AFMSS

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: 1 file(s)

- Drilling Plan Report
- Drilling Plan Attachments
  -- Blowout Prevention Choke Diagram Attachment: 1 file(s)
  -- Blowout Prevention BOP Diagram Attachment: 1 file(s)
  -- Casing Spec Documents: 2 file(s)
  -- Casing Design Assumptions and Worksheet(s): 7 file(s)
  -- Hydrogen sulfide drilling operations plan: 1 file(s)
  -- Proposed horizontal/directional/multi-lateral plan submission: 3 file(s)
  -- Other Facets: 1 file(s)
  -- Other Variances: 2 file(s)

- SUPO Report
- SUPO Attachments
  -- Existing Road Map: 1 file(s)
  -- New 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: 1 file(s)
  -- Recontouring attachment: 1 file(s)
  -- Other SUPO Attachment: 2 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

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

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

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.

2. Name of Operator

9. API Well No.

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.

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 08/29/2023

INSTRUCTIONS

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

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

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

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the wen, 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 directionany 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 wen 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 win 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 conects this information to anow 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 Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

Approval Date: 08/29/2023

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

Environmental Assessment DOI-BLM-NM-P020-2022-1018-EA

Colgate Energy, LLC

Koala 9 Fed Com Wells, Well Pads, Multi-Pipeline Corridor, and Access Roads

NMNM-137444, NMNM-015003, NMNM-013232, NMNM-016101, NMNM-031183, NMNM-026683, NMNM-083584

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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.

☐ **Road Section Diagram**
☐ **Production (Post Drilling)**
Well Structures & Facilities
Pipelines
Electric Lines
☐ **Interim Reclamation**
☐ **Final Abandonment & Reclamation**

Approval Date: 08/29/2023

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.

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)

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production:

Construction:

General Construction:

- No blasting
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction, and no additional construction shall occur until clearance has been issued by the Authorized Officer.
- All linear surface disturbance activities will avoid sinkholes and other karst features to lessen the possibility of encountering near surface voids during construction, minimize changes to runoff, and prevent untimely leaks and spills from entering the karst drainage system.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

Pad Construction:

- The pad will be constructed and leveled by adding the necessary fill and caliche – no blasting.
- The entire perimeter of the well pad 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 high with impermeable mineral material (e.g., caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- 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.
- 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 access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised (i.e. an access road crossing the berm cannot be lower than the berm height).

- Following a rain event, all fluids will vacuumed off of the pad and hauled off-site and disposed at a proper disposal facility.

Tank Battery Construction:

- The pad will be constructed and leveled by adding the necessary fill and caliche – no blasting.
- All tank battery locations and facilities will be lined and bermed.
- The liner should be at least 20 mil in thickness and installed with a 4 oz. felt backing, or equivalent, to prevent tears or punctures.
- Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Road Construction:

- Turnout ditches and drainage leadoffs will not be constructed in such a manner as to alter the natural flow of water into or out of cave or karst features.
- Special restoration stipulations or realignment may be required if subsurface features are discovered during construction.

Buried Pipeline/Cable Construction:

- Rerouting of the buried line(s) may be required if a subsurface void is encountered during construction to minimize the potential subsidence/collapse of the feature(s) as well as the possibility of leaks/spills entering the karst drainage system.

Powerline Construction:

- Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems.
- Larger powerlines will adjust their pole spacing to avoid cave and karst features.
- Special restoration stipulations or realignment may be required if subsurface voids are encountered.

Surface Flowlines Installation:

- Flowlines will be routed around sinkholes and other karst features to minimize the possibility of leaks/spills from entering the karst drainage system.

Leak Detection System:

- A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating values and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present.
- A leak detection plan will be submitted to BLM that incorporates an automatic shut off system (see below) to minimize the effects of an undesirable event that could negatively sensitive cave/karst resources.

- Well heads, pipelines (surface and buried), storage tanks, and all supporting equipment should be monitored regularly after installation to promptly identify and fix leaks.

Automatic Shut-off Systems:

- Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and groundwater concerns:

Closed Loop System:

- A closed loop system using steel tanks will be utilized during drilling – no pits
- All fluids and cuttings will be hauled off-site and disposed of properly at an authorized site

Rotary Drilling with Fresh Water:

- Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:

- The kick off point for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:

- ALL lost circulation zones between surface and the base of the cave occurrence zone will be logged and reported in the drilling report.
- If a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, regardless of the type of drilling machinery used, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:

- Additional plugging conditions of approval may be required upon well abandonment in high and medium karst potential occurrence zones.
- The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:

- The operator will perform annual pressure monitoring on all casing annuli and reported in a sundry notice.

- If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

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.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

Turnouts

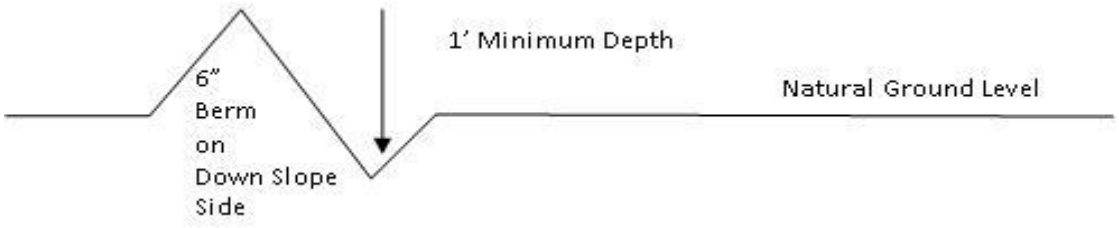
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%}$ + 100' = 200' lead-off ditch interval

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route 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 cattle guards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Approval Date: 08/29/2023

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

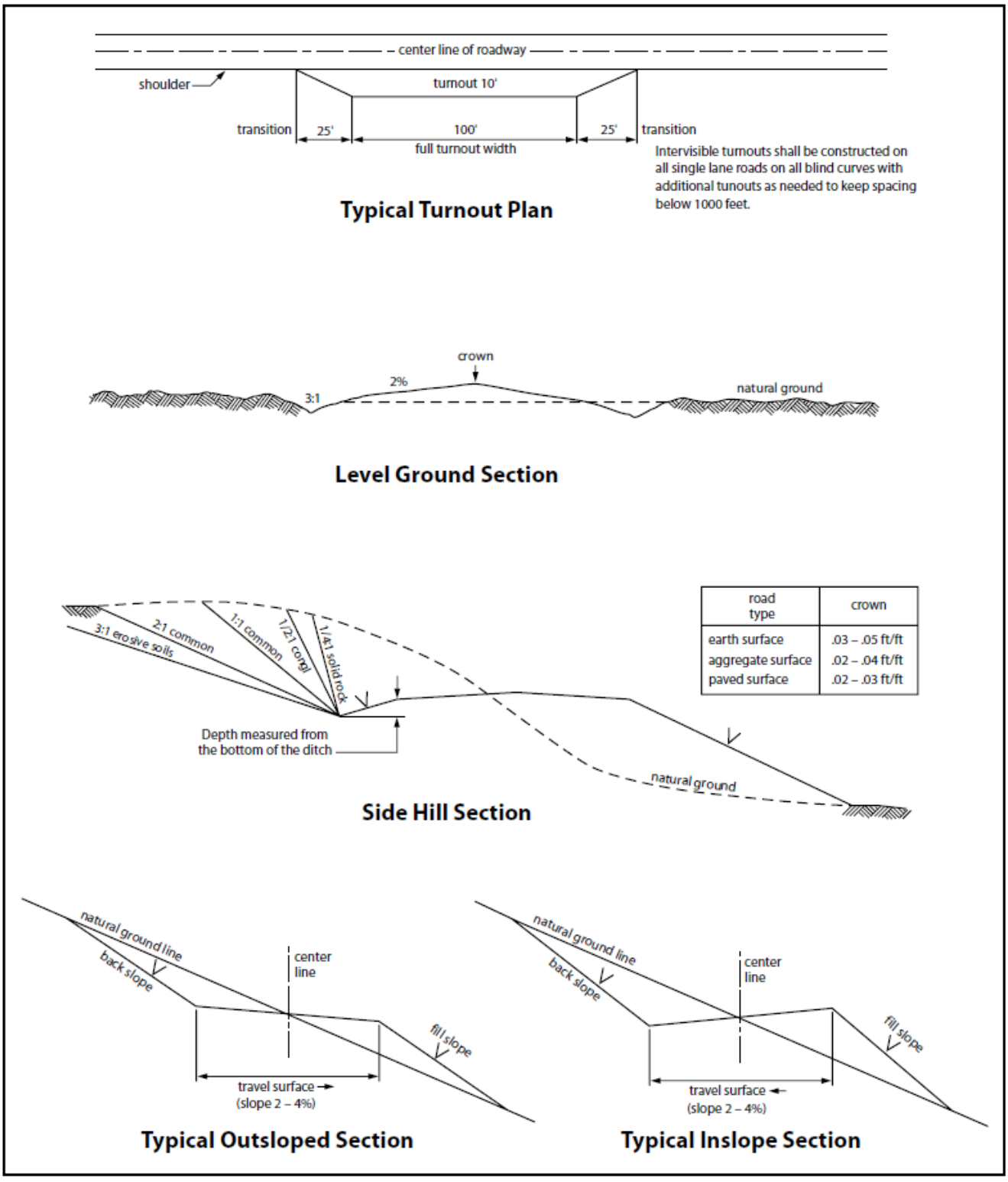


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

Approval Date: 08/29/2023

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 Exclosure 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 exclosure 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 Exclosures
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 exclosure 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

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 of duney 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. 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.

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

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, 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. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil 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 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 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 the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be **30** feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation*.)

- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)

- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately ___6___ inches in depth. The topsoil will be segregated

from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. 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.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

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. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

(X) seed mixture 1	( ) seed mixture 3
( ) seed mixture 2	( ) seed mixture 4
( ) seed mixture 2/LPC	( ) Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates “Standard Environmental Colors” – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. 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. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. 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 before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. 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 associated roads, 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.

17. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

C. ELECTRIC LINES

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. 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."

11. 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.

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Seed Mixture 1 for Loamy Sites

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 shall 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 shall be either certified or registered seed. The seed container shall be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

Seed shall be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). Holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre shall be doubled. The seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may 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	lb/acre
Plains lovegrass (*Eragrostis intermedia*)	0.5
Sand dropseed (*Sporobolus cryptandrus*)	1.0
Sideoats grama (*Bouteloua curtipendula*)	5.0
Plains bristlegrass (*Setaria macrostachya*)	2.0

*Pounds of pure live seed:

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

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Colgate
LEASE NO.:	NMNM15003
LOCATION:	Section 8, T.20 S, R.28E., NMPM
COUNTY:	Eddy County, New Mexico
WELL NAME & NO.:	Koala 9 Fed Com 133H
SURFACE HOLE FOOTAGE:	1144'/S & 255'/E
BOTTOM HOLE FOOTAGE:	1650'/S & 10'/E

COA

H_2S	◉ Yes	○ No		
Potash / WIPP	◉ None	○ Secretary	○ R-111-P	☐ WIPP
Cave / Karst	○ Low	○ Medium	◉ High	○ Critical
Wellhead	○ Conventional	◉ Multibowl	○ Both	○ Diverter
Cementing	☐ Primary Squeeze	☐ Cont. Squeeze	☐ EchoMeter	☐ DV Tool
Special Req	☐ Break Testing	☐ Water Disposal	☑ COM	☐ Unit
Variance	☑ Flex Hose	☐ Casing Clearance	☐ Pilot Hole	☑ Capitan Reef
Variance	☐ Four-String	☑ Offline Cementing	☐ Fluid-Filled	☐ Open Annulus
☐ **Batch APD / Sundry**				

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Delaware** formation. As a result, the Hydrogen Sulfide area must meet all requirements from **43 CFR 3176**, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **340** feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. **Excess calculates to 19%. Additional cement maybe required.**

    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 500 pounds compressive strength, whichever is greater. (This is to

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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.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
   - Cement to surface. If cement does not circulate see B.1.a, c-d above.

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.

❖ In 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.

❖ In Capitan Reef 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.

❖ **Special Capitan Reef requirements.** 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 4 string well ensure FW based mud used across the Capitan interval)

- 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.

- 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. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
4. Cement should tie-back at least **200 feet** into the previous casing, whichever is greater. If cement does not circulate see B.1.a, c-d above. **Excess calculates to 10%. Additional cement maybe required.**

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).

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2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the casing shoe shall be **5000 (5M)** psi. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    a. 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.
    b. Manufacturer representative shall install the test plug for the initial BOP test.
    c. 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.
    d. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172 must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 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. 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.
- 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.
- 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.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

Offline Cementing

Contact the BLM prior to the commencement of any offline cementing procedure.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ Eddy County
Email **or** call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, **BLM_NM_CFO_DrillingNotifications@BLM.GOV**
(575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 689-5981

1. 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. 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 Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - 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.
      - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 3172** as soon as 2nd Rig is rigged up on well.

2. 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 be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. 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.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). 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.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. 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.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. 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. 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.

7. 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.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

Approval Date: 08/29/2023

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172** and **API STD 53 Sec. 5.3**.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires 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.

4. 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 part 3170 Subpart 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.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. 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 cement), 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).

b. 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 cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)

c. 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 part 3170 Subpart 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).

d. 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.

e. The results of the test shall be reported to the appropriate BLM office.

f. 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.

g. 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.

h. 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 part 3170 Subpart 3172**.

C. DRILLING MUD

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.

D. WASTE MATERIAL AND FLUIDS

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.

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

ZS 8/22/2023

Approval Date: 08/29/2023

AFMSS

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

Operator Certification Data Report

08/31/2023

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: MIKAH THOMAS **Signed on:** 06/27/2023

Title: Regulatory Manager

Street Address: 1400 WOODLOCH FOREST DR SUITE 300

City: THE WOODLANDS **State:** TX **Zip:** 77380

Phone: (432)661-7106

Email address: MTHOMAS@EARTHSTONEENERGY.COM

Field

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

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

Application Data
08/31/2023

APD ID: 10400085823
Submission Date: 06/03/2022
Operator Name: COLGATE OPERATING LLC
Well Name: KOALA 9 FED COM
Well Number: 133H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes
Show Final Text

Section 1 - General

APD ID: 10400085823
Tie to previous NOS?
Submission Date: 06/03/2022
BLM Office: Carlsbad
User: MIKAH THOMAS
Title: Regulatory Manager
Federal/Indian APD: FED
Is the first lease penetrated for production Federal or Indian? FED
Lease number: NMNM15003
Lease Acres:
Surface access agreement in place?
Allotted?
Reservation:
Agreement in place? NO
Federal or Indian agreement:
Agreement number:
Agreement name:
Keep application confidential? Y
Permitting Agent? NO
APD Operator: COLGATE OPERATING LLC
Operator letter of

Operator Info

Operator Organization Name: COLGATE OPERATING LLC
Operator Address: 300 N MARIENFELD STREET SUITE 1000
Zip: 79701
Operator PO Box:
Operator City: MIDLAND
State: TX
Operator Phone: (432)695-4272
Operator Internet Address: MTHOMAS@COLGATEENERGY.COM

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: KOALA 9 FED COM
Well Number: 133H
Well API Number:
Field/Pool or Exploratory? Field and Pool
Field Name: THIRD BONE SPRING
Pool Name: BURTON FLAT, MORROW (PRO GAS)

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM **Well Number:** 133H

Is the proposed well in an area containing other mineral resources? 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:** KOALA 9 FED COM SOUTH **Number:** 1

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 11 Miles **Distance to nearest well:** 30 FT **Distance to lease line:** 255 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: KOALA_9_FED_COM_133H_C102_Rev_1_Signed_20230627151730.pdf

Well work start Date: 09/30/2022 **Duration:** 90 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 25490 **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	1144	FSL	255	FEL	20S	28E	8	Aliquot SESE	32.583968	-104.1916296	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	3274	0	0	N
KOP Leg #1	1732	FSL	95	FEL	20S	28E	8	Aliquot NESE	32.5855838	-104.192179	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	-4364	7673	7638	N
PPP Leg #1-1	1650	FSL	100	FWL	20S	28E	9	Aliquot NWSW	32.5854701	-104.1904425	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 15003	-4989	8554	8263	Y

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM **Well Number:** 133H

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 #1-2	1650	FSL	2665	FWL	20S	28E	9	Aliquot NWSE	32.5853979	-104.1825047	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 13232	-5249	11037	8523	Y
PPP Leg #1-3	1650	FSL	0	FEL	20S	28E	10	Aliquot NWSW	32.585431	-104.173848	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 15003	-5249	13702	8523	Y
EXIT Leg #1	1650	FSL	100	FEL	20S	28E	10	Aliquot NESE	32.585509	-104.156912	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 15003	-5249	18920	8523	Y
BHL Leg #1	1650	FSL	10	FEL	20S	28E	10	Aliquot NESE	32.58551	-104.15662	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 15003	-5249	19010	8523	N

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	2 Pool Code	3 Pool Name
	73280	BURTON FLAT, MORROW (PRO GAS)

4 Property Code	5 Property Name	6 Well Number
	KOALA 9 FED COM	133H

7 OGRID No.	8 Operator Name	9 Elevation
371449	COLGATE OPERATING, LLC	3273.97'

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
P	8	20-S	28-E		1144'	SOUTH	255'	EAST	EDDY

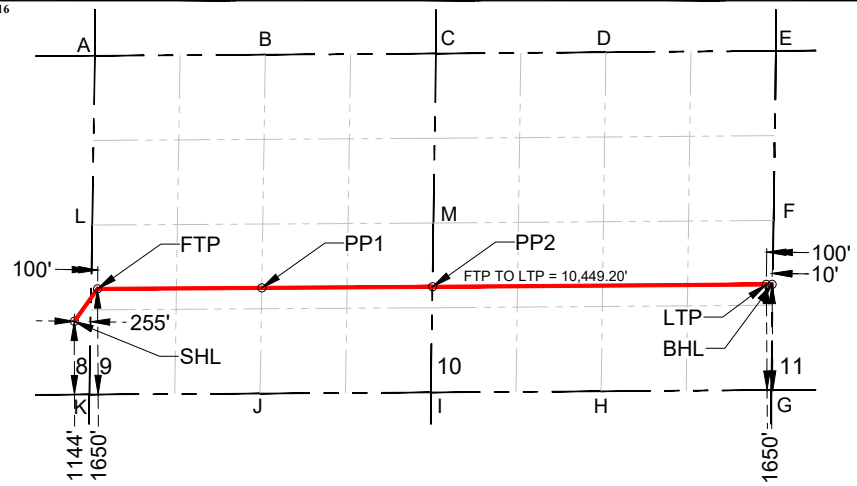
11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	10	20-S	28-E		1650'	SOUTH	10'	EAST	EDDY

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

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

16



SURFACE HOLE LOCATION (SHL)
NEW MEXICO EAST - NAD 83
X=584863.30 LAT.= 32.58396748° N
Y=576206.98 LONG.= 104.19201920° W
NEW MEXICO EAST - NAD 27
X=543683.10 LAT.= 32.58385025° N
Y=576145.58 LONG.= 104.19151174° W
1144' FSL, 255' FEL - SECTION 8

FIRST TAKE POINT (FTP)
NEW MEXICO EAST - NAD 83
X=585226.77 LAT.= 32.58536207° N
Y=576714.82 LONG.= 104.19083692° W
NEW MEXICO EAST - NAD 27
X=544046.58 LAT.= 32.58524483° N
Y=576653.40 LONG.= 104.19032945° W
1650' FSL, 100' FWL - SECTION 9

CORNER DATA
NEW MEXICO EAST - NAD 83
A - FOUND IRON PIPE W/BRASS CAP N:580356.62' E:585185.65'
B - FOUND 1" IRON PIPE N:580373.68' E:587849.16'
C - FOUND 1" IRON PIPE N:580391.30' E:590513.47'
D - FOUND 1" IRON PIPE N:580412.62' E:593168.80'
E - FOUND 1" IRON PIPE N:580433.88' E:595824.69'
F - FOUND IRON PIPE W/ BRASS CAP N:577783.78' E:595789.28'
G - FOUND IRON PIPE W/ BRASS CAP N:575134.28' E:595753.43'
H - FOUND IRON PIPE W/ BRASS CAP N:575115.45' E:593094.38'
I - FOUND 2" IRON PIPE N:575097.10' E:590435.59'
J - FOUND 1 1/4" IRON PIPE N:575080.69' E:587767.05'
K - FOUND IRON PIPE W/BRASS CAP N:575063.99' E:585099.23'
L - FOUND IRON PIPE W/ BRASS CAP N:577711.68' E:585143.38'
M - FOUND 1" IRON PIPE N:577744.14' E:590473.87'

LAST TAKE POINT (LTP)
NEW MEXICO EAST - NAD 83
X=595675.74 LAT.= 32.58550854° N
Y=576783.77 LONG.= 104.15691174° W
NEW MEXICO EAST - NAD 27
X=554495.52 LAT.= 32.58539094° N
Y=576722.27 LONG.= 104.15640515° W
1650' FSL, 100' FEL - SECTION 10

BOTTOM HOLE LOCATION (BHL)
NEW MEXICO EAST - NAD 83
X=595765.76 LAT.= 32.58550966° N
Y=576784.33 LONG.= 104.15661948° W
NEW MEXICO EAST - NAD 27
X=554585.54 LAT.= 32.58539205° N
Y=576722.82 LONG.= 104.15611290° W
1650' FSL, 10' FEL - SECTION 10

PENETRATION POINT 1 (PP1)
NEW MEXICO EAST - NAD 83
X=587792.65 LAT.= 32.58539613° N
Y=576730.75 LONG.= 104.18250617° W
NEW MEXICO EAST - NAD 27
X=546612.45 LAT.= 32.58527880° N
Y=576669.31 LONG.= 104.18199892° W
1650' FSL, 2665' FWL - SECTION 9

PENETRATION POINT 2 (PP2)
NEW MEXICO EAST - NAD 83
X=590459.45 LAT.= 32.58543094° N
Y=576747.30 LONG.= 104.17384773° W
NEW MEXICO EAST - NAD 27
X=549279.25 LAT.= 32.58531351° N
Y=576685.84 LONG.= 104.17334070° W
1650' FSL, 0' FEL - SECTION 9

17 OPERATOR CERTIFICATION

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

Ashley Brown 06/27/23
Signature Date

Ashley Brown
Printed Name

ashley.brown@permianres.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.

01/18/2023
Date of Survey

Signature and Seal of Professional Surveyor:

CHARLES L. JURICA
NEW MEXICO
25490
PROFESSIONAL SURVEYOR

Certificate Number

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

Drilling Plan Data Report
08/31/2023

APD ID: 10400085823
Submission Date: 06/03/2022

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM
Well Number: 133H

Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
12032337	RUSTLER	3274	227	227	ANHYDRITE, LIMESTONE, SALT	NONE	N
12032338	TOP SALT	2906	368	368	ANHYDRITE, SALT	NONE	N
12032339	TANSILL	2570	704	704	ANHYDRITE, DOLOMITE	NONE	N
12032342	YATES	2495	779	779	DOLOMITE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
12032340	SEVEN RIVERS	2120	1154	1154	ANHYDRITE, DOLOMITE, SANDSTONE, SHALE	NONE	N
12032341	QUEEN	1450	1824	1826	ANHYDRITE, DOLOMITE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
12032343	GRAYBURG	1220	2054	2058	ANHYDRITE, DOLOMITE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
12032344	SAN ANDRES	870	2404	2411	ANHYDRITE, DOLOMITE	NATURAL GAS, OIL	N
12032345	DELAWARE SAND	295	2979	2990	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
12032346	BONE SPRING	-1380	4654	4677	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
12032347	BONE SPRING 1ST	-2830	6104	6138	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
12032348	BONE SPRING 2ND	-3905	7179	7214	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
12032349	BONE SPRING 3RD	-5030	8304	8658	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM **Well Number:** 133H

Pressure Rating (PSI): 5M **Rating Depth:** 8623

Equipment: BOPE with working pressure ratings in excess of anticipated maximum surface pressure will be utilized for well control from drill out of surface casing to TMD. 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. All BOPE connections shall be flanged, welded or clamped. All choke lines shall be straight unless targeted with running tees or tee blocks are used, and choke lines shall be anchored to prevent whip and reduce vibrations. All valves in the choke line & the choke manifold shall be full opening as to not cause restrictions and to allow for straight fluid paths to minimize potential erosion. All gauges utilized in the well control system shall be of a type designed for drilling fluid service. A top drive inside BOP valve will be utilized at all times. Subs equipped with full opening valves sized to fit the drill pipe and collars will be available on the rig floor in the open position. The key to operate said valve equipped subs will be on the rig floor at all times. The accumulator system will have sufficient capacity to open the HCR and close all three sets of rams plus the annular preventer while retaining at least 300 psi above precharge on the closing manifold (accumulator system shall be capable of doing so without using the closing unit pumps). The fluid reservoir capacity will be double the usable fluid volume of the accumulator system capacity, and the fluid level will be maintained at the manufacturer's recommended level. Prior to connecting the closing unit to the BOP stack, an accumulator precharge pressure test shall be performed to ensure the precharge pressure is within 100 psi of the desired precharge pressure (only nitrogen gas will be used to precharge). Two independent power sources will be made available at all times to power the closing unit pumps so that the pumps can automatically start when the closing valve manifold pressure has decreased to the preset level. Closing unit pumps will be sized to allow opening of HCR and closing of annular preventer on 5" drill pipe achieving at least 200 psi above precharge pressure with the accumulator system isolated from service in less than two minutes. A valve shall be installed in the closing line as close to the annular preventer as possible to act as a locking device; the valve shall be maintained in the open position and shall be closed only when the power source for the accumulator system is inoperative. Remote controls capable of opening and closing all preventers & the HCR shall be readily accessible to the driller; master controls with the same capability will be operable at the accumulator. The wellhead will be a multibowl speed head allowing for hangoff of intermediate casing & isolation of the 133/8 x 95/8 annulus without breaking the connection between the BOP & wellhead to install an additional casing head. A wear bushing will be installed & inspected frequently to guard against internal wear to wellhead. VBRs (variablebore rams) will be run in upper rambody of BOP stack to provide redundancy to annular preventer while RIH w/ production casing;

Requesting Variance? YES

Variance request: Flex hose and offline cement variances, see attachments in section 8.

Testing Procedure: The BOP test shall be performed before drilling out of the surface casing shoe and will occur at a minimum: a. when initially installed b. whenever any seal subject to test pressure is broken c. following related repairs d. at 30 day intervals e. checked daily as to mechanical operating conditions. The ram type preventer(s) will be tested using a test plug to 250 psi (low) and 5,000 psi (high) (casinghead WP) with a test plug upon its installation onto the 13 surface casing. If a test plug is not used, the ram type preventer(s) shall be tested to 70% of the minimum internal yield pressure of the casing. The annular type preventer(s) shall be tested to 3500 psi. Pressure will be maintained for at least 10 minutes or until provisions of the test are met, whichever is longer. A Sundry Notice (Form 3160 5), along with a copy of the BOP test report, shall be submitted to the local BLM office within 5 working days following the test. If the bleed line is connected into the buffer tank (header), all BOP equipment including the buffer tank and associated valves will be rated at the required BOP pressure. The BLM office will be provided with a minimum of four (4) hours notice of BOP testing to allow witnessing. The BOP Configuration, choke manifold layout, and accumulator system, will be in compliance with Onshore Order 2 for a 5,000-psi system. A remote accumulator and a multi-bowl system will be used, please see attachment in section 8 for multi-bowl procedure. Pressures, capacities, and specific placement and use of the manual and/or hydraulic controls, accumulator controls, bleed lines, etc., will be identified at the time of the BLM 'witnessed BOP test. Any remote controls will be capable of both opening and closing all preventers and shall be readily accessible.

Choke Diagram Attachment:

Choke_Diagram_Attachment_20230627152140.pdf

BOP Diagram Attachment:

BOP_Diagram_Attachment_20230627152144.pdf

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM **Well Number:** 133H

Choke_Diagram_Attachment_20230627152140.pdf

BOP_Diagram_Attachment_20230627152144.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	252	0	252	3274	3022	252	J-55	54.5	BUTT	9.08	4.08	DRY	7.99	DRY	7.5
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	2929	0	2929	3274	345	2929	J-55	36	BUTT	2.68	1.59	DRY	3.11	DRY	2.75
3	PRODUCTION	8.75	5.5	NEW	NON API	N	0	9791	0	8523	3274	-5249	9791	P-110	17	OTHER - GEOCONN	1.69	1.76	DRY	2.23	DRY	2.23
4	PRODUCTION	7.875	5.5	NEW	NON API	N	9791	19009	8523	8523	-5249	-5249	9218	P-110	17	OTHER - GEOCONN	1.69	1.76	DRY	2.23	DRY	2.23

Casing Attachments

Casing ID: 1 **String** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Assumptions_Worksheet_20230627152243.pdf

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM **Well Number:** 133H

Casing Attachments

Casing ID: 2 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Assumptions_Worksheet_20230627152450.pdf

Casing ID: 3 **String** PRODUCTION

Inspection Document:

Spec Document:

Connection_Data_Sheet___GeoConn_SC___P_110RY_20230627152543.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Assumptions_Worksheet_20230627152605.pdf

Casing ID: 4 **String** PRODUCTION

Inspection Document:

Spec Document:

Connection_Data_Sheet___GeoConn_SC___P_110RY_20230627152716.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Assumptions_Worksheet_20230627152733.pdf

Section 4 - Cement

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM **Well Number:** 133H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	0	0	0	0	0		0	0
SURFACE	Tail		0	252	210	1.34	14.8	270	50	Class C	Accelerator
INTERMEDIATE	Lead		0	2340	520	2.08	12.7	1080	50	Class C	Salt, Extender & LCM Additives
INTERMEDIATE	Tail		2340	2929	210	1.34	14.8	280	50	Class C	Accelerator
PRODUCTION	Lead		2429	7672	760	2.41	11.5	1820	40	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder
PRODUCTION	Tail		7672	19009	1550	1.73	12.5	2670	25	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder
PRODUCTION	Lead		2429	7672	760	2.41	11.5	1820	40	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder
PRODUCTION	Tail		7672	19009	1550	1.73	12.5	2670	25	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder

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: Sufficient quantities of mud materials will be on the well site at all times for the purpose of assuring well control and maintaining wellbore integrity. Surface interval will employ fresh water mud. The intermediate hole will utilize a saturated brine fluid to inhibit salt washout. The production hole will employ brine based and oil base fluid to inhibit formation reactivity and of the appropriate density to maintain well control.

Describe the mud monitoring system utilized: Centrifuge separation system. Open tank monitoring with EDR will be used for drilling fluids and return volumes. Open tank monitoring will be used for cement and cuttings return volumes. Mud properties will be monitored at least every 24 hours using industry accepted mud check practices.

Circulating Medium Table

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM **Well Number:** 133H

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	252	WATER-BASED MUD	8.6	9.5							
252	2929	SALT SATURATED	10	10							
2929	9791	OTHER : Brine	9	10							
9791	19009	OIL-BASED MUD	9	10							

Section 6 - Test, Logging, Coring

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

Will utilize MWD/LWD (Gamma Ray logging) from intermediate hole to TD of the well.

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

GAMMA RAY LOG,DIRECTIONAL SURVEY,

Coring operation description for the well:

N/A

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4440 **Anticipated Surface Pressure:** 2564

Anticipated Bottom Hole Temperature(F): 142

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

Colgate_H2S_Contingency_Plan_20220602142028.pdf

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM **Well Number:** 133H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

_B03__Koala_9_Fed_Com_133H_APD_Rev00_GEO_20230627153455.pdf

_B03__Koala_9_Fed_Com_133H_APD_Rev00_AC_20230627153459.pdf

_B03__Koala_9_Fed_Com_133H_APD_Rev00_WM_20230627153504.pdf

Other proposed operations facets description:

Please see attached Drilling plan including multi-bowