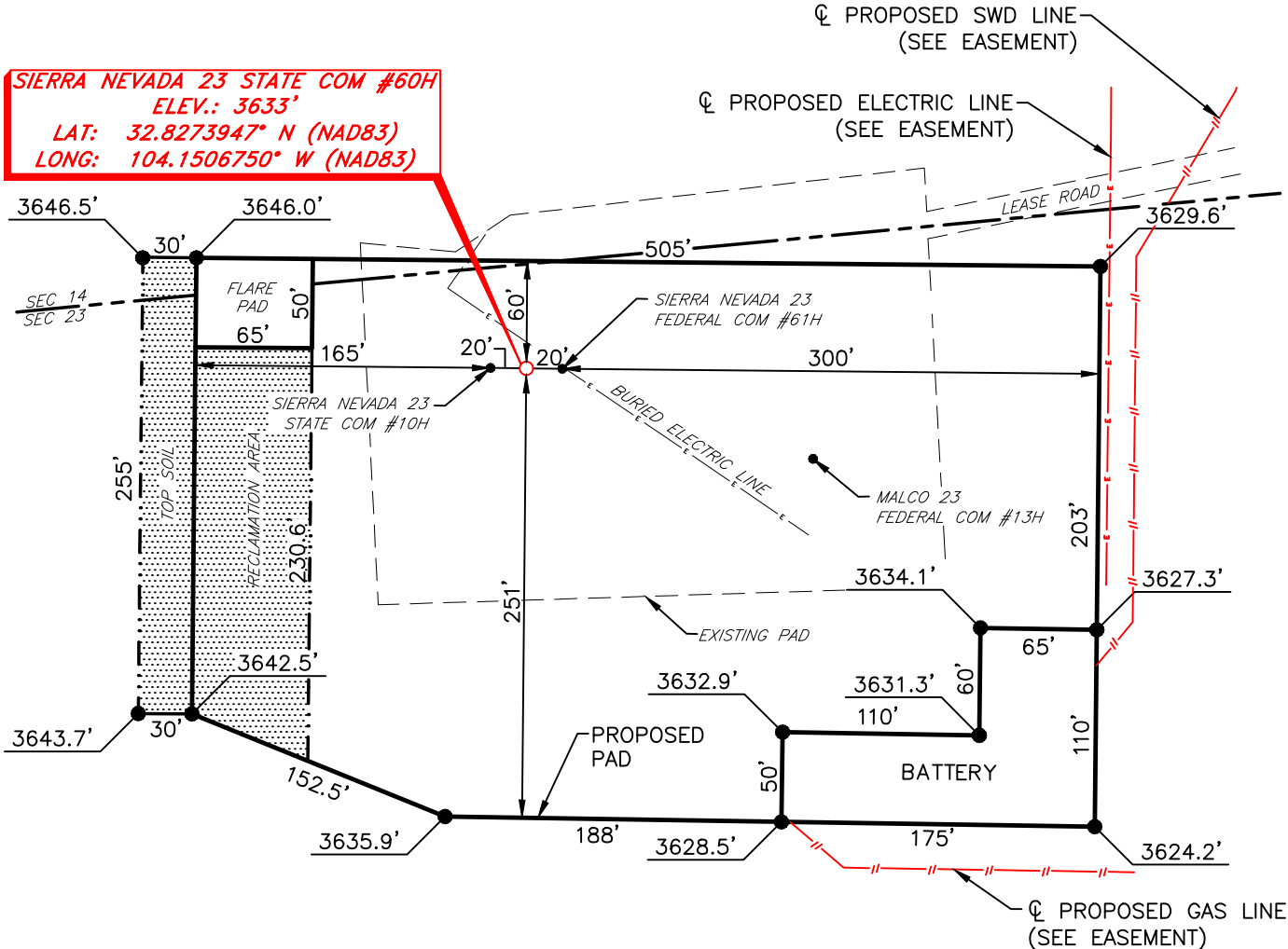
Oil Sales:

Oil will be sold through a LACT and trucked from the Sierra Nevada 23 tank battery.

Electrical System:

3-phase electric lines will be constructed from existing CVE lines per the survey plats to the Sierra Nevada 23 location.

SPUR ENERGY PARTNERS LLC.
SIERRA NEVADA 23 STATE COM #60H
(56' FNL & 1368' FWL)
SECTION 23, T17S, R28E
N. M. P. M., EDDY COUNTY, NEW MEXICO



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



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

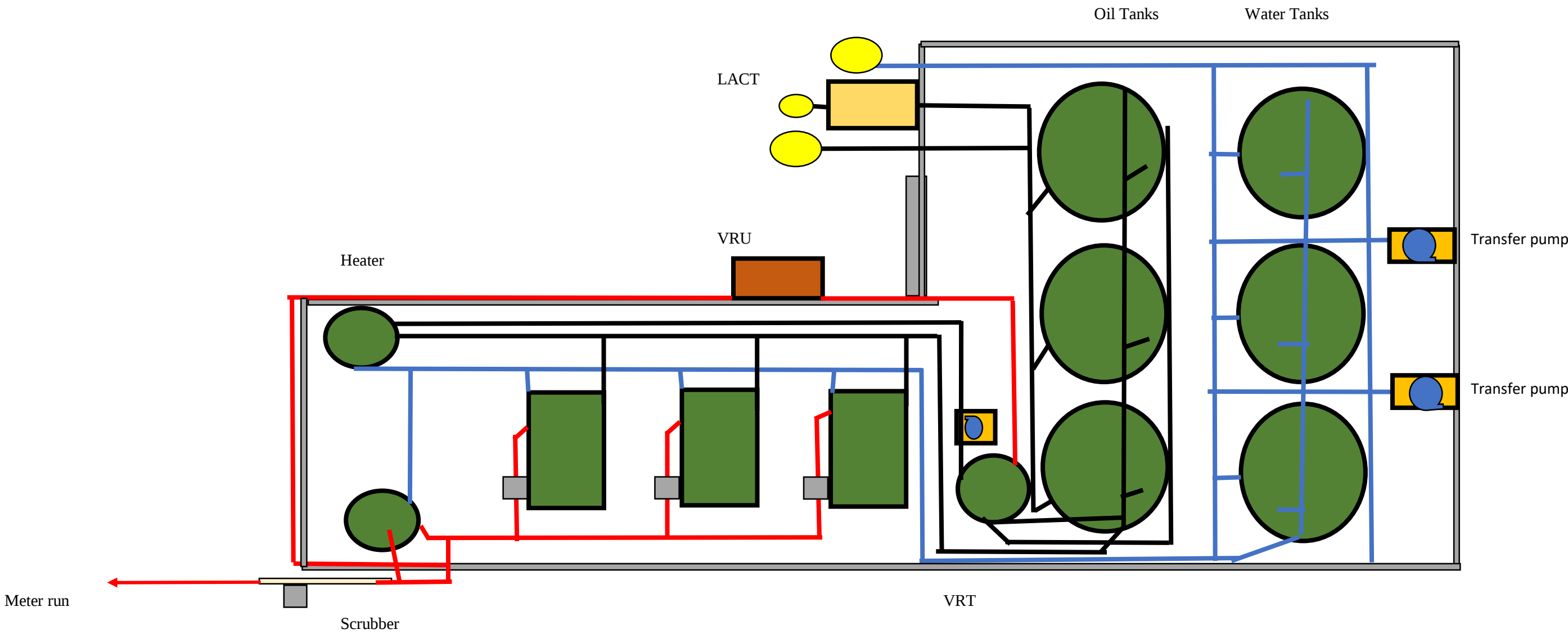
NO.	REVISION	DATE
JOB NO.:	LS22060715	
DWG. NO.:	22060715-4	



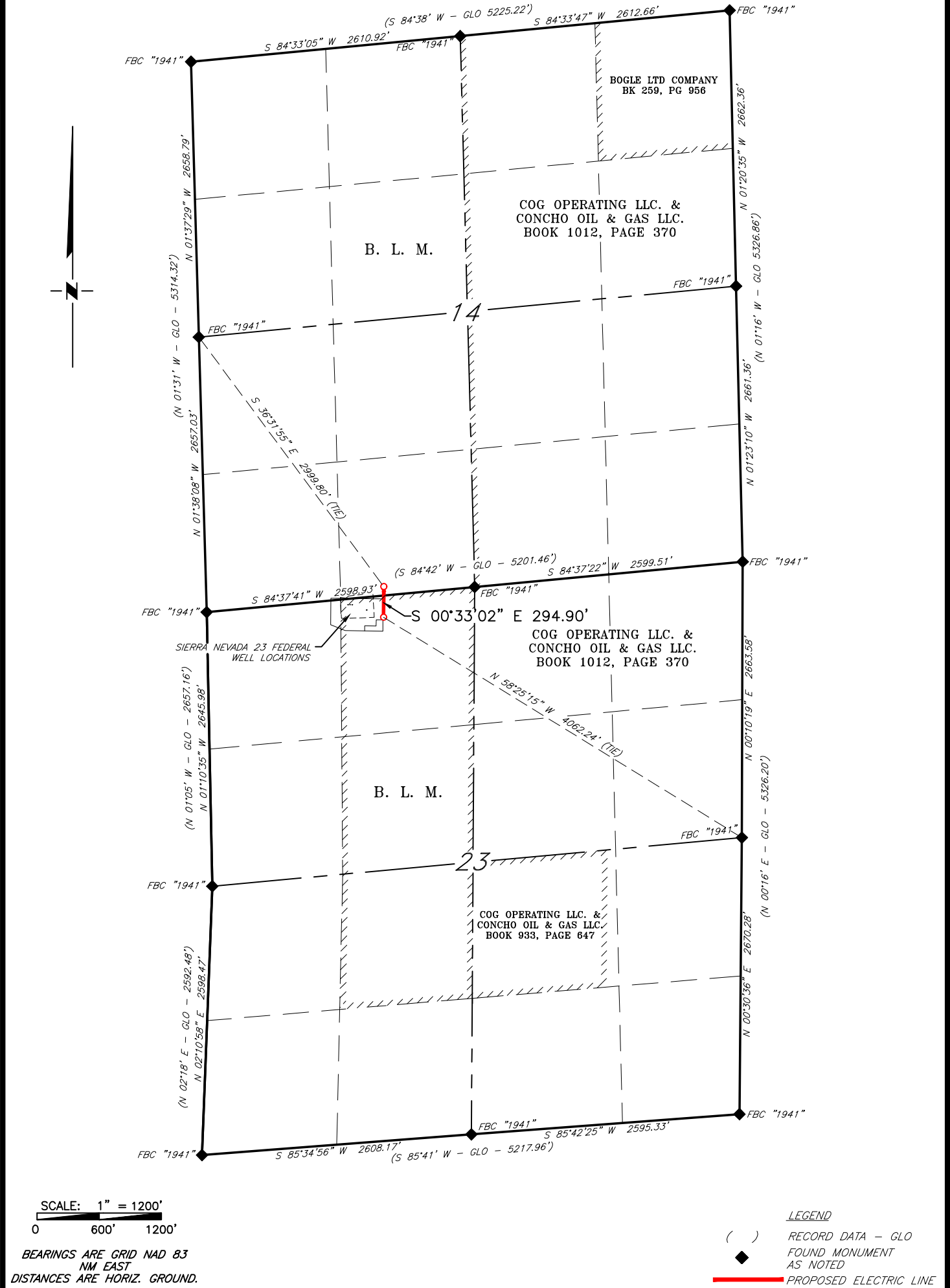
701 S. CECIL ST., HOBBS, NM 88240 (575) 964-8200

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

Sierra Nevada Battery Diagram

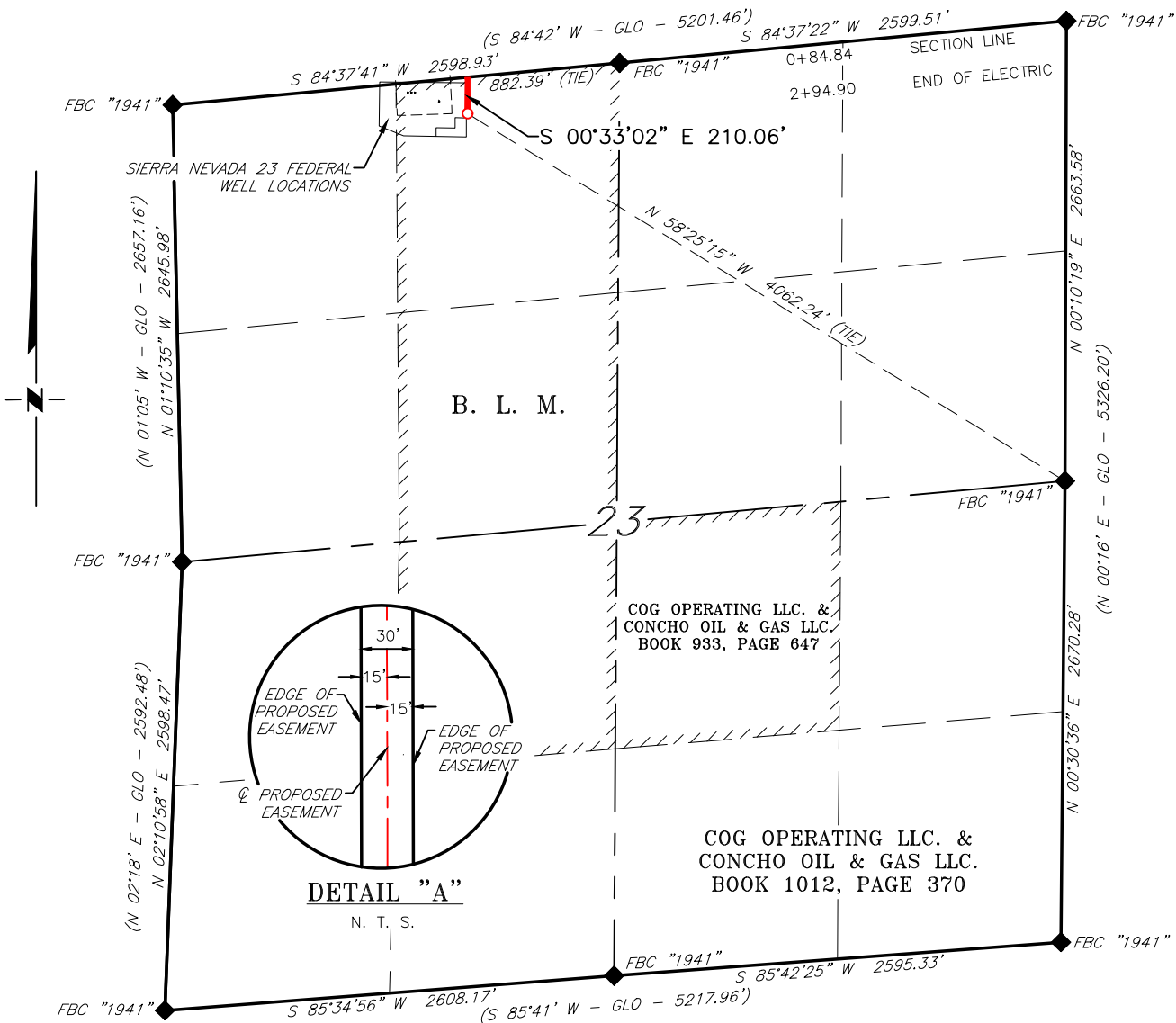


SPUR ENERGY PARTNERS LLC.
SIERRA NEVADA 23 ELECTRIC LINE
SECTIONS 14 & 23, T17S, R28E
N. M. P. M., EDDY COUNTY, NEW MEXICO



			RRC ENERGY SERVICES, LLC. 701 S. CECIL ST., HOBBS, NM 88240 (575) 964-8200	SCALE: 1" = 1200'
				DATE: 06/17/2022
				SURVEYED BY: JF/JM
				DRAWN BY: BL
NO.	REVISION	DATE		APPROVED BY: RMH
JOB NO.: LS22060721				SHEET: 1 OF 3
DWG. NO.: 22060721-1				

SPUR ENERGY PARTNERS LLC.
SIERRA NEVADA 23 FEDERAL ELECTRIC LINE
SECTION 23, T17S, R28E
N. M. P. M., EDDY COUNTY, NEW MEXICO



DESCRIPTION

A strip of land 30 feet wide, being 210.06 feet or 12.731 rods in length, lying in Section 23, Township 17 South, Range 28 East, N. M. P. M., Eddy County, New Mexico, being 15 feet left and 15 feet right of the following described survey of a centerline across B. L. M. land:

BEGINNING at Engr. Sta. 0+84.84, a point on the North line of Section 23, which bears, S 84°37'41" W, 882.39 feet from a brass cap, stamped "1941", found for the North quarter corner of Section 23;

Thence S 00°33'02" E, 210.06 feet, to Engr. Sta. 2+94.90, the End of Survey, a point in the Northwest quarter of Section 23, which bears, N 58°25'15" W, 4,062.24 feet from a brass cap, stamped "1941", found for the East quarter corner of Section 23.

Said strip of land contains 0.145 acres, more or less, and is allocated by forties as follows:

NE 1/4 NW 1/4 12.731 Rods 0.145 Acres

SCALE: 1" = 1000'

0 500' 1000'

BEARINGS ARE GRID NAD 83
NM EAST
DISTANCES ARE HORIZ. GROUND.

LEGEND

() RECORD DATA - GLO
◆ FOUND MONUMENT
AS NOTED
— PROPOSED ELECTRIC LINE

I, R. M. Howett, a N. M. Professional Surveyor, hereby certify that I prepared this plat 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



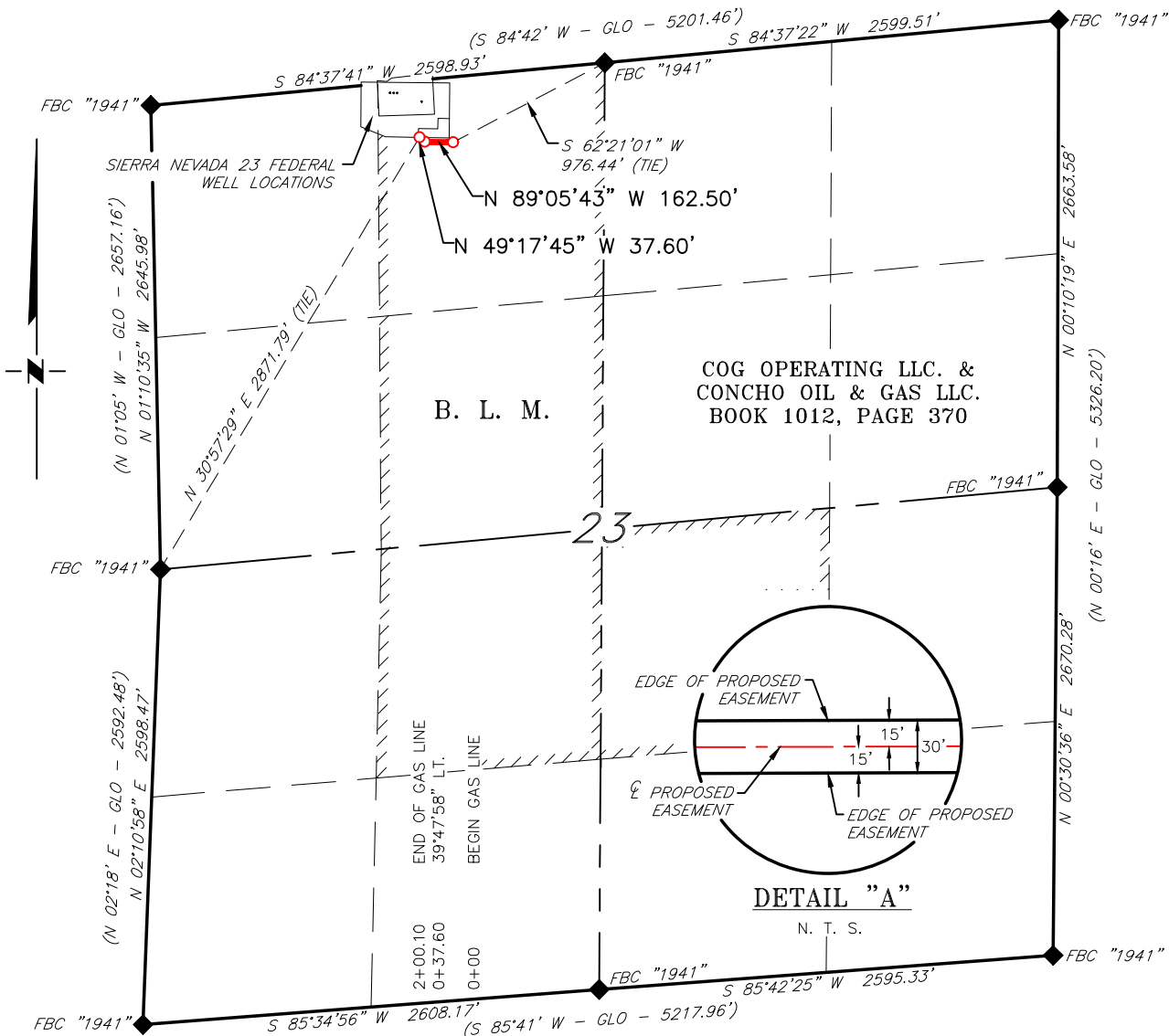
NO.	REVISION	DATE
JOB NO.: LS22060721		
DWG. NO.: 22060721-3		

ENERGY SERVICES, LLC.

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

SCALE: 1" = 1000'
DATE: 06/17/2022
SURVEYED BY: JF/JM
DRAWN BY: BL
APPROVED BY: RMH
SHEET: 3 OF 3

SPUR ENERGY PARTNERS LLC.
SIERRA NEVADA 23 GAS PIPELINE
SECTION 23, T17S, R28E
N. M. P. M., EDDY COUNTY, NEW MEXICO



DESCRIPTION

A strip of land 30 feet wide, being 200.10 feet or 12.127 rods in length, lying in Section 23, Township 17 South, Range 28 East, N. M. P. M., Eddy County, New Mexico, being 15 feet left and 15 feet right of the following described survey of a centerline across B. L. M. land:

BEGINNING at Engr. Sta. 0+00, a point in the Northwest quarter of Section 23, which bears, S 62°21'01" W, 976.44 feet from a brass cap, stamped "1941", found for the North quarter corner of Section 23;

Thence N 89°05'43" W, 162.50 feet, to Engr. Sta. 0+37.60, a P. I. of 39°47'58" right;

Thence N 49°17'45" W, 37.60 feet, to Engr. Sta. 2+00.10, the End of Survey, a point in the Northwest quarter of Section 23, which bears, N 30°57'29" E, 2,871.79 feet from a brass cap, stamped "1941", found for the West quarter corner of Section 23.

Said strip of land contains 0.138 acres, more or less, and is allocated by forties as follows:

NE 1/4 NW 1/4 12.127 Rods 0.138 Acres

SCALE: 1" = 1000'

0 500' 1000'

BEARINGS ARE GRID NAD 83
NM EAST
DISTANCES ARE HORIZ. GROUND.

LEGEND

() RECORD DATA - GLO
FOUND MONUMENT
AS NOTED

PROPOSED GAS PIPELINE

I, R. M. Howett, a N. M. Professional Surveyor, hereby certify that I prepared this plat 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



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NO.	REVISION	DATE
JOB NO.:	LS22060719	
DWG. NO.:	22060719-1	

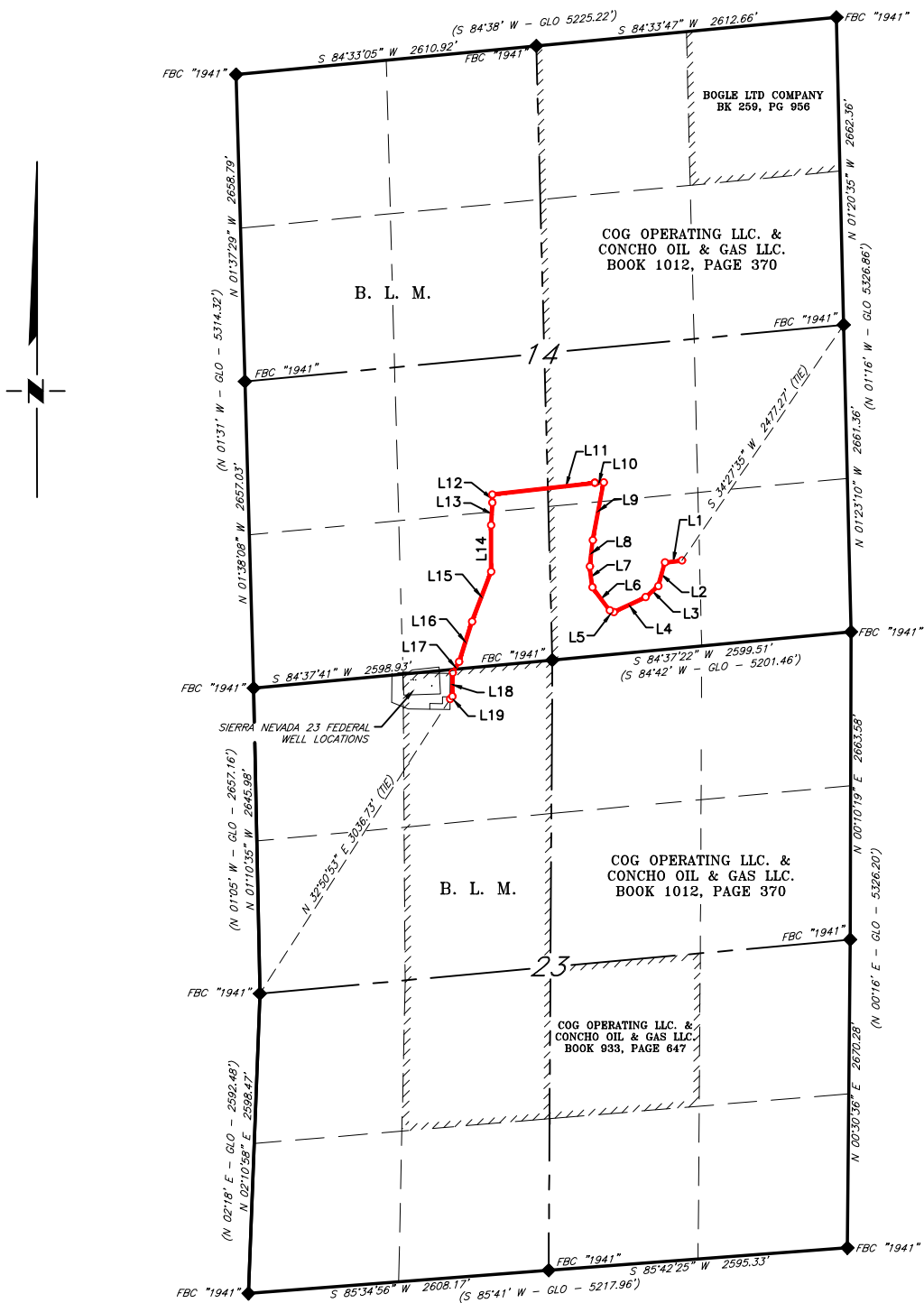
RRC

ENERGY SERVICES, LLC.

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

SCALE: 1" = 1000'
DATE: 06/17/2022
SURVEYED BY: JF/JM
DRAWN BY: BL
APPROVED BY: RMH
SHEET: 1 OF 2

SPUR ENERGY PARTNERS LLC.
SIERRA NEVADA 23 FEDERAL SWD LINE
SECTIONS 23 & 14, T17S, R28E
N. M. P. M., EDDY COUNTY, NEW MEXICO



LINE TABLE		
LINE	BEARING	LENGTH
L1	S 83°46'07" W	149.56'
L2	S 15°33'34" W	213.31'
L3	S 48°25'57" W	144.77'
L4	S 65°03'09" W	305.30'
L5	N 67°50'16" W	37.65'
L6	N 36°55'32" W	250.10'
L7	N 06°55'02" W	181.32'
L8	N 06°11'10" E	228.63'
L9	N 10°43'42" E	510.76'

LINE TABLE		
LINE	BEARING	LENGTH
L10	S 86°57'35" W	77.77'
L11	S 83°32'09" W	893.23'
L12	S 02°10'38" E	70.77'
L13	S 03°27'27" W	193.78'
L14	S 00°02'49" W	403.50'
L15	S 20°58'51" W	464.06'
L16	S 17°41'06" W	366.51'
L17	S 30°55'30" W	107.97'
L18	S 00°33'02" W	204.23'
L19	S 39°53'03" W	31.69'

SCALE: 1" = 1500'
0 750' 1500'

BEARINGS ARE GRID NAD 83
NM EAST
DISTANCES ARE HORIZ. GROUND.

LEGEND

() RECORD DATA - GLO
◆ FOUND MONUMENT
AS NOTED
— PROPOSED SWD LINE

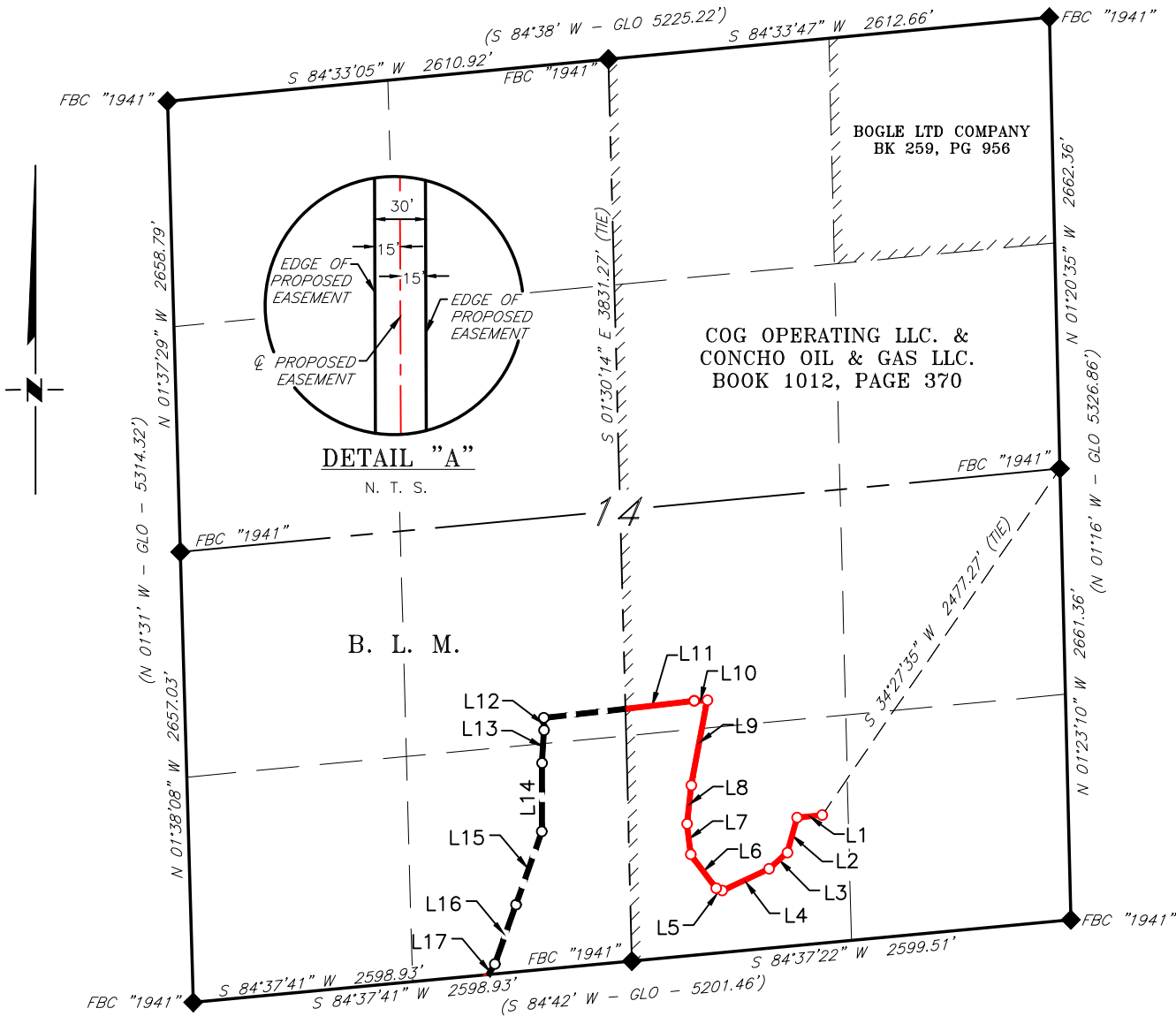
1	REROUTE	06/27/22
NO.	REVISION	DATE
JOB NO.: LS22060720R		
DWG. NO.: 22060720R-1		



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

SCALE: 1" = 1000'
DATE: 06/17/2022
SURVEYED BY: JF/JM
DRAWN BY: BL
APPROVED BY: RMH
SHEET: 1 OF 6

SPUR ENERGY PARTNERS LLC.
SIERRA NEVADA 23 FEDERAL SWD LINE
SECTION 14, T17S, R28E
N. M. P. M., EDDY COUNTY, NEW MEXICO



0+00 BEGIN SWD
1+49.56 P.I. OF 68°12'33" LT.
3+62.87 P.I. OF 32°52'23" RT.
5+07.64 P.I. OF 16°37'12" RT.
8+12.94 P.I. OF 47°06'35" RT.
8+50.59 P.I. OF 30°54'44" RT.
11+00.69 P.I. OF 30°00'30" RT.
12+82.01 P.I. OF 13°06'12" RT.
15+10.64 P.I. OF 04°32'32" RT.
20+21.40 P.I. OF 103°46'07" LT.
20+99.17 P.I. OF 03°25'26" LT.
25+06.88 SECTION LINE

LINE TABLE		
LINE	BEARING	LENGTH
L1	S 83°46'07" W	149.56'
L2	S 15°33'34" W	213.31'
L3	S 48°25'57" W	144.77'
L4	S 65°03'09" W	305.30'
L5	N 67°50'16" W	37.65'
L6	N 36°55'32" W	250.10'
L7	N 06°55'02" W	181.32'
L8	N 06°11'10" E	228.63'
L9	N 10°43'42" E	510.76'
L10	S 86°57'35" W	77.77'
L11	S 83°32'09" W	407.71'

SCALE: 1" = 1000'
0 500' 1000'
BEARINGS ARE GRID NAD 83
NM EAST
DISTANCES ARE HORIZ. GROUND.
LEGEND
() RECORD DATA - GLO
FOUND MONUMENT
AS NOTED
PROPOSED SWD LINE

I, R. M. Howett, a N. M. Professional Surveyor, hereby certify that I prepared this plat 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



1	REROUTE	06/27/22
NO.	REVISION	DATE
JOB NO.:	LS22060720R	
DWG. NO.:	22060720-2	



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

SCALE: 1" = 1000'
DATE: 06/17/2022
SURVEYED BY: JF/JM
DRAWN BY: BL
APPROVED BY: RMH
SHEET: 2 OF 6

SPUR ENERGY PARTNERS LLC.
SIERRA NEVADA 23 FEDERAL SWD LINE
SECTION 14, T17S, R28E
N. M. P. M., EDDY COUNTY, NEW MEXICO

DESCRIPTION

A strip of land 30 feet wide, being 2,506.88 feet or 151.932 rods in length, lying in Section 14, Township 17 South, Range 28 East, N. M. P. M., Eddy County, New Mexico, being 15 feet left and 15 feet right of the following described survey of a centerline across the lands of COG Operating LLC. & Concho Oil & Gas LLC., according to a deed filed for record in Book 1012, Page 370, of the Deed Records of Eddy County, New Mexico:

BEGINNING at Engr. Sta. 0+00, a point in the Southeast quarter Section 14, which bears, S 34°27'35" W, 2,477.27 feet from a brass cap, stamped "1941", found for the East quarter corner of Section 14;

Thence S 83°46'07" W, 149.56 feet, to Engr. Sta. 1+49.56, a P. I. of 68°12'33" left;

Thence S 15°33'34" W, 213.31 feet, to Engr. Sta. 3+62.87, a P. I. of 32°52'23" right;

Thence S 48°25'57" W, 144.77 feet, to Engr. Sta. 5+07.64, a P. I. of 16°37'12" right;

Thence S 65°03'09" W, 305.30 feet, to Engr. Sta. 8+12.94, a P. I. of 47°06'35" right;

Thence N 67°50'16" W, 37.65 feet, to Engr. Sta. 8+50.59, a P. I. of 30°54'44" right;

Thence N 36°55'32" W, 250.10 feet, to Engr. Sta. 11+00.69, a P. I. of 30°00'30" right;

Thence N 06°55'02" W, 181.32 feet, to Engr. Sta. 12+82.01, a P. I. of 13°06'12" right;

Thence N 06°11'10" E, 228.63 feet, to Engr. Sta. 15+10.64, a P. I. of 04°32'32" right;

Thence N 10°43'42" E, 510.76 feet, to Engr. Sta. 20+21.40, a P. I. of 103°46'07" left;

Thence S 86°57'35" W 77.77 feet, to Engr. Sta. 20+99.17, a P. I. of 03°25'26" left;

Thence S 83°32'09" W, 407.71 feet, to Engr. Sta. 25+06.88, a point on the West line of the East half of Section 14, which bears, S 01°30'14" W, 3,831.27 feet from a brass cap, stamped "1941", found for the North quarter corner of Section 14.

Said strip of land contains 1.726 acres, more or less, and is allocated by forties as follows:

SW 1/4 SE 1/4	112.213 Rods	1.275 Acres
NW 1/4 SE 1/4	39.719 Rods	0.451 Acres

1	REROUTE	06/27/22
NO.	REVISION	DATE
JOB NO.: LS22060720R		
DWG. NO.: 22060720R-3		

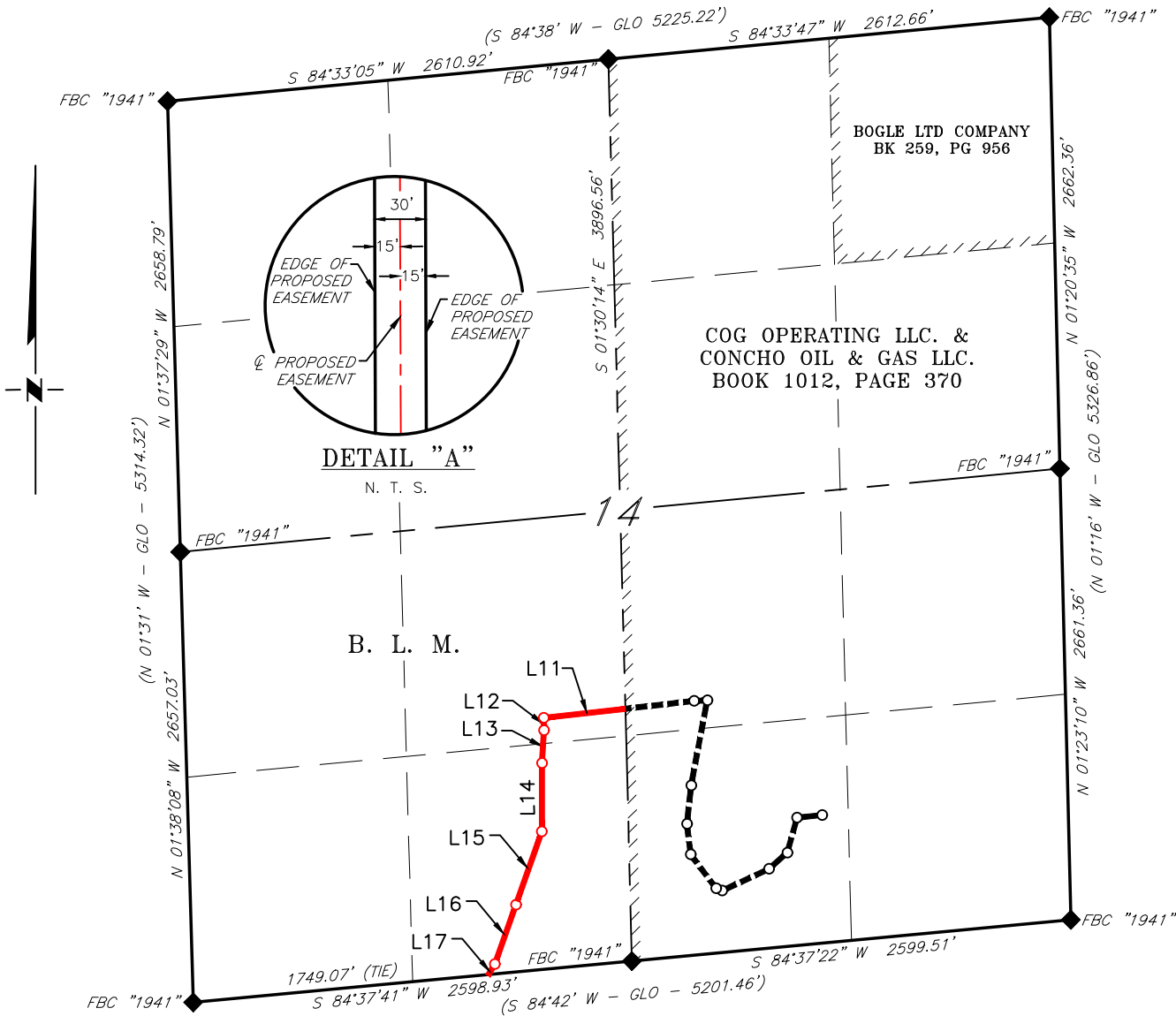
RRC

ENERGY SERVICES, LLC.

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

SCALE: 1" = 1000'
DATE: 06/17/2022
SURVEYED BY: JF/JM
DRAWN BY: BL
APPROVED BY: RMH
SHEET: 3 OF 6

SPUR ENERGY PARTNERS LLC.
SIERRA NEVADA 23 FEDERAL SWD LINE
SECTION 14, T17S, R28E
N. M. P. M., EDDY COUNTY, NEW MEXICO



25+06.88
26+21.30
29+60.23
29+92.40
30+6.54
30+63.17
32+56.95
33+74.24
36+60.45
40+28.80
41+24.51
41+61.09
43+63.22
44+68.58
45+91.02
45+43.38
45+64.59

PROPERTY LINE
EXISTING FENCE
LEASE ROAD
P.I. OF 85°42'47" LT.
LEASE ROAD
P.I. OF 05°38'05" RT.
P.I. OF 03°24'38" LT.
EXISTING ELECTRIC
P.I. OF 20°56'02" RT.
EXISTING ELECTRIC
P.I. OF 03°17'45" LT
EXISTING ELECTRIC
LEASE ROAD
BURIED PIPELINE
P.I. OF 13°14'24" RT.
LEASE ROAD
SECTION LINE

LINE TABLE		
LINE	BEARING	LENGTH
L11	S 83°32'09" W	485.52'
L12	S 02°10'38" E	70.77'
L13	S 03°27'27" W	193.78'
L14	S 00°02'79" W	403.50'
L15	S 20°58'51" W	464.06'
L16	S 17°41'06" W	366.51'
L17	S 30°55'30" W	73.57'

SCALE: 1" = 1000'
0 500' 1000'

BEARINGS ARE GRID NAD 83
NM EAST
DISTANCES ARE HORIZ. GROUND.

LEGEND
() RECORD DATA - GLO
FOUND MONUMENT
AS NOTED
PROPOSED SWD LINE

I, R. M. Howett, a N. M. Professional Surveyor, hereby
certify that I prepared this plat 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



1	REROUTE	06/27/22
NO. REVISION	DATE	
JOB NO.:	LS22060720R	
DWG. NO.:	22060720R-4	



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

SCALE: 1" = 1000'
DATE: 06/17/2022
SURVEYED BY: JF/JM
DRAWN BY: BL
APPROVED BY: RMH
SHEET: 4 OF 6

SPUR ENERGY PARTNERS LLC.
SIERRA NEVADA 23 FEDERAL SWD LINE
SECTION 14, T17S, R28E
N. M. P. M., EDDY COUNTY, NEW MEXICO

DESCRIPTION

A strip of land 30 feet wide, being 2,057.71 feet or 124.710 rods in length, lying in Section 14, Township 17 South, Range 28 East, N. M. P. M., Eddy County, New Mexico, being 15 feet left and 15 feet right of the following described survey of a centerline across B. L. M. land:

BEGINNING at Engr. Sta. 25+06.88, a point on the East line of the West half of Section 14, which bears, S 01°30'14" E, 3,831.27 feet from a brass cap, stamped "1941", found for the North quarter corner of Section 14;

Thence S 83°32'09" W, 485.52 feet, to Engr. Sta. 29+92.40, a P. I. of 85°42'47" left;

Thence S 02°10'38" E, 70.77 feet, to Engr. Sta. 30+63.17, a P. I. of 05°38'05" right;

Thence S 03°27'27" W, 193.78 feet, to Engr. Sta. 32+56.95, a P. I. of 03°24'38" left;

Thence S 00°02'49" W, 403.50 feet, to Engr. Sta. 36+60.45, a P. I. of 20°56'02" right;

Thence S 20°58'51" W, 464.06 feet, to Engr. Sta. 41+24.51, a P. I. of 03°17'45" left;

Thence S 17°41'06" W, 366.51 feet, to Engr. Sta. 44+91.02, a P. I. of 13°14'24" right;

Thence S 30°55'30" W, 73.57 feet, to Engr. Sta. 45+64.59, a point on the South line of Section 14, which bears, N 84°37'41" E, 1749.07 feet from a brass cap, stamped "1941", found for the Southwest corner of Section 14.

Said strip of land contains 1.417 acres, more or less, and is allocated by forties as follows:

NE 1/4 SW 1/4	38.564 Rods	0.438 Acres
SE 1/4 SW 1/4	86.146 Rods	0.979 Acres

1	REROUTE	06/27/22
NO.	REVISION	DATE
JOB NO.: LS22060720R		
DWG. NO.: 22060720R-5		

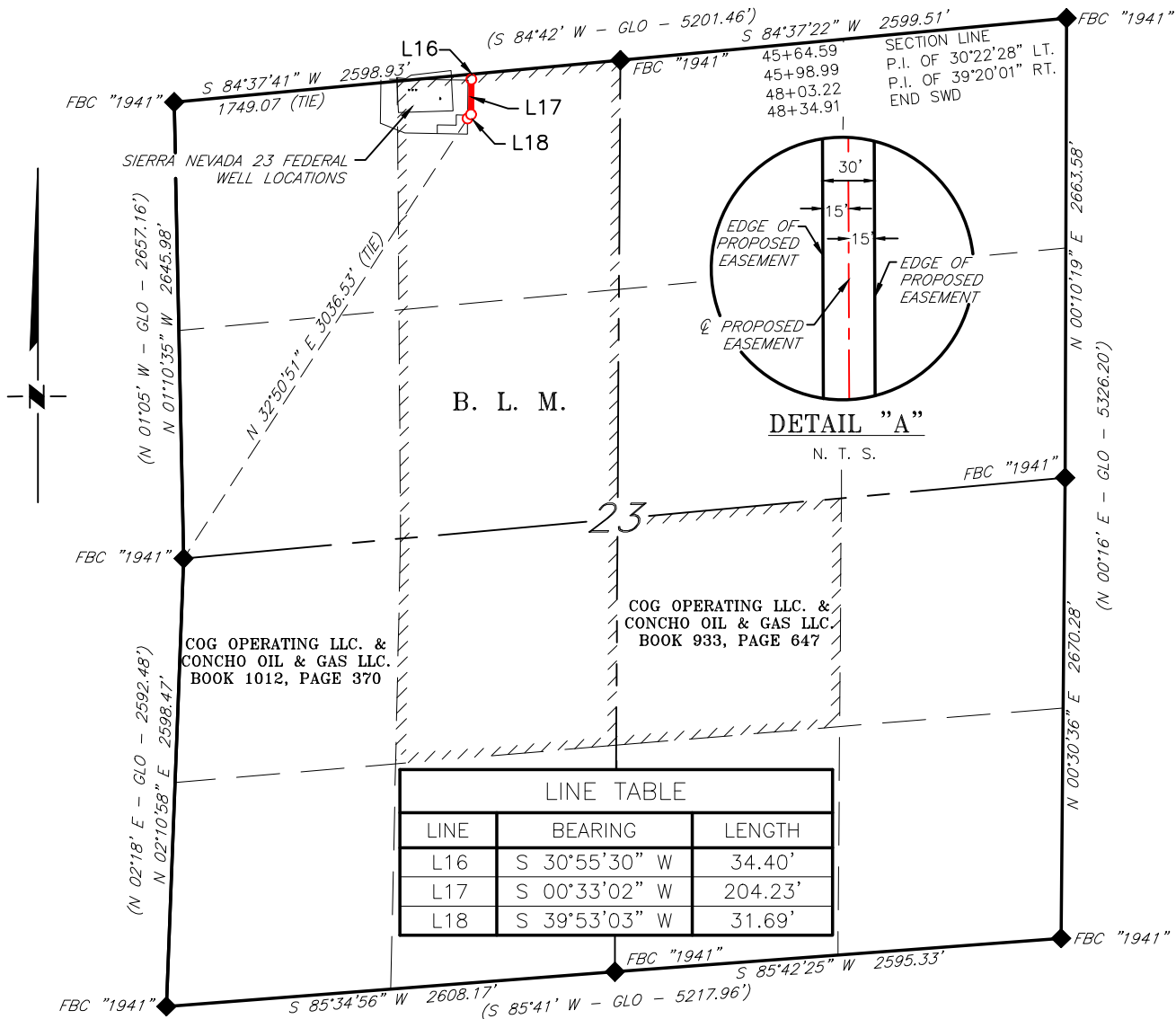


ENERGY SERVICES, LLC.

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

SCALE: 1" = 1000'
DATE: 06/17/2022
SURVEYED BY: JF/JM
DRAWN BY: BL
APPROVED BY: RMH
SHEET: 5 OF 6

SPUR ENERGY PARTNERS LLC.
SIERRA NEVADA 23 FEDERAL SWD LINE
SECTION 23, T17S, R28E
N. M. P. M., EDDY COUNTY, NEW MEXICO



DESCRIPTION

A strip of land 30 feet wide, being 270.32 feet or 16.383 rods in length, lying in Section 23, Township 17 South, Range 28 East, N. M. P. M., Eddy County, New Mexico, being 15 feet left and 15 feet right of the following described survey of a centerline across B. L. M. land:

BEGINNING at Engr. Sta. 45+64.59, a point on the North line of Section 23, which bears, N 84°37'41" E, 1,749.07 feet from a brass cap, stamped "1941", found for the Northwest corner of Section 23;

Thence S 30°55'30" W, 34.40 feet, to Engr. Sta. 45+98.99, a P. I. of 30°22'28" left;

Thence S 00°33'02" W, 204.23 feet, to Engr. Sta. 48+03.22, a P. I. of 39°20'01" right;

Thence S 39°53'03" W, 31.69 feet, to Engr. Sta. 48+34.91, the End of Survey, a point in the Northwest quarter of Section 23, which bears, N 32°50'51" E, 3,036.53 feet from a brass cap, stamped "1941", found for the West quarter corner of Section 23.

Said strip of land contains 0.186 acres, more or less, and is allocated by forties as follows:

NE 1/4 NW 1/4 16.383 Rods 0.186 Acres

SCALE: 1" = 1000'
0 500' 1000'
BEARINGS ARE GRID NAD 83
NM EAST
DISTANCES ARE HORIZ. GROUND.
LEGEND
() RECORD DATA - GLO
FOUND MONUMENT
AS NOTED
PROPOSED SWD LINE

I, R. M. Howett, a N. M. Professional Surveyor, hereby certify that I prepared this plat 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



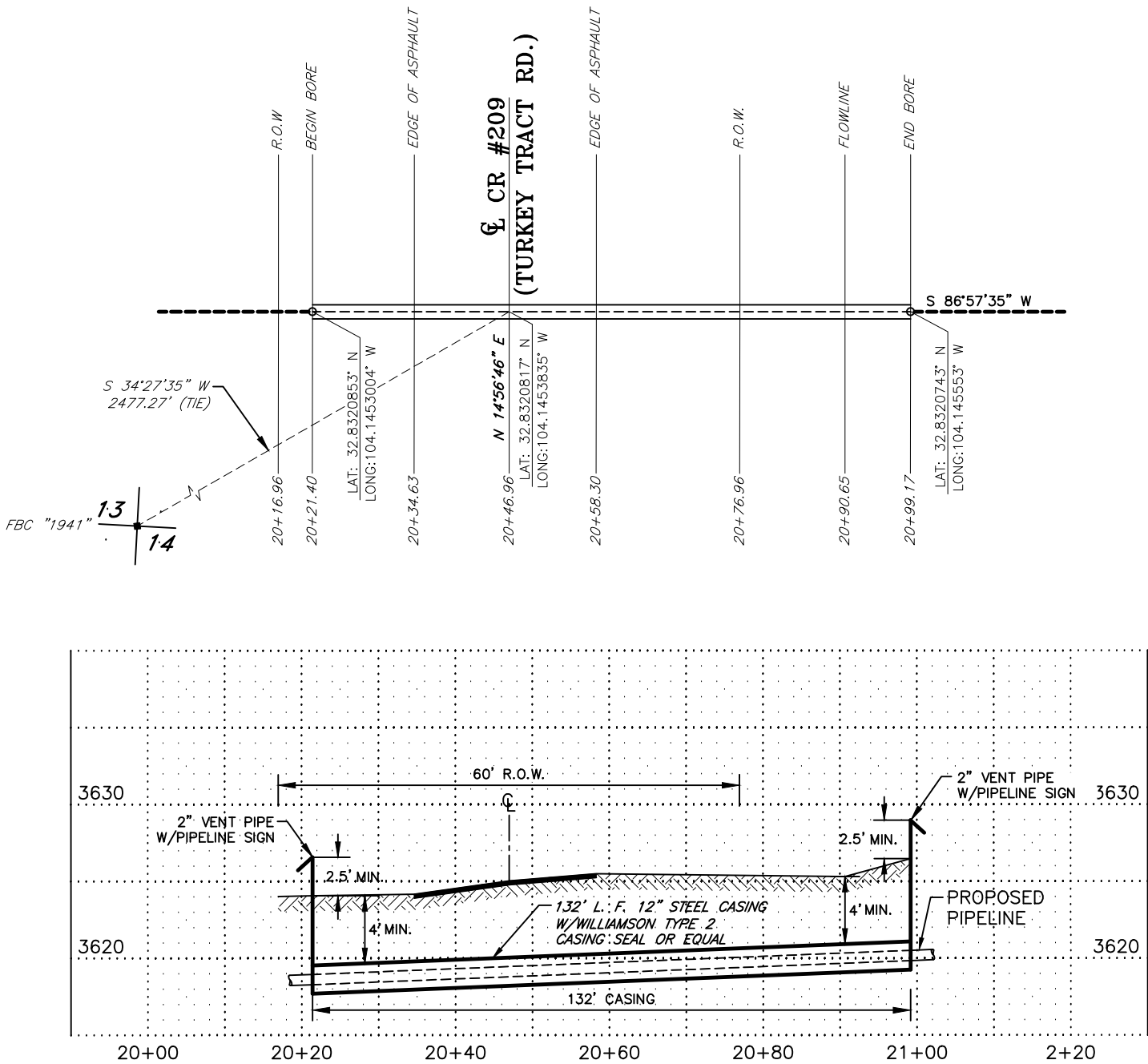
1	REROUTE	06/27/22
NO. REVISION	DATE	
JOB NO.:	LS22060720R	
DWG. NO.:	22060720R-6	

RRC

ENERGY SERVICES, LLC.

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

SCALE: 1" = 1000'
DATE: 06/17/2022
SURVEYED BY: JF/JM
DRAWN BY: BL
APPROVED BY: RMH
SHEET: 6 OF 6



SPUR ENERGY PARTNERS LLC.
PROPOSED PIPELINE CROSSING
CR #209 (TURKEY TRACT RD.)
SECTION 14, T17S, R28E
N. M. P. M., EDDY COUNTY, NEW MEXICO

1

REROUTE

06/27/22

NO.

REVISION

DATE

JOB NO.: LS22060720R

DWG. NO.: 22060720R-X1

1

DATE

6/23/22

SURVEYED BY:

JF/JM

DRAWN BY:

BL

APPROVED BY:

RMH

SHEET:

1 OF 1

RRC

ENERGY SERVICES, LLC.

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

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SCALE: 1" = 20'

DATE: 6/23/22

SURVEYED BY: JF/JM

DRAWN BY: BL

APPROVED BY: RMH

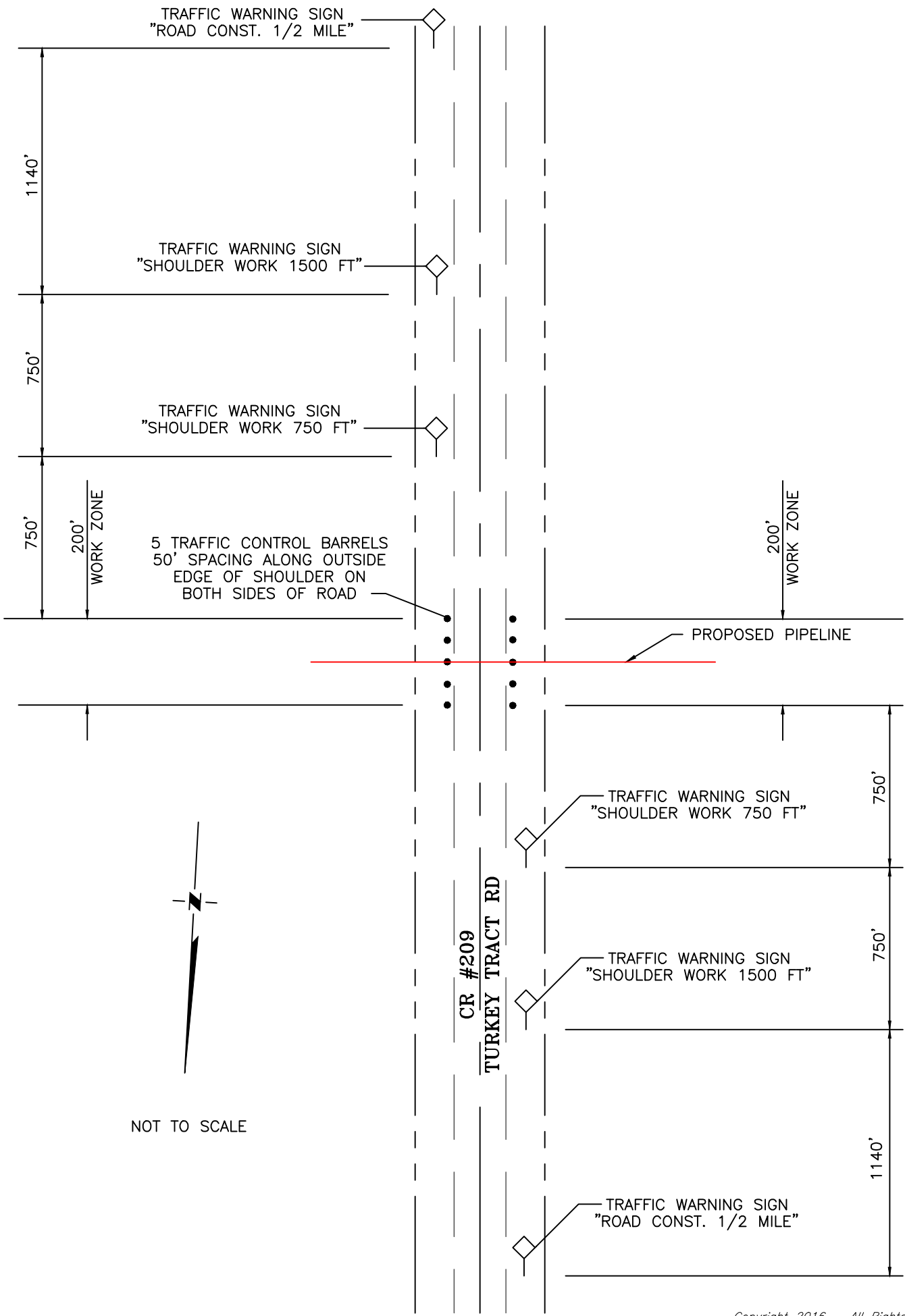
SHEET: 1 OF 1

BEARINGS ARE NAD 83 NM EAST ZONE
DISTANCES ARE GROUND

SCALE: 1" = 20' HORIZ. / 1" = 10' VERT.

Released to Imaging: 8/22/2023 2:25:53 PM

SPUR ENERGY PARTNERS LLC.
PROPOSED PIPELINE CROSSING
CR #209 (TURKEY TRACT RD.)
SECTIONS 14, T17S, R28E
N. M. P. M., EDDY COUNTY, NEW MEXICO



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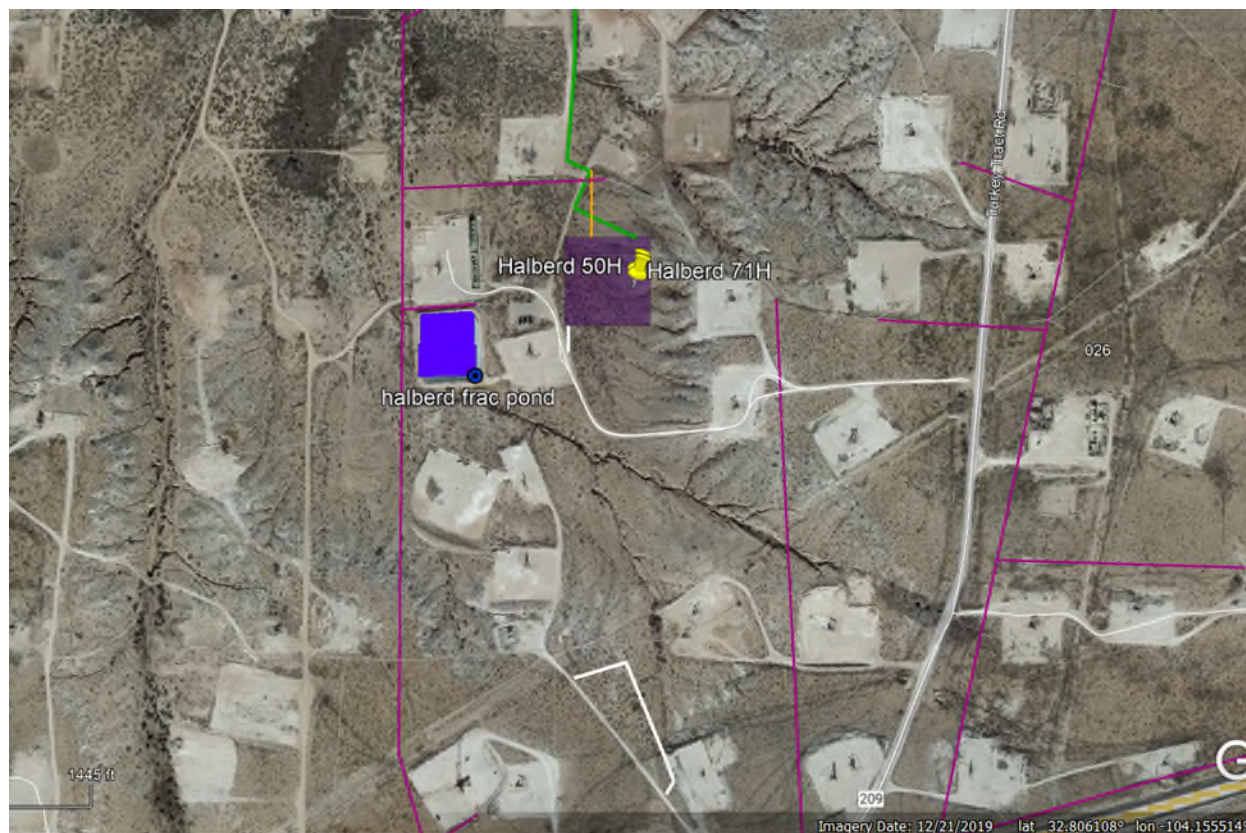
1	REROUTE	06/27/22
NO.	REVISION	DATE
JOB NO.: LS22060720R		
DWG. NO.: 22060720R-X2		



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

SCALE: NOT TO SCALE
DATE: 06/23/22
SURVEYED BY: JF/JM
DRAWN BY: BL
APPROVED BY: RMH
SHEET: 1 OF 1

****Water will be trucked from the existing Halberd Pond owned by Spur in Unit H (SENE) Section 27, Township 17 South, Range 28 East.****



Mayaro & Sierra Nevada Development
Caliche Source - Construction Material
2.82147778, -104.14556944
Free Surface
W4/NE4, NW4/SE4 Section 23
Township 17 South, Range 28 East
Sandoval County, NM
Monoco Phillips - Horse Pasture Caliche Pit

Ruler

Line

Path

Polygon

Circle

3D path

3D polygon

Measure the distance between two points on the ground

Map Length:

1.15

Miles

Ground Length:

1.15

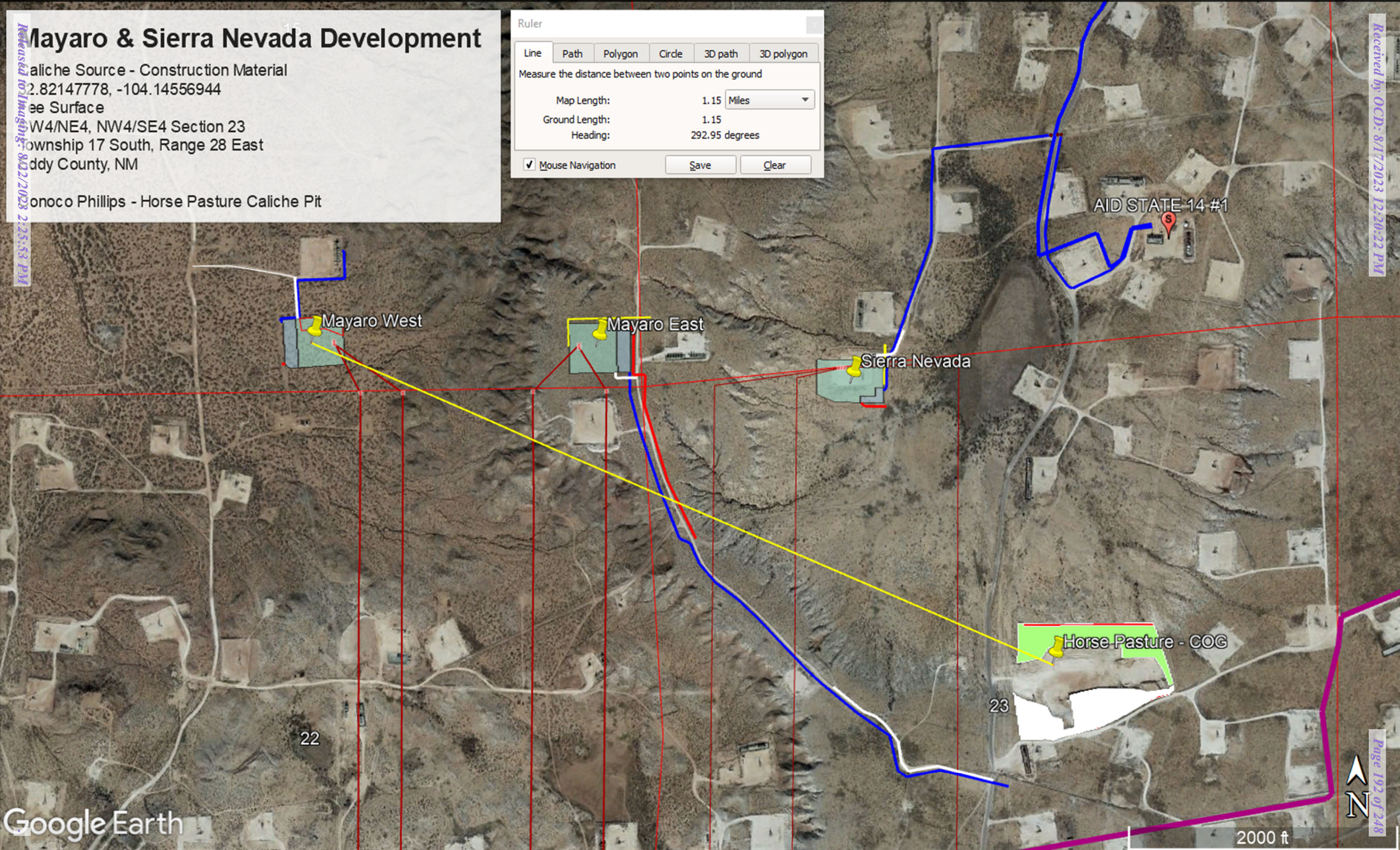
Heading:

292.95 degrees

☒ Mouse Navigation

Save

Clear



Received by OCD: 8/17/2023 12:20:22 PM

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



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:

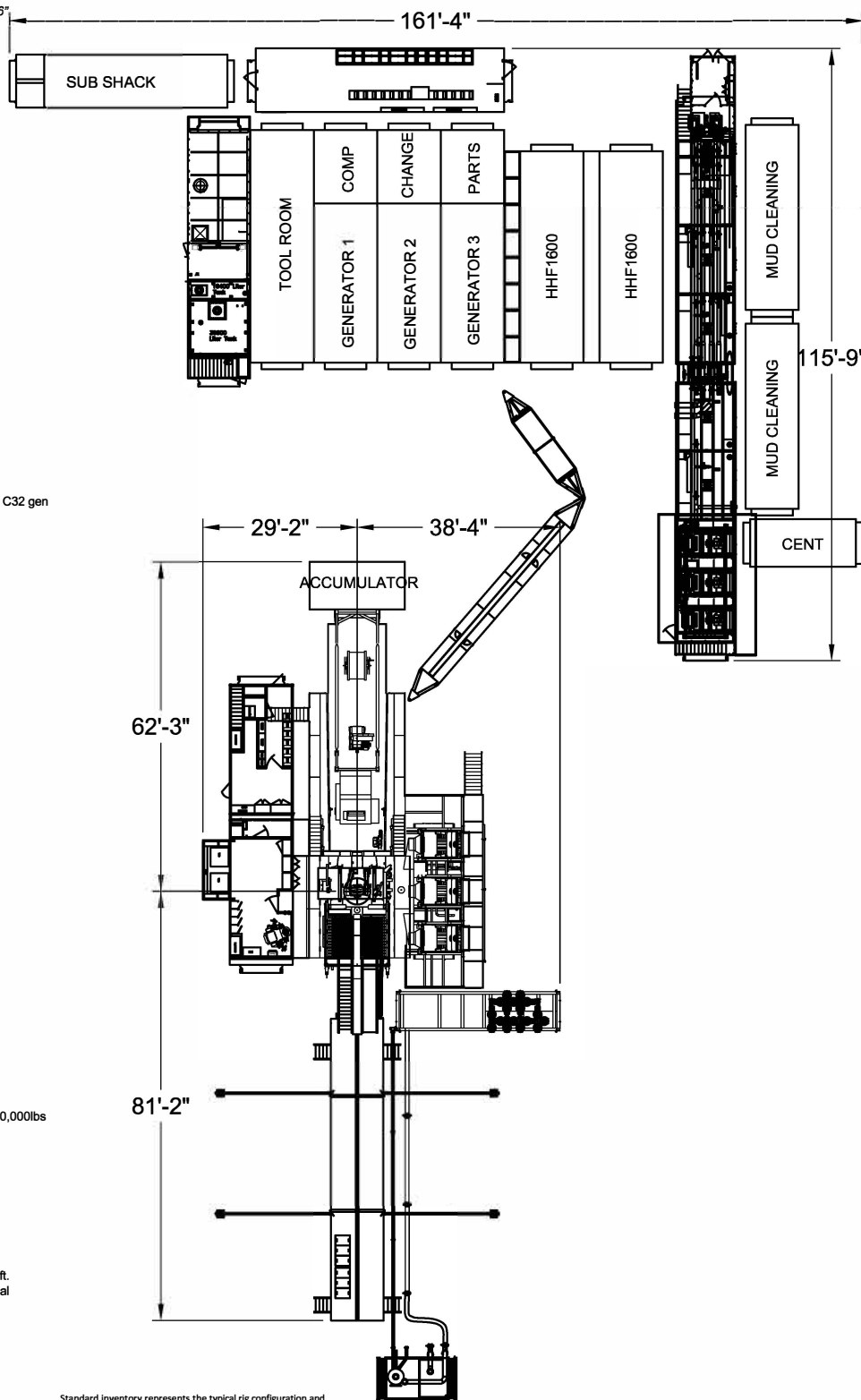
Walking beam hydraulic pony sub moving system for linear motion & side shift.

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

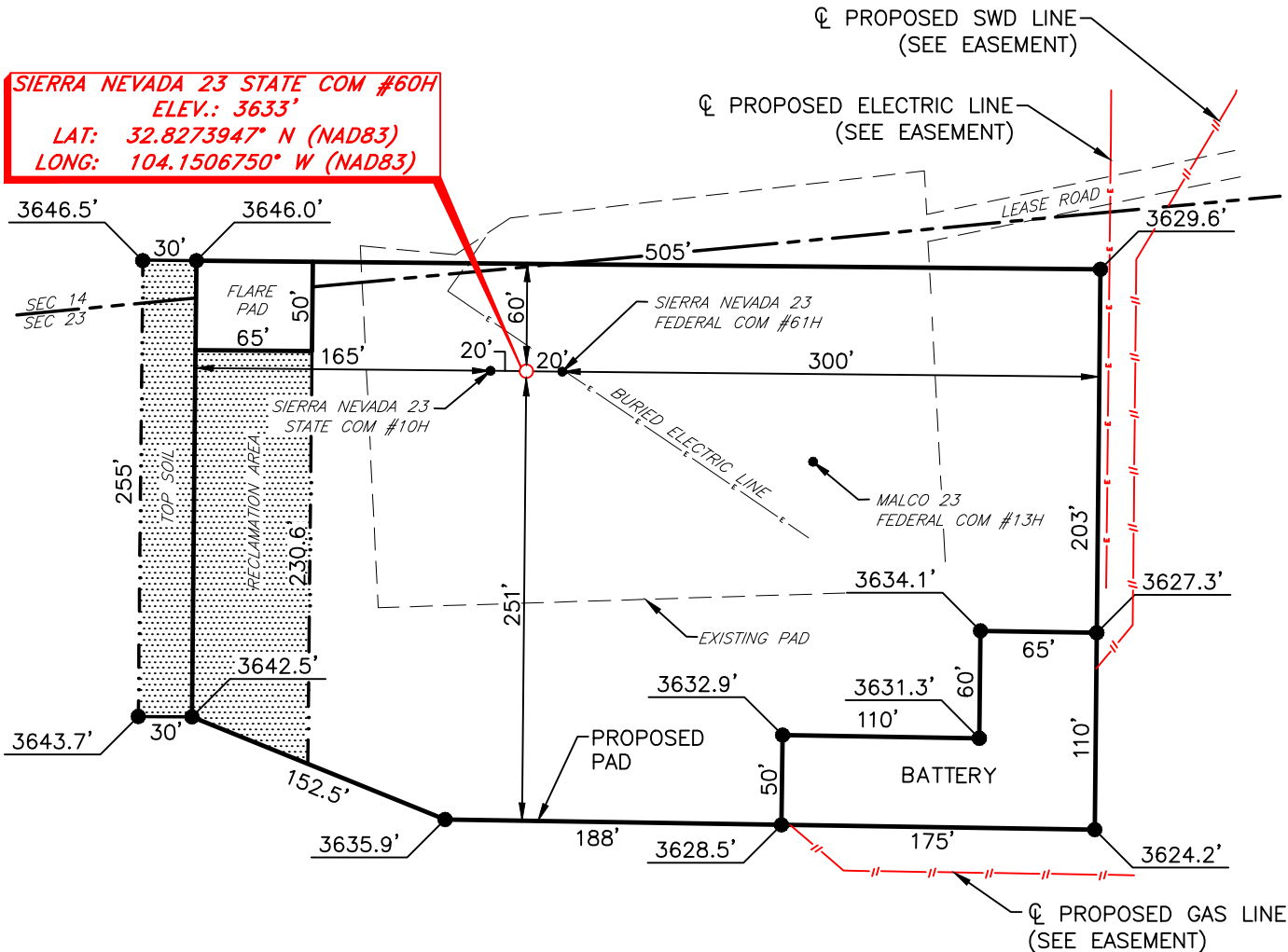


Standard inventory represents the typical rig configuration and inventory available, but specifications are subject to slight modifications from time to time due to customer requirements.

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 STATE COM #60H
(56' FNL & 1368' FWL)
SECTION 23, T17S, R28E
N. M. P. M., EDDY COUNTY, NEW MEXICO



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



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

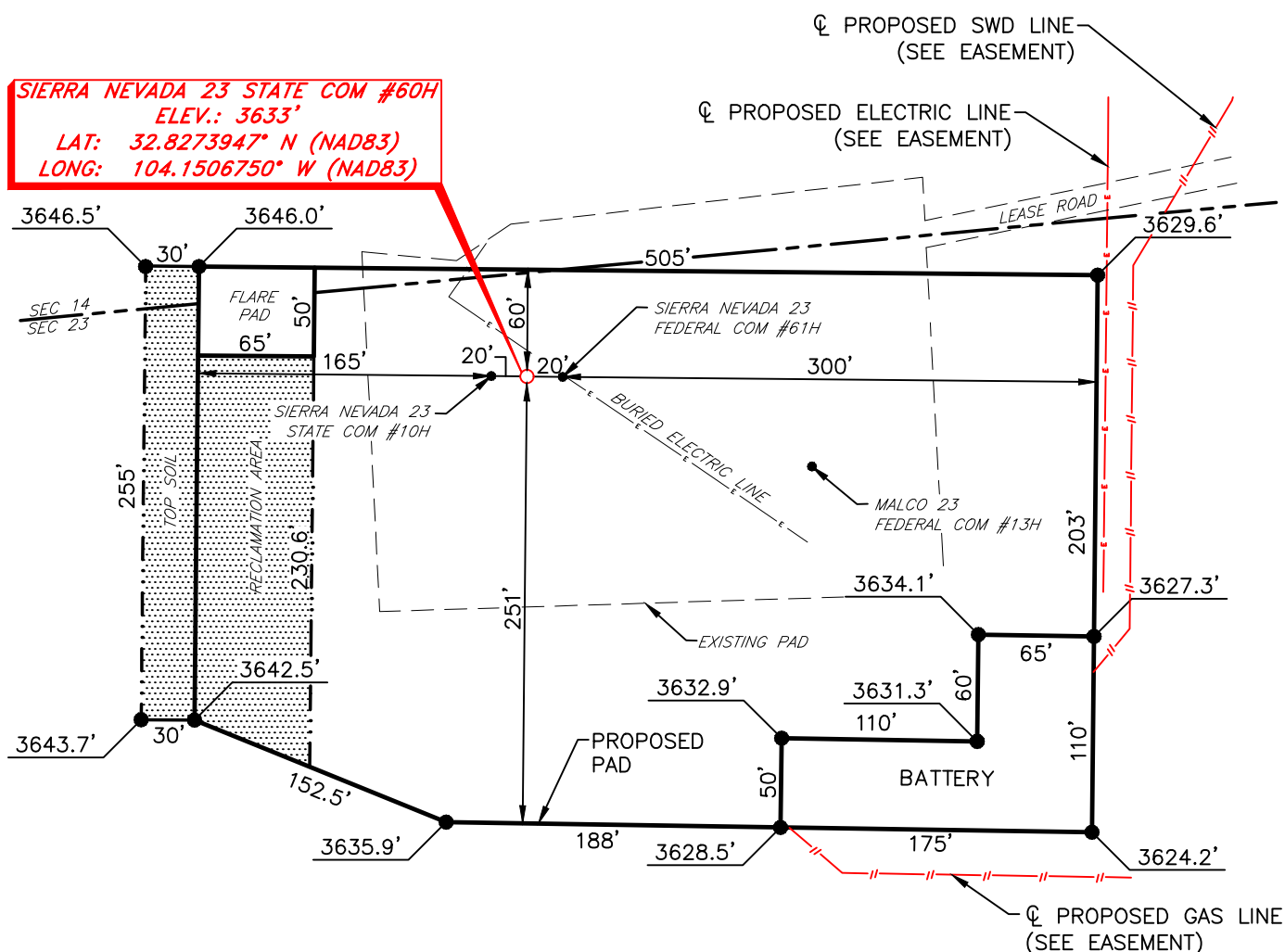
NO.	REVISION	DATE
JOB NO.: LS22060715		
DWG. NO.: 22060715-4		



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

SIERRA NEVADA 23 STATE COM #60H
ELEV.: 3633'
LAT: 32.8273947° N (NAD83)
LONG: 104.1506750° W (NAD83)

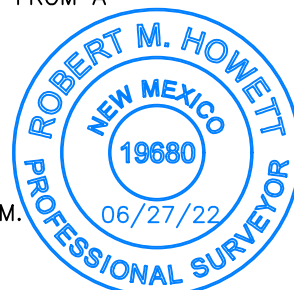


*From the intersection of U.S. Hwy 82 and CR #209 (Turkey Tract Rd.):
Go North on CR #209 approx. 2.3 miles to a lease road on the left;
Turn left and go West approx. 0.2 miles to a lease road on the left;
Turn left and go South approx. 0.4 miles to location on the left.*

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



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NO.	REVISION	DATE
JOB NO.: LS22060715		
DWG. NO.: 22060715-4		

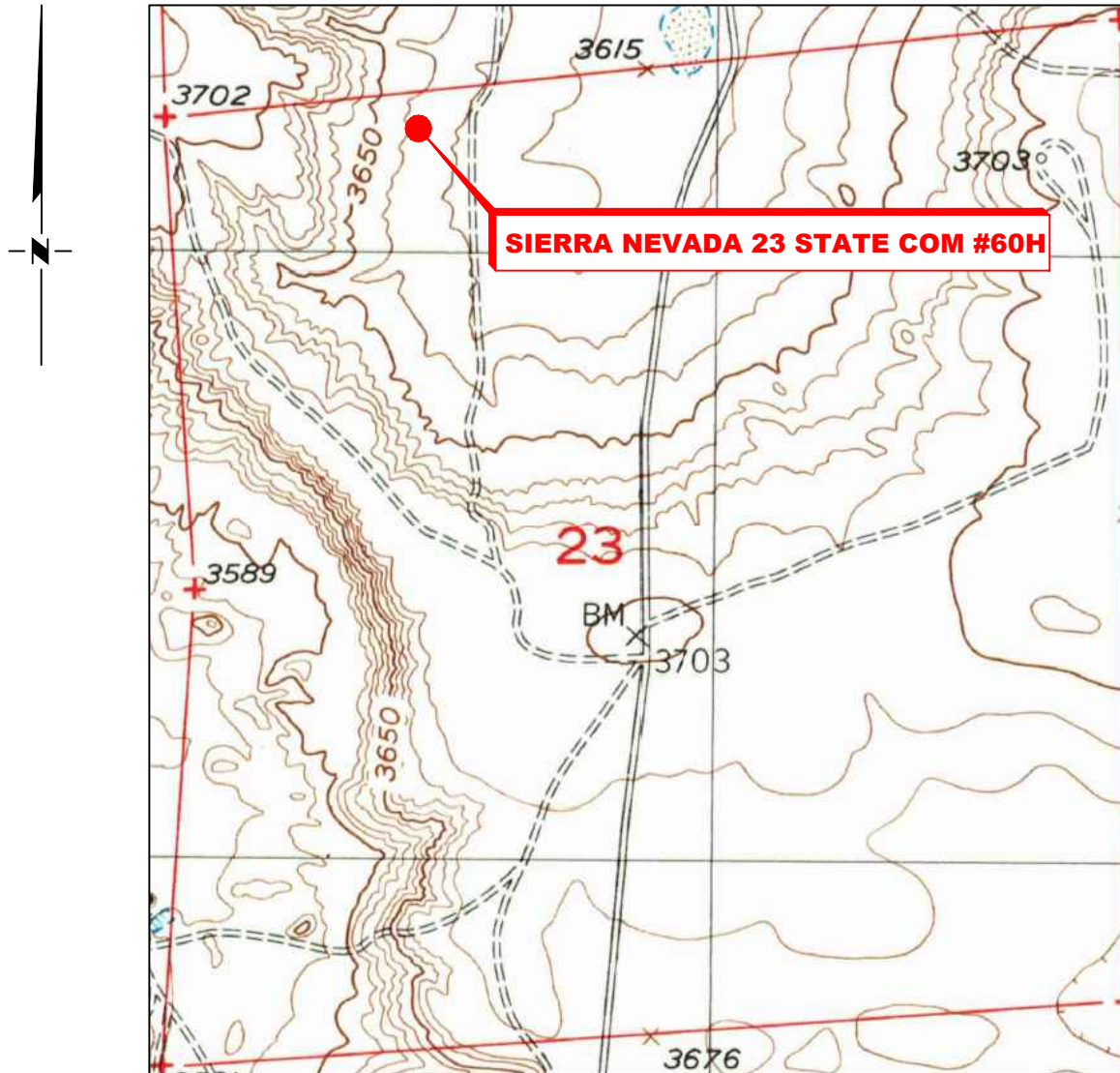


701 S. CECIL ST., HOBBS, NM 88240 (575) 964-8200

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

LOCATION VERIFICATION MAP

NOT TO SCALE



*SECTION 23, TWP. 17 SOUTH, RGE. 28 EAST,
N. M. P. M., EDDY COUNTY, NEW MEXICO*

OPERATOR: Spur Energy Partners LLC.LEASE: Sierra Nevada 23 State ComWELL NO.: 60HELEVATION: 3633'LOCATION: 58' FNL & 1388' FWLCONTOUR INTERVAL: 10'

USGS TOPO. SOURCE MAP:

Red Lake, NM (1955)

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NO.	REVISION	DATE
JOB NO.: LS22060715		
DWG. NO.: 22060715-2		



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

SCALE: 1" = 1000'
DATE: 6/23/2022
SURVEYED BY: JF/JM
DRAWN BY: BL
APPROVED BY: RMH
SHEET: 1 OF 1

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:	



Natural Gas Management Plan – Attachment

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

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

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



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

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

Surface Use Plan of Operations**Operator Name/Number: Spur Energy Partners LLC – 328947****Lease Name/Well Number: Sierra Nevada 23 State Com 60H****Pool Name/Number: Empire; Glorieta-Yeso (96210)****Surface Location: 58' FNL 1388' FWL NENW (C) Sec 23 T17S R28E – NMNM0001510****Bottom Location: 50' FSL 1050' FWL SWSW (M) Sec 23 T17S R28E – STATE****1. Existing Roads**

- a. A copy of the Vicinity Map is attached showing the proposed location. The well location is spotted on the map, which shows the existing road system.
- b. This well was staked by Robert Howett, Certificate No. 19680 on June 8, 2022, certified on August 18, 2022.
- c. 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.

2. New or Reconstructed Access Roads

- a. No new access road will be constructed.

3. Location of Existing Wells

- a. Existing wells within one-mile radius of proposed well are shown on attached plat.

4. Location of Proposed Facilities

- a. In the event the well is found to be productive, Sierra Nevada 23 Tank Battery would be utilized and the necessary production equipment will be installed at the well site. See proposed facilities layout diagram.
- b. Each well will have two (2) 4" surface flowlines operating around 90 psi from the well sites to the tank battery. The flowlines for the Sierra Nevada 23 wells will be routed to the Sierra Nevada 23 tank battery (on lease). The wells will produce into this battery at any given time.
- c. Gas line will follow a route approved by the BLM. Survey a strip of land 30 feet wide, being 200.10 feet in length, lying in Section 23, Township 17 South, Range 28 East, N.M.P.M., Eddy County, New Mexico being 15 feet left and 15 feet right of the centerline survey.
- d. Electric line will follow a route approved by the BLM. Survey a strip of land 30 feet wide, being 84.84 feet in length, lying in Section 14, Township 17 South, Range 28 East, N.M.P.M., Eddy County, New Mexico, being 15 feet left and 15 feet right of the centerline survey. Survey a strip of land 30 feet wide, being 210.06 feet in length, lying in Section 23, Township 17 South, Range 28 East, N.M.P.M., Eddy County, New Mexico, being 15 feet left and 15 feet right of the centerline survey.
- e. SWD line will follow a route approved by the BLM. Survey a strip of land 30 feet wide, being 2506.88 feet in length, lying in Section 14, Township 17 South, Range 28 East, N.M.P.M., Eddy County, New Mexico being 15 feet left and 15 feet right of the centerline survey. Survey a strip of land 30 feet wide, being 2057.71 feet in length, lying in Section 14, Township 17 South, Range 28 East, N.M.P.M., Eddy County, New Mexico being 15 feet left and 15 feet right of the centerline survey. Survey a strip of land 30 feet wide, being 270.32 feet in length, lying in Section 23, Township 17 South, Range 28 East, N.M.P.M., Eddy County, New Mexico being 15 feet left and 15 feet right of the centerline survey.
- f. See attached for additional information on the Sierra Nevada 23 Tank Battery.

5. Location and types of Water Supply

- a. This well will be drilled using a combination of water mud systems. It will be obtained from commercial water stations in the area and will be hauled to location by truck using existing and proposed roads.

6. Construction Materials

- a. All caliche for the drilling pad and proposed access road will be obtained from an existing BLM/State/Fee approved pit from prevailing deposits found on location. Will use BLM recommended caliche from other locations close by for roads, if available.
- b. The secondary way obtaining caliche to build locations and roads will be by “turning over” the location. Amount will vary for each pad. The procedure below has been approved by BLM personnel:
 - i. The top 6” of topsoil is pushed off and stockpiled along the side of location
 - ii. An approximate 255’ X 30’ area on the western side of the well pad will be used within the proposed well site to remove caliche
 - iii. Subsoil will be removed and piled alongside the 255’ X 30’ within the pad site
 - iv. When caliche is found, material will be stockpiled within the pad site to build location and road
 - v. Once the well is drilled, the stockpiled topsoil will be used for interim reclamation and spread along areas where caliche is picked up and the location size is reduced. Neither the caliche nor subsoil will be stockpiled outside of the well pad. Topsoil will be stockpiled along the eastern edge of the pad as depicted in our Site Plan

7. Methods of Handling Waste Material

- a. A closed loop system will be utilized consisting of above ground steel tanks and haul-off bins. Disposal of drilling fluids and cuttings will be disposed of at an approved facility. Solids and Liquids – R360.
- b. All trash, junk and other waste material will be contained in trash cans or bins to prevent scattering. When the job is completed, all contents will be removed and disposed of in an approved sanitary landfill.
- c. The supplier, including broken sacks, will pick up remaining slats after the completion of the well.
- d. A port-a-potty will be provided for the rig crews. The equipment will be properly maintained during the drilling and completion operations and removed when the operations are complete.
- e. Disposal of fluids will be transported by the following companies:
 - i. Mulholland
 - ii. R360
 - iii. AR Services

8. Ancillary Facilities: None needed**9. Well-Site Layout**V-Door: NorthCL Tanks: CentralPad: 565’ X 313’ – 3 well pad**10. Plans for Surface Reclamation**

- a. After concluding drilling and/or completion operations, if the well is non-commercial, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road will be reclaimed as directed by the BLM COAs. The original topsoil will again be returned to the pad and contoured, as close as possible to the original topography, and the area will be seeded with an approved BLM mixture to re-establish vegetation.

- b. If the well is deemed commercially productive, caliche from the areas of the pad site will not be required for operations will be reclaimed. The original topsoil will be returned to the area of the drill pad not necessary to operate the well. The unused areas of the drill pad will be re-contoured as close as possible to the original topography, and the area will be seeded with an approved BLM mixture to re-establish vegetation.

11. Surface Ownership

- a. The surface is owned by the U.S. Government and is administered to the BLM as well as ConocoPhillips, whose address is 600 W. Illinois Avenue, Midland, TX 79701. The primary uses of the surface are for grazing of livestock and the production of oil and gas. The surface is leased to Key Livestock, LLC, 1012 E. 2nd Street, Roswell, NM 88201. They will be notified of our intention to drill prior to any activity.

12. Other Information

- a. The vegetation cover is generally sparse consisting of mesquite, yucca, shinary oak, sandsage and perennial native range grass. The topsoil is sandy in nature. Wildlife in the area is also sparse consisting of deer, coyotes, rabbits, reptiles, dove and quail.
- b. There is no permanent or live water in the general proximity of the location.
- c. There are no dwellings within one mile of the proposed well site.
- d. Cultural Resources Examination – This well is in the Permian Basin Problematic Agreement (PBPA). Payment to be determined by the BLM. This well shares a well pad with the Sierra Nevada 23 State Com 10H and Sierra Nevada 23 Federal Com 61H wells.

13. Bond Information

- a. Bond coverage is individual – NMB001783

14. Operator Representatives

Jerry Mathews
Superintendent of Operations
2407 Pecos Avenue
Artesia, NM 88210
Cellular: 575-748-5234

John Nabors
Senior VP of Operations
9655 Katy Freeway, Suite 500
Houston, TX 77024
Cellular: 281-904-8811
Office: 832-930-8526

Nash Bell
VP Land
9655 Katy Freeway, Suite 500
Houston, TX 77024
Cellular: 512-461-1874
Office: 832-930-8582



U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

PWD Data Report

08/15/2023

APD ID: 10400087620

Submission Date: 08/25/2022

Operator Name: SPUR ENERGY PARTNERS LLC

Well Name: SIERRA NEVADA 23 STATE COM

Well Number: 60H

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined

Would you like to utilize Lined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit

Pit liner description:

Pit liner manufacturers

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule

Lined pit reclamation description:

Lined pit reclamation

Leak detection system description:

Leak detection system

Operator Name: SPUR ENERGY PARTNERS LLC

Well Name: SIERRA NEVADA 23 STATE COM

Well Number: 60H

Lined pit Monitor description:

Lined pit Monitor

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information

Section 3 - Unlined

Would you like to utilize Unlined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD disturbance (acres):

PWD surface owner:

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule

Unlined pit reclamation description:

Unlined pit reclamation

Unlined pit Monitor description:

Unlined pit Monitor

Do you propose to put the produced water to beneficial use?

Beneficial use user

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic

State

Unlined Produced Water Pit Estimated

Unlined pit: do you have a reclamation bond for the pit?

Operator Name: SPUR ENERGY PARTNERS LLC**Well Name:** SIERRA NEVADA 23 STATE COM**Well Number:** 60H**Is the reclamation bond a rider under the BLM bond?****Unlined pit bond number:****Unlined pit bond amount:****Additional bond information****Section 4 -****Would you like to utilize Injection PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Injection PWD discharge volume (bbl/day):****Injection well mineral owner:****Injection well type:****Injection well number:****Injection well name:****Assigned injection well API number?****Injection well API number:****Injection well new surface disturbance (acres):****Minerals protection information:****Mineral protection****Underground Injection Control (UIC) Permit?****UIC Permit****Section 5 - Surface****Would you like to utilize Surface Discharge PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Surface discharge PWD discharge volume (bbl/day):****Surface Discharge NPDES Permit?****Surface Discharge NPDES Permit attachment:****Surface Discharge site facilities information:****Surface discharge site facilities map:****Section 6 -****Would you like to utilize Other PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Other PWD discharge volume (bbl/day):**

Operator Name: SPUR ENERGY PARTNERS LLC

Well Name: SIERRA NEVADA 23 STATE COM

Well Number: 60H

Other PWD type description:

Other PWD type

Have other regulatory requirements been met?

Other regulatory requirements



U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Bond Info Data

08/15/2023

APD ID: 10400087620

Submission Date: 08/25/2022

Highlighted data
reflects the most
recent changes
[Show Final Text](#)

Operator Name: SPUR ENERGY PARTNERS LLC

Well Name: SIERRA NEVADA 23 STATE COM

Well Number: 60H

Well Type: OIL WELL

Well Work Type: Drill

Bond

Federal/Indian APD: FED

BLM Bond number: NMB001783

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information

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 30-015-54103	² Pool Code 96210	³ Pool Name EMPIRE; GLORIETA-YESO
⁴ Property Code 334615	⁵ Property Name SIERRA NEVADA 23 STATE COM	⁶ Well Number 60H
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		58	NORTH	1388	WEST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	23	17S	28E		50	SOUTH	1050	WEST	EDDY
¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

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

(C) (D) (E) GEODETIC DATA NAD 83 GRID - NM EAST SURFACE LOCATION N: 664787.5 - E: 597445.1 FIRST TAKE POINT (FTP) 100' FNL 1050' FWL N: 664714.1 - E: 597109.7 LAST TAKE POINT (LTP) 100' FSL 1050' FWL N: 659655.9 - E: 597068.3 BOTTOM HOLE LOCATION N: 659605.9 - E: 597066.4 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 (B) (A) (H) (G)	17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Sarah Chapman</i> 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 REV: FTP, LTP, BH 08/11/2022 PROF. ROBERT M. HOWETT NEW MEXICO 19680 PROFESSIONAL SURVEYOR
	Job No.: LS22060715



Natural Gas Management Plan – Attachment

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

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

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



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

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

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 State Com 60H

1. Geologic Formations

TVD of Target	4,275'
MD at TD	10,095'

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	10095	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 State Com 60H

	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	10095	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)	1249	13.2	1.81	9.81	N/A	Clas C Premium Plus Cement

Spur Energy Partners LLC – Sierra Nevada 23 State Com 60H

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	1979 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 State Com 60H

	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	10095	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 State Com 60H

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: 925.8 bbls.

Spur Energy Partners LLC – Sierra Nevada 23 State Com 60H**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 STATE COM
60H**

Wellbore #1

Plan: PERMIT

Standard Planning Report

12 August, 2022





Planning Report



Database:	WBDS_SQL_2	Local Co-ordinate Reference:	Well 60H
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 STATE COM	North Reference:	Grid
Well:	60H	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 STATE 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	60H			
Well Position	+N/-S	-0.20 usft	Northing:	664,787.50 usft
	+E/-W	20.00 usft	Easting:	597,445.10 usft
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	47,670.07301192

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	180.49

Plan Survey Tool Program	Date	08/12/22		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	10,094.57	PERMIT (Wellbore #1)	MWD+IFR1+SAG+FDIR OWSG MWD + IFR1 + Sag

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	
1,374.75	21.50	343.43	1,349.72	190.98	-56.81	2.00	2.00	0.00	343.434	
3,135.57	21.50	343.43	2,988.07	809.40	-240.77	0.00	0.00	0.00	0.000	
4,480.34	60.00	180.49	4,148.27	391.87	-331.46	6.00	2.86	-12.12	-165.088	
4,680.34	60.00	180.49	4,248.27	218.68	-332.92	0.00	0.00	0.00	0.000	
4,985.94	90.56	180.49	4,325.00	-73.40	-335.40	10.00	10.00	0.00	0.000	3. SIERRA NEVAD,
10,044.55	90.56	180.49	4,275.49	-5,131.59	-378.28	0.00	0.00	0.00	0.000	4. SIERRA NEVAD,
10,094.57	90.56	180.49	4,275.00	-5,181.60	-378.70	0.00	0.00	0.00	0.000	5. SIERRA NEVAD,



Planning Report



Database:	WBDS_SQL_2	Local Co-ordinate Reference:	Well 60H
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 STATE COM	North Reference:	Grid
Well:	60H	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	343.43	399.98	1.67	-0.50	-1.67	2.00	2.00	0.00
500.00	4.00	343.43	499.84	6.69	-1.99	-6.67	2.00	2.00	0.00
600.00	6.00	343.43	599.45	15.04	-4.47	-15.00	2.00	2.00	0.00
700.00	8.00	343.43	698.70	26.72	-7.95	-26.65	2.00	2.00	0.00
800.00	10.00	343.43	797.47	41.72	-12.41	-41.61	2.00	2.00	0.00
900.00	12.00	343.43	895.62	60.00	-17.85	-59.85	2.00	2.00	0.00
1,000.00	14.00	343.43	993.06	81.56	-24.26	-81.35	2.00	2.00	0.00
1,100.00	16.00	343.43	1,089.64	106.37	-31.64	-106.10	2.00	2.00	0.00
1,200.00	18.00	343.43	1,185.27	134.39	-39.98	-134.05	2.00	2.00	0.00
1,300.00	20.00	343.43	1,279.82	165.60	-49.26	-165.17	2.00	2.00	0.00
1,374.75	21.50	343.43	1,349.72	190.98	-56.81	-190.49	2.00	2.00	0.00
1,400.00	21.50	343.43	1,373.21	199.85	-59.45	-199.33	0.00	0.00	0.00
1,500.00	21.50	343.43	1,466.25	234.97	-69.89	-234.36	0.00	0.00	0.00
1,600.00	21.50	343.43	1,559.30	270.09	-80.34	-269.39	0.00	0.00	0.00
1,700.00	21.50	343.43	1,652.34	305.21	-90.79	-304.42	0.00	0.00	0.00
1,800.00	21.50	343.43	1,745.39	340.33	-101.24	-339.45	0.00	0.00	0.00
1,900.00	21.50	343.43	1,838.43	375.45	-111.68	-374.48	0.00	0.00	0.00
2,000.00	21.50	343.43	1,931.48	410.57	-122.13	-409.51	0.00	0.00	0.00
2,100.00	21.50	343.43	2,024.52	445.69	-132.58	-444.54	0.00	0.00	0.00
2,200.00	21.50	343.43	2,117.57	480.82	-143.03	-479.57	0.00	0.00	0.00
2,300.00	21.50	343.43	2,210.61	515.94	-153.47	-514.61	0.00	0.00	0.00
2,400.00	21.50	343.43	2,303.66	551.06	-163.92	-549.64	0.00	0.00	0.00
2,500.00	21.50	343.43	2,396.70	586.18	-174.37	-584.67	0.00	0.00	0.00
2,600.00	21.50	343.43	2,489.75	621.30	-184.81	-619.70	0.00	0.00	0.00
2,700.00	21.50	343.43	2,582.79	656.42	-195.26	-654.73	0.00	0.00	0.00
2,800.00	21.50	343.43	2,675.84	691.54	-205.71	-689.76	0.00	0.00	0.00
2,900.00	21.50	343.43	2,768.88	726.66	-216.16	-724.79	0.00	0.00	0.00
3,000.00	21.50	343.43	2,861.93	761.79	-226.60	-759.82	0.00	0.00	0.00
3,100.00	21.50	343.43	2,954.97	796.91	-237.05	-794.85	0.00	0.00	0.00
3,135.57	21.50	343.43	2,988.07	809.40	-240.77	-807.31	0.00	0.00	0.00
3,150.00	20.66	342.80	3,001.53	814.37	-242.27	-812.26	6.00	-5.79	-4.38
3,200.00	17.79	340.18	3,048.74	829.98	-247.47	-827.83	6.00	-5.75	-5.25
3,250.00	14.96	336.59	3,096.71	843.09	-252.63	-840.90	6.00	-5.65	-7.18
3,300.00	12.22	331.41	3,145.31	853.66	-257.72	-851.42	6.00	-5.49	-10.37
3,350.00	9.62	323.39	3,194.40	861.66	-262.75	-859.38	6.00	-5.19	-16.04
3,400.00	7.34	310.03	3,243.86	867.07	-267.69	-864.75	6.00	-4.56	-26.72
3,450.00	5.76	287.38	3,293.54	869.87	-272.53	-867.51	6.00	-3.17	-45.30
3,500.00	5.51	256.54	3,343.31	870.06	-277.26	-867.66	6.00	-0.50	-61.67
3,550.00	6.74	230.57	3,393.03	867.64	-281.86	-865.20	6.00	2.47	-51.93
3,600.00	8.86	214.75	3,442.57	862.61	-286.32	-860.13	6.00	4.24	-31.65
3,650.00	11.38	205.41	3,491.79	854.98	-290.64	-852.47	6.00	5.04	-18.67
3,700.00	14.09	199.52	3,540.56	844.79	-294.79	-842.23	6.00	5.42	-11.79
3,750.00	16.90	195.52	3,588.74	832.04	-298.77	-829.46	6.00	5.61	-8.00
3,800.00	19.76	192.64	3,636.20	816.79	-302.56	-814.18	6.00	5.72	-5.76
3,850.00	22.65	190.47	3,682.81	799.07	-306.16	-796.43	6.00	5.79	-4.34
3,900.00	25.57	188.77	3,728.44	778.93	-309.56	-776.26	6.00	5.84	-3.40
3,950.00	28.51	187.39	3,772.97	756.43	-312.74	-753.73	6.00	5.87	-2.75
4,000.00	31.45	186.26	3,816.27	731.63	-315.70	-728.90	6.00	5.89	-2.27
4,050.00	34.41	185.30	3,858.24	704.59	-318.42	-701.84	6.00	5.91	-1.92
4,100.00	37.37	184.48	3,898.74	675.39	-320.91	-672.62	6.00	5.92	-1.65



Planning Report



Database:	WBDS_SQL_2	Local Co-ordinate Reference:	Well 60H
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 STATE COM	North Reference:	Grid
Well:	60H	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)
4,150.00	40.33	183.76	3,937.67	644.10	-323.16	-641.32	6.00	5.93	-1.44
4,200.00	43.30	183.12	3,974.93	610.83	-325.15	-608.03	6.00	5.94	-1.27
4,250.00	46.28	182.55	4,010.41	575.65	-326.89	-572.83	6.00	5.95	-1.14
4,300.00	49.25	182.03	4,044.02	538.66	-328.36	-535.84	6.00	5.95	-1.03
4,350.00	52.23	181.56	4,075.66	499.97	-329.57	-497.14	6.00	5.96	-0.94
4,400.00	55.21	181.12	4,105.24	459.68	-330.51	-456.84	6.00	5.96	-0.87
4,450.00	58.19	180.72	4,132.69	417.90	-331.18	-415.05	6.00	5.96	-0.81
4,480.34	60.00	180.49	4,148.27	391.87	-331.46	-389.03	6.00	5.96	-0.77
4,500.00	60.00	180.49	4,158.10	374.85	-331.60	-372.00	0.00	0.00	0.00
4,600.00	60.00	180.49	4,208.10	288.25	-332.33	-285.39	0.00	0.00	0.00
4,680.34	60.00	180.49	4,248.27	218.68	-332.92	-215.82	0.00	0.00	0.00
4,700.00	61.97	180.49	4,257.80	201.48	-333.07	-198.63	10.00	10.00	0.00
4,750.00	66.97	180.49	4,279.35	156.38	-333.45	-153.52	10.00	10.00	0.00
4,800.00	71.97	180.49	4,296.88	109.57	-333.85	-106.71	10.00	10.00	0.00
4,850.00	76.97	180.49	4,310.27	61.42	-334.26	-58.56	10.00	10.00	0.00
4,900.00	81.97	180.49	4,319.40	12.28	-334.67	-9.41	10.00	10.00	0.00
4,950.00	86.97	180.49	4,324.22	-37.47	-335.10	40.34	10.00	10.00	0.00
4,985.94	90.56	180.49	4,325.00	-73.40	-335.40	76.27	10.00	10.00	0.00
5,000.00	90.56	180.49	4,324.86	-87.46	-335.52	90.32	0.00	0.00	0.00
5,100.00	90.56	180.49	4,323.88	-187.45	-336.37	190.32	0.00	0.00	0.00
5,200.00	90.56	180.49	4,322.91	-287.44	-337.21	290.31	0.00	0.00	0.00
5,300.00	90.56	180.49	4,321.93	-387.43	-338.06	390.31	0.00	0.00	0.00
5,400.00	90.56	180.49	4,320.95	-487.42	-338.91	490.30	0.00	0.00	0.00
5,500.00	90.56	180.49	4,319.97	-587.41	-339.76	590.30	0.00	0.00	0.00
5,600.00	90.56	180.49	4,318.99	-687.41	-340.60	690.29	0.00	0.00	0.00
5,700.00	90.56	180.49	4,318.01	-787.40	-341.45	790.29	0.00	0.00	0.00
5,800.00	90.56	180.49	4,317.03	-887.39	-342.30	890.28	0.00	0.00	0.00
5,900.00	90.56	180.49	4,316.05	-987.38	-343.15	990.28	0.00	0.00	0.00
6,000.00	90.56	180.49	4,315.08	-1,087.37	-344.00	1,090.27	0.00	0.00	0.00
6,100.00	90.56	180.49	4,314.10	-1,187.36	-344.84	1,190.27	0.00	0.00	0.00
6,200.00	90.56	180.49	4,313.12	-1,287.36	-345.69	1,290.26	0.00	0.00	0.00
6,300.00	90.56	180.49	4,312.14	-1,387.35	-346.54	1,390.26	0.00	0.00	0.00
6,400.00	90.56	180.49	4,311.16	-1,487.34	-347.39	1,490.26	0.00	0.00	0.00
6,500.00	90.56	180.49	4,310.18	-1,587.33	-348.23	1,590.25	0.00	0.00	0.00
6,600.00	90.56	180.49	4,309.20	-1,687.32	-349.08	1,690.25	0.00	0.00	0.00
6,700.00	90.56	180.49	4,308.22	-1,787.31	-349.93	1,790.24	0.00	0.00	0.00
6,800.00	90.56	180.49	4,307.25	-1,887.31	-350.78	1,890.24	0.00	0.00	0.00
6,900.00	90.56	180.49	4,306.27	-1,987.30	-351.62	1,990.23	0.00	0.00	0.00
7,000.00	90.56	180.49	4,305.29	-2,087.29	-352.47	2,090.23	0.00	0.00	0.00
7,100.00	90.56	180.49	4,304.31	-2,187.28	-353.32	2,190.22	0.00	0.00	0.00
7,200.00	90.56	180.49	4,303.33	-2,287.27	-354.17	2,290.22	0.00	0.00	0.00
7,300.00	90.56	180.49	4,302.35	-2,387.26	-355.01	2,390.21	0.00	0.00	0.00
7,400.00	90.56	180.49	4,301.37	-2,487.25	-355.86	2,490.21	0.00	0.00	0.00
7,500.00	90.56	180.49	4,300.39	-2,587.25	-356.71	2,590.20	0.00	0.00	0.00
7,600.00	90.56	180.49	4,299.42	-2,687.24	-357.56	2,690.20	0.00	0.00	0.00
7,700.00	90.56	180.49	4,298.44	-2,787.23	-358.40	2,790.19	0.00	0.00	0.00
7,800.00	90.56	180.49	4,297.46	-2,887.22	-359.25	2,890.19	0.00	0.00	0.00
7,900.00	90.56	180.49	4,296.48	-2,987.21	-360.10	2,990.18	0.00	0.00	0.00
8,000.00	90.56	180.49	4,295.50	-3,087.20	-360.95	3,090.18	0.00	0.00	0.00
8,100.00	90.56	180.49	4,294.52	-3,187.20	-361.79	3,190.17	0.00	0.00	0.00
8,200.00	90.56	180.49	4,293.54	-3,287.19	-362.64	3,290.17	0.00	0.00	0.00
8,300.00	90.56	180.49	4,292.56	-3,387.18	-363.49	3,390.16	0.00	0.00	0.00
8,400.00	90.56	180.49	4,291.59	-3,487.17	-364.34	3,490.16	0.00	0.00	0.00
8,500.00	90.56	180.49	4,290.61	-3,587.16	-365.18	3,590.15	0.00	0.00	0.00



Planning Report



Database:	WBDS_SQL_2	Local Co-ordinate Reference:	Well 60H
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 STATE COM	North Reference:	Grid
Well:	60H	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)	
8,600.00	90.56	180.49	4,289.63	-3,687.15	-366.03	3,690.15	0.00	0.00	0.00	
8,700.00	90.56	180.49	4,288.65	-3,787.15	-366.88	3,790.15	0.00	0.00	0.00	
8,800.00	90.56	180.49	4,287.67	-3,887.14	-367.73	3,890.14	0.00	0.00	0.00	
8,900.00	90.56	180.49	4,286.69	-3,987.13	-368.57	3,990.14	0.00	0.00	0.00	
9,000.00	90.56	180.49	4,285.71	-4,087.12	-369.42	4,090.13	0.00	0.00	0.00	
9,100.00	90.56	180.49	4,284.73	-4,187.11	-370.27	4,190.13	0.00	0.00	0.00	
9,200.00	90.56	180.49	4,283.76	-4,287.10	-371.12	4,290.12	0.00	0.00	0.00	
9,300.00	90.56	180.49	4,282.78	-4,387.10	-371.97	4,390.12	0.00	0.00	0.00	
9,400.00	90.56	180.49	4,281.80	-4,487.09	-372.81	4,490.11	0.00	0.00	0.00	
9,500.00	90.56	180.49	4,280.82	-4,587.08	-373.66	4,590.11	0.00	0.00	0.00	
9,600.00	90.56	180.49	4,279.84	-4,687.07	-374.51	4,690.10	0.00	0.00	0.00	
9,700.00	90.56	180.49	4,278.86	-4,787.06	-375.36	4,790.10	0.00	0.00	0.00	
9,800.00	90.56	180.49	4,277.88	-4,887.05	-376.20	4,890.09	0.00	0.00	0.00	
9,900.00	90.56	180.49	4,276.90	-4,987.05	-377.05	4,990.09	0.00	0.00	0.00	
10,000.00	90.56	180.49	4,275.93	-5,087.04	-377.90	5,090.08	0.00	0.00	0.00	
10,044.55	90.56	180.49	4,275.49	-5,131.59	-378.28	5,134.63	0.00	0.00	0.00	
10,094.57	90.56	180.49	4,275.00	-5,181.60	-378.70	5,184.65	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	664,787.50	597,445.10	32.8273946	-104.1506749	
2. SIERRA NEVADA € - plan hits target center - Point	0.00	0.00	2,988.07	809.40	-240.77	665,596.90	597,204.34	32.8296205	-104.1514542	
5. SIERRA NEVADA € - plan hits target center - Point	0.00	0.01	4,275.00	-5,181.60	-378.70	659,605.90	597,066.40	32.8131541	-104.1519367	
4. SIERRA NEVADA € - plan misses target center by 1.48usft at 10044.55usft MD (4275.49 TVD, -5131.59 N, -378.28 E) - Point	0.00	0.01	4,275.49	-5,131.60	-376.80	659,655.90	597,068.30	32.8132915	-104.1519303	
3. SIERRA NEVADA € - plan hits target center - Point	0.00	0.01	4,325.00	-73.40	-335.40	664,714.10	597,109.70	32.8271945	-104.1517672	



Company: Spur Energy Partners, LLC
Project: Eddy County, NM (NAD 83 - NME)
Site: SIERRA NEVADA 23 STATE COM
Well: 60H
Wellbore: Wellbore #1
Rig: AKITA 57
Design: PERMIT / 10:02, 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



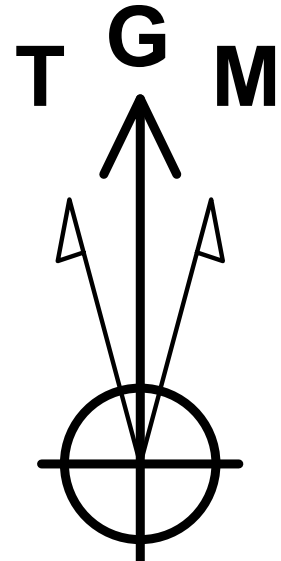
WELL DETAILS: 60H					
RKB =20' @ 3653.00usft (AKITA 57)					
3633.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	664787.50	597445.10	32.8273946	-104.1506749

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	1374.75	21.50	343.43	1349.72	190.98	-56.81	2.00	-190.49
4	3135.57	21.50	343.43	2988.07	809.40	-240.77	0.00	-807.31
5	4480.34	60.00	180.49	4148.27	391.87	-331.46	6.00	-389.03
6	4680.34	60.00	180.49	4248.27	218.68	-332.92	0.00	-215.82
7	4985.94	90.56	180.49	4325.00	-73.40	-335.40	10.00	76.27
8	10044.55	90.56	180.49	4275.49	-5131.59	-378.28	0.00	5134.63
9	10094.57	90.56	180.49	4275.00	-5181.60	-378.70	0.00	5184.65

DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude
1. SIERRA NEVADA 60H SHL: 58' FNL,1388' FWL	0.00	0.00	0.00	664787.50	597445.10	32.8273946
2. SIERRA NEVADA 60H KOP @ 3135.57' MD	2988.07	809.40	-240.77	665596.90	597204.33	32.8296205
3. SIERRA NEVADA 60H FTP: 100' FNL,1050' FWL	4325.00	-73.40	-335.40	664714.10	597109.70	32.8271945
4. SIERRA NEVADA 60H LTP: 100' FSL,1050' FWL	4275.49	-5131.60	-376.80	659655.90	597068.30	32.8132915
5. SIERRA NEVADA 60H BHL: 50' FSL,1050' FWL	4275.00	-5181.60	-378.70	659605.90	597066.40	32.8131541

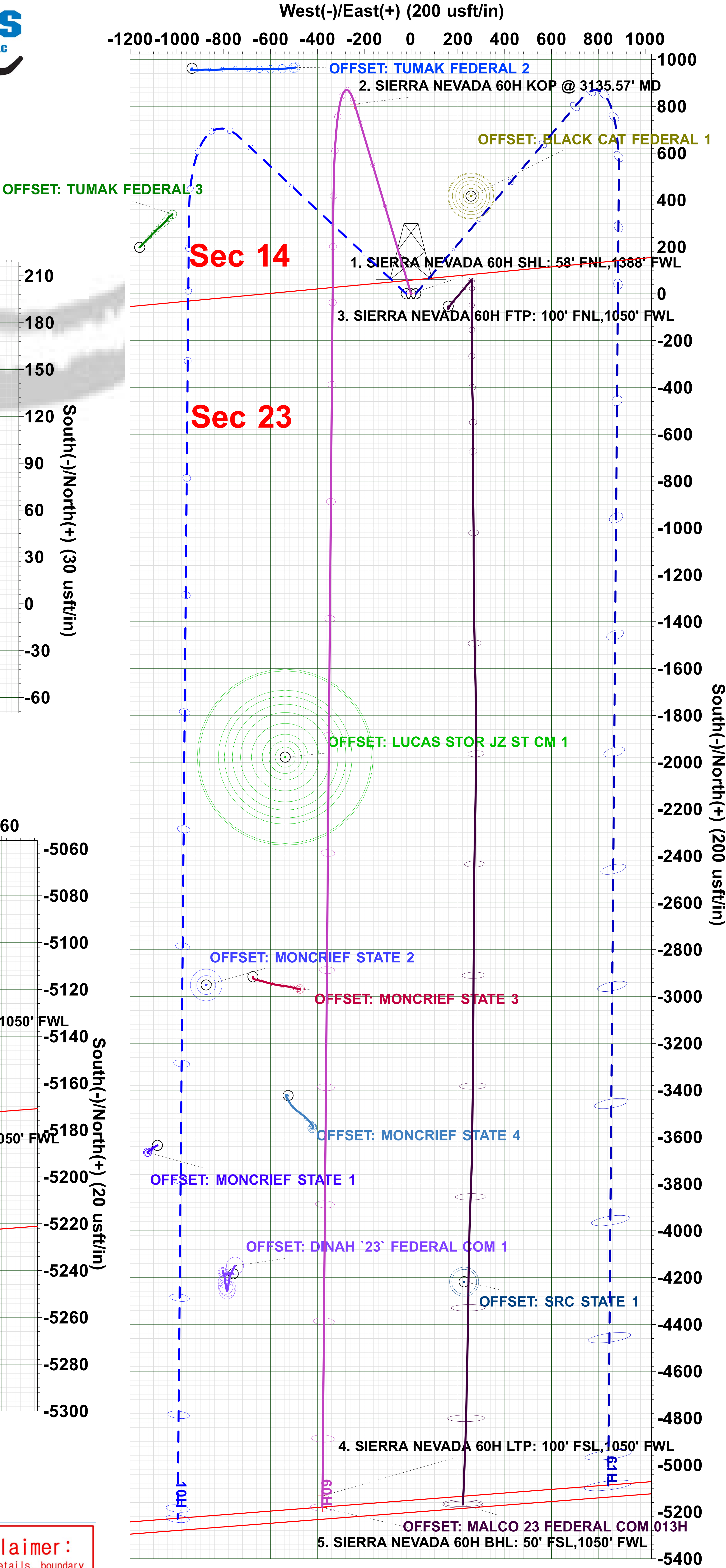
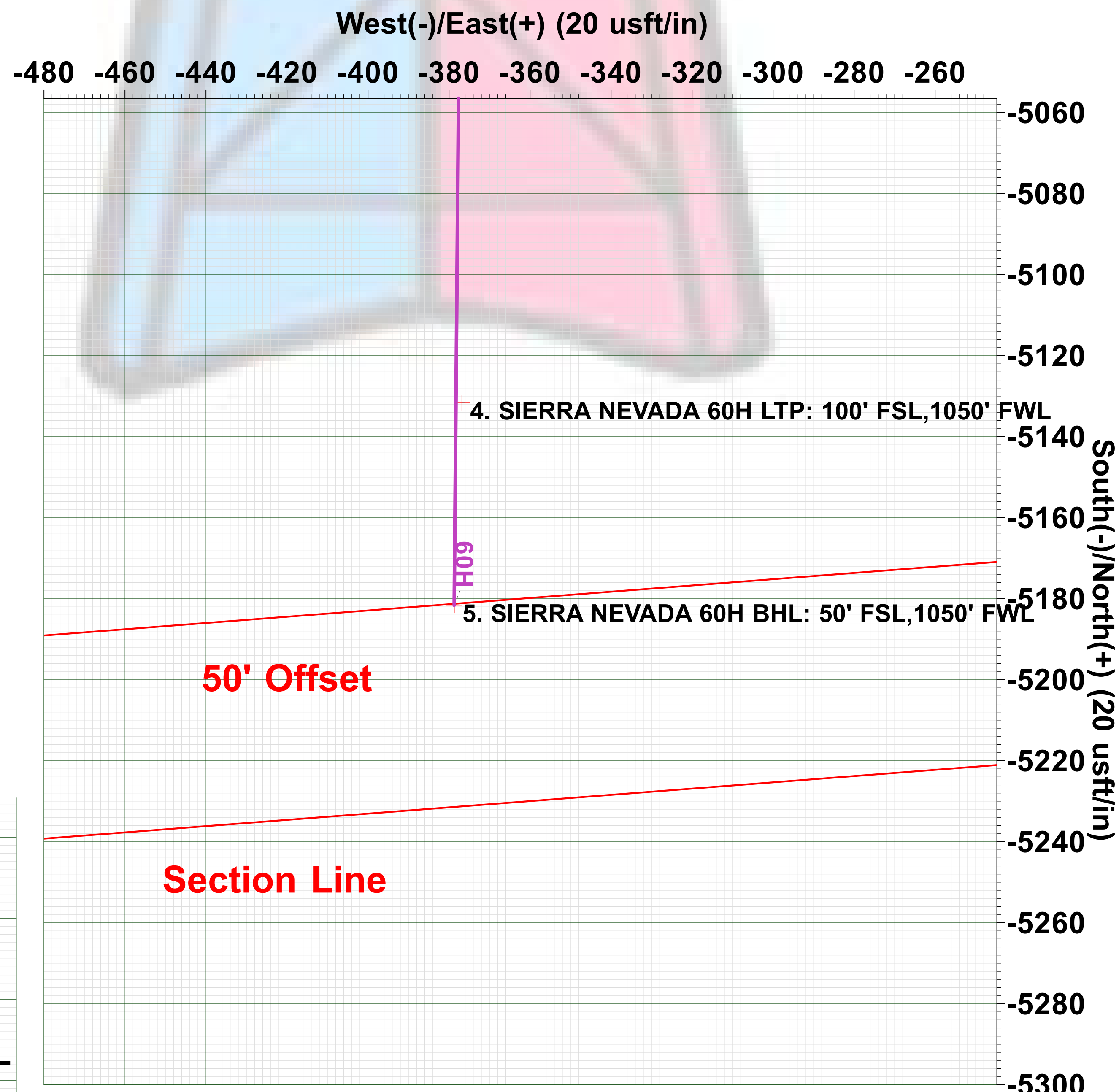
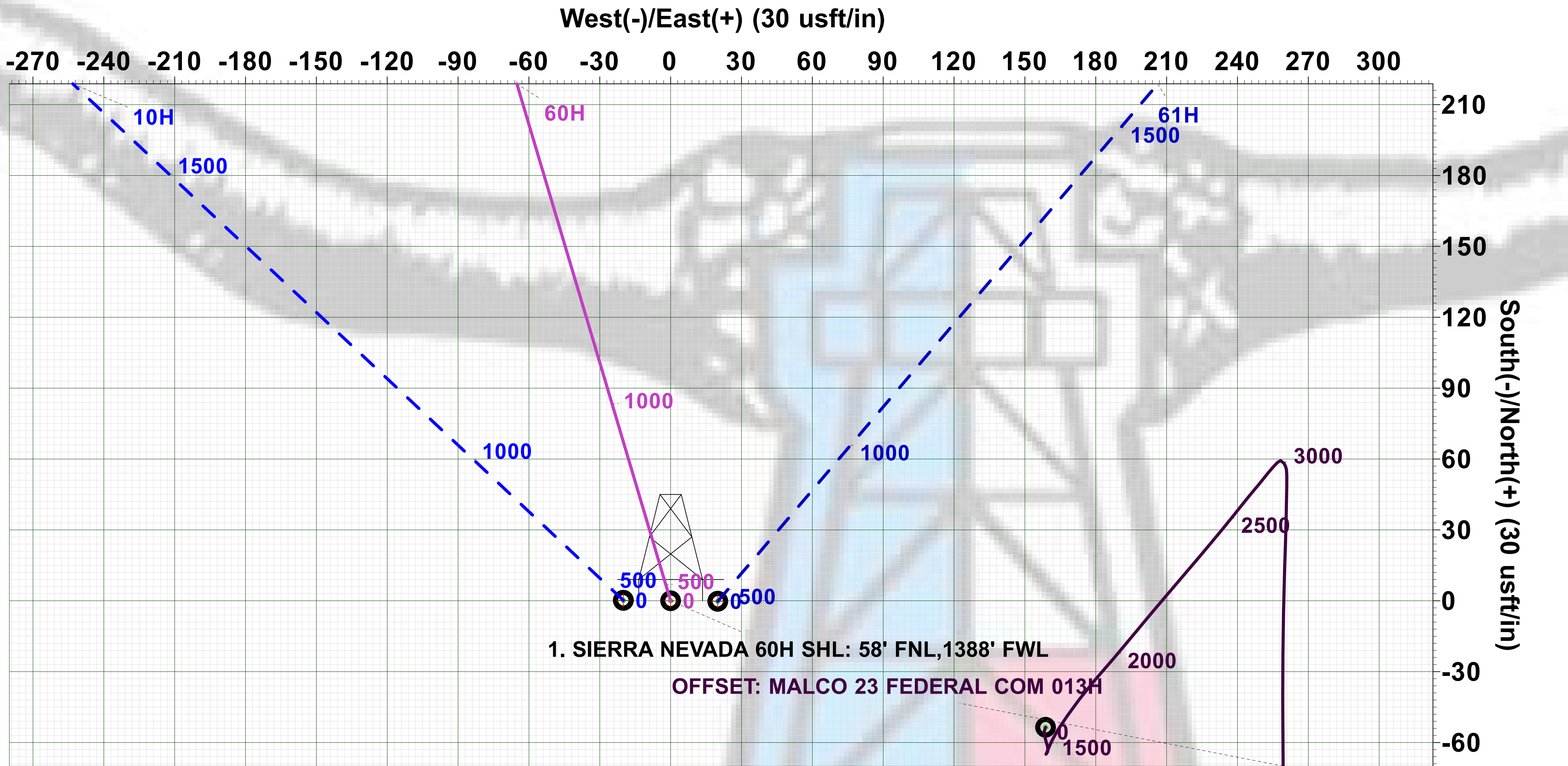
CORRECTION REFERENCE DATA:

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: 47670.07301192nT



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

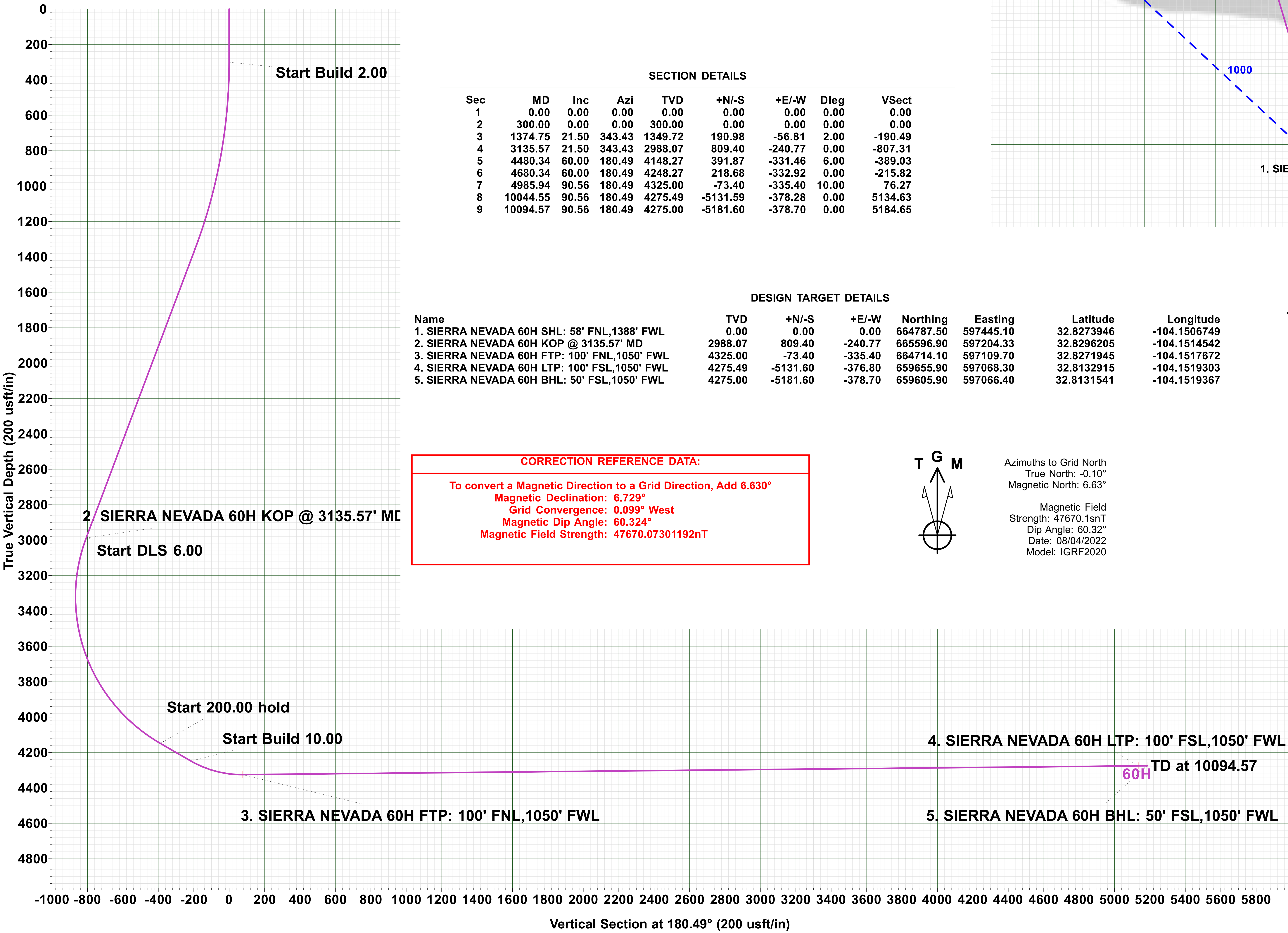
Magnetic Field
Strength: 47670.1snT
Dip Angle: 60.32°
Date: 08/04/2022
Model: IGRF2020



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

Plan: PERMIT (60H/Wellbore #1) AKITA 57

Created By: Derek Stephens Date: 10:02, August 12 2022





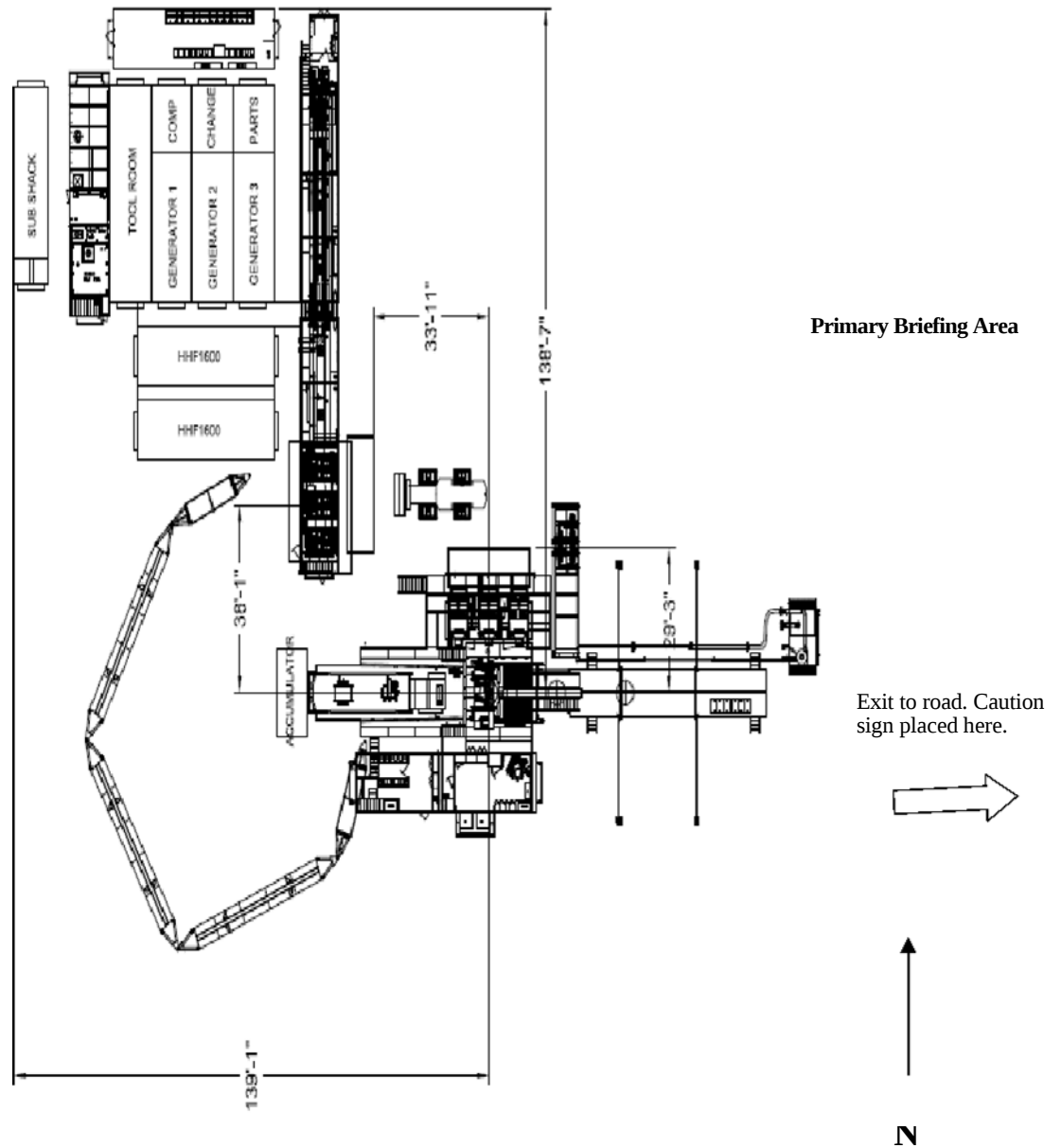
Permian Drilling Hydrogen Sulfide Drilling Operations Plan Sierra Nevada 23 State Com 60H

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



WIND: Prevailing winds are from the Southwest

Secondary Egress



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:

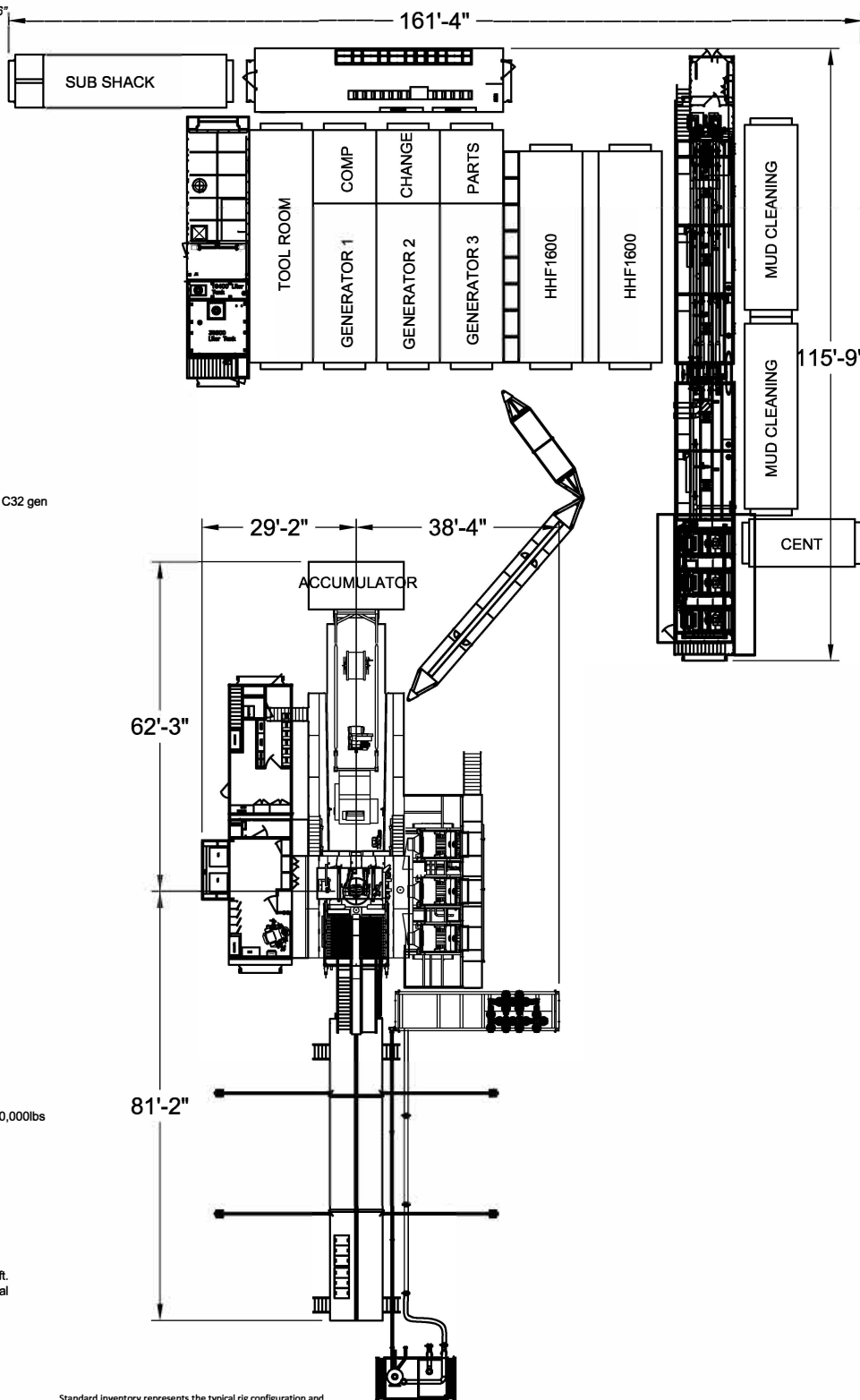
Walking beam hydraulic pony sub moving system for linear motion & side shift.

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



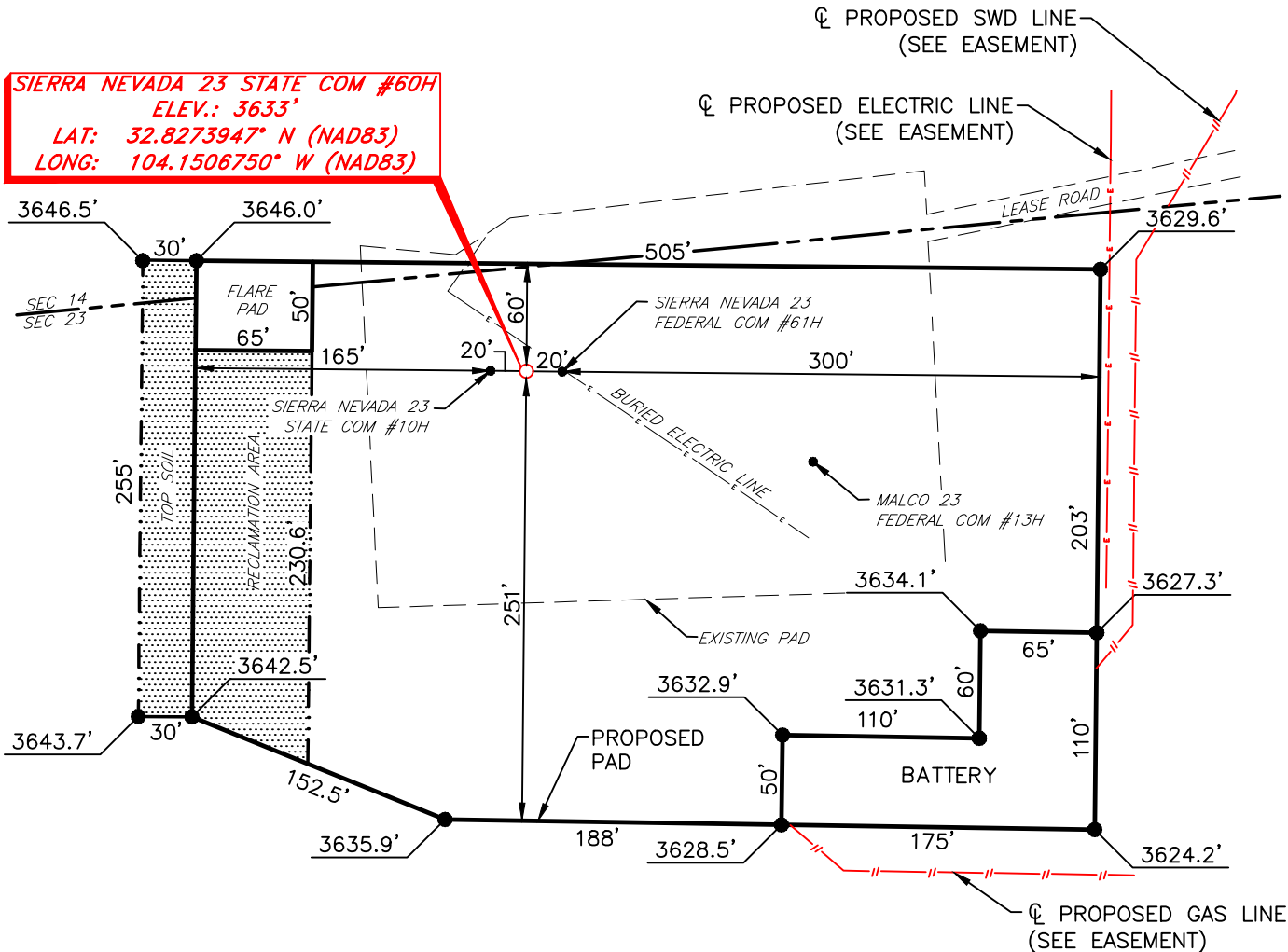
Standard inventory represents the typical rig configuration and inventory available, but specifications are subject to slight modifications from time to time due to customer requirements.

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 STATE COM #60H
(56' FNL & 1368' FWL)
SECTION 23, T17S, R28E
N. M. P. M., EDDY COUNTY, NEW MEXICO

SIERRA NEVADA 23 STATE COM #60H
ELEV.: 3633'
LAT: 32.8273947° N (NAD83)
LONG: 104.1506750° 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.: LS22060715		
DWG. NO.: 22060715-4		



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

Spur Energy Partners LLC – Sierra Nevada 23 State Com 60H

1. Geologic Formations

TVD of Target	4,275'
MD at TD	10,095'

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	10095	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 State Com 60H

	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	10095	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)	1249	13.2	1.81	9.81	N/A	Clas C Premium Plus Cement

Spur Energy Partners LLC – Sierra Nevada 23 State Com 60H

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	1979 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 State Com 60H

	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	10095	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 State Com 60H

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: 925.8 bbls.

Spur Energy Partners LLC – Sierra Nevada 23 State Com 60H**9. Other facets of operation**

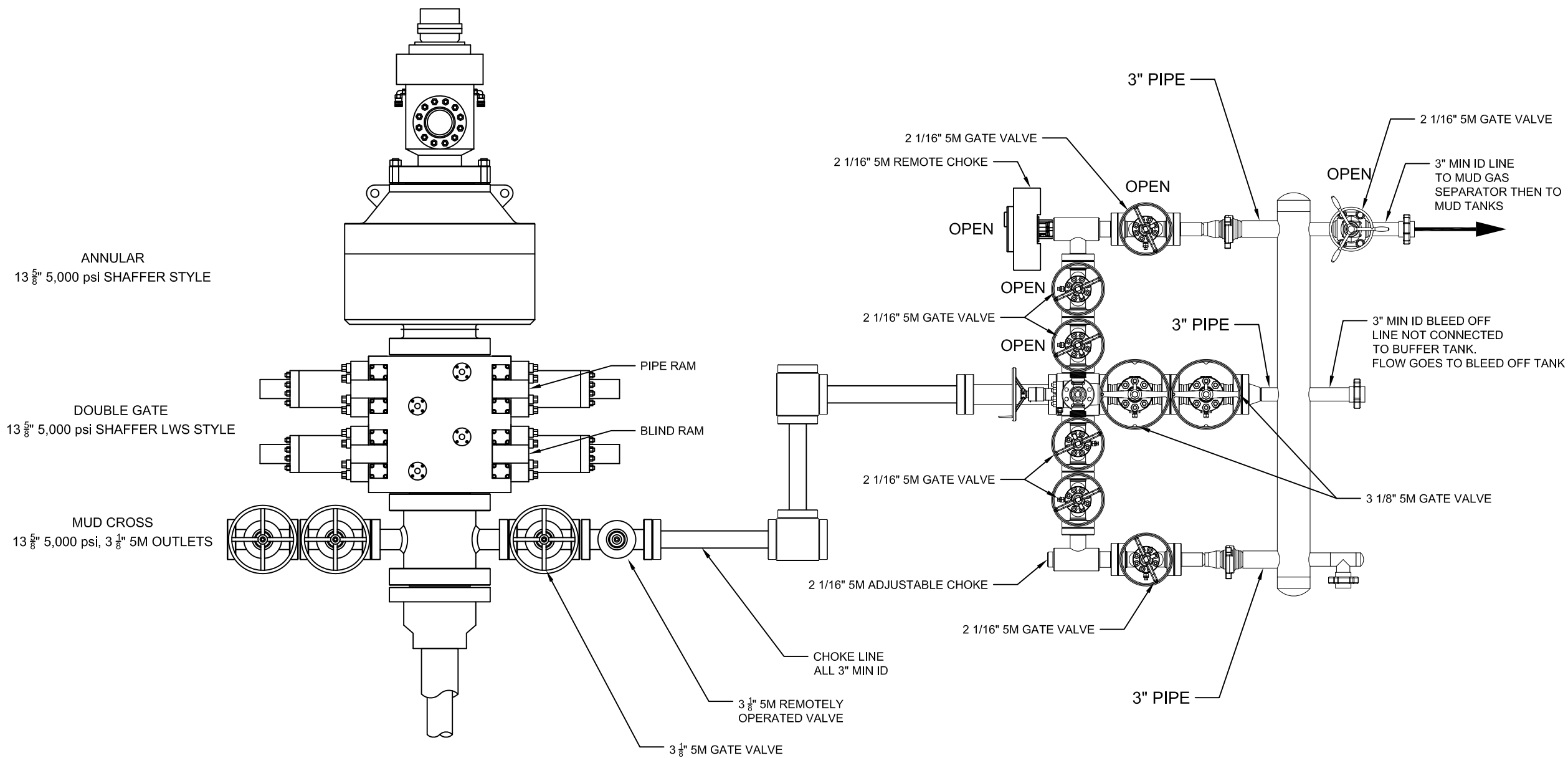
	Yes/No
Will more than one drilling rig be used for drilling operations? If yes, describe. Spur Energy Partners LLC. requests the option to contract a Surface Rig to drill, set surface/intermediate casing, and cement for this well. If the timing between rigs is such that Spur Energy Partners LLC. would 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



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 :

Production:
Date :
Signature :

PRODUCTION
8/5/2021

F-PRD-005B

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 "J. 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**

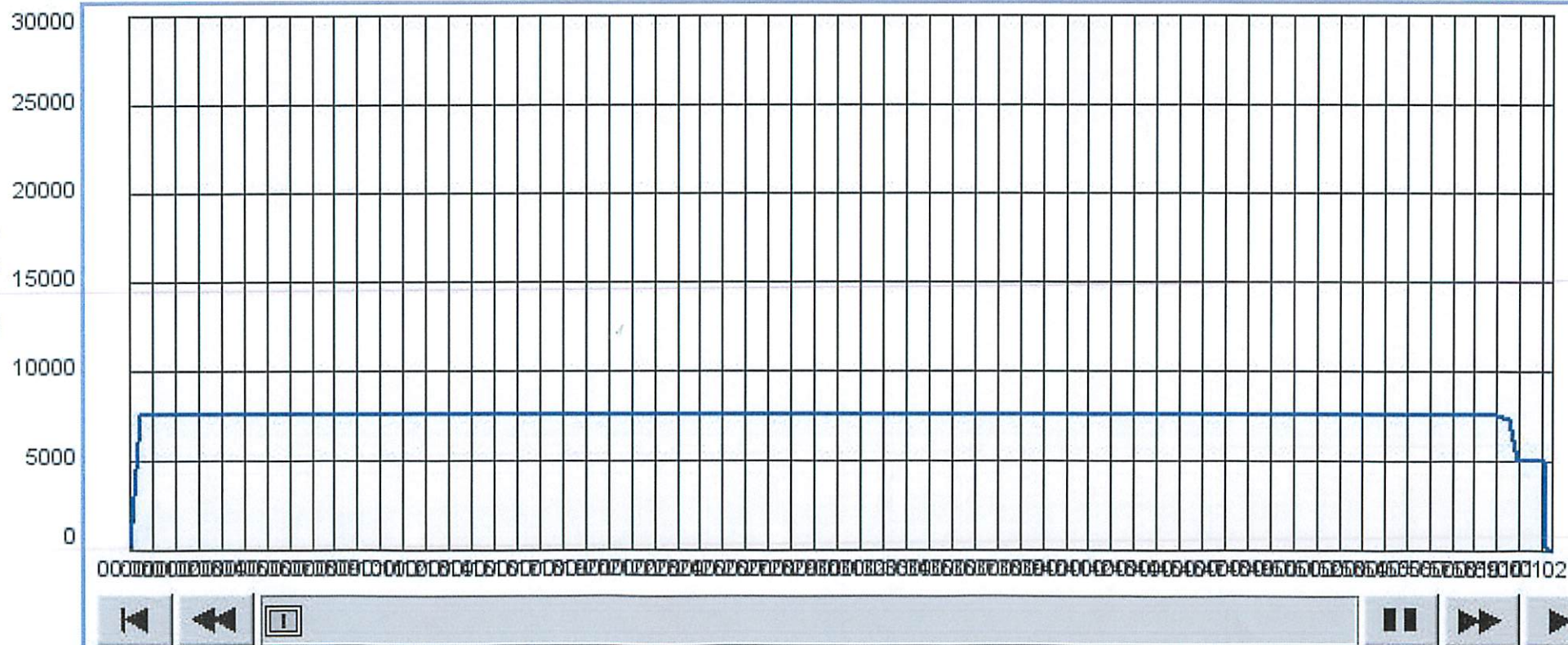
Description = **3.5 5K 3 1/8 FLG 5K**

Technician= **CHRIS OLIVO**

12/19/2017 16:53:26

17:55:52

P
S
I
G





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

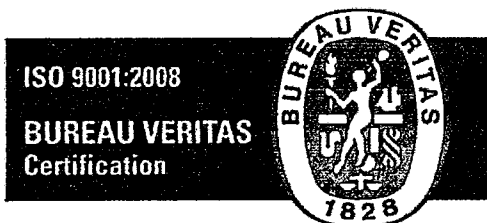
The Safety Clamp unit identified on this certificate has been load tested completely assembled; including the clamp body, (2) 3/4" shackles, 5/8" x 48" wire rope sling and anchor tab. Thus, all components are tested at the "Proof" load. Do not disassemble. Do not interchange any part or parts of this 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.



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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.	

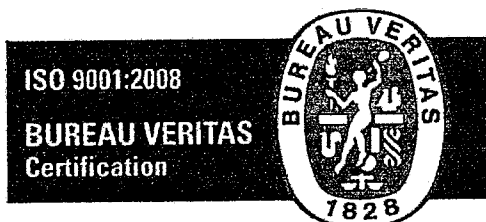
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District I

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 253276

CONDITIONS

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID: 328947
	Action Number: 253276
	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	8/22/2023
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	8/22/2023
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	8/22/2023
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	8/22/2023
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	8/22/2023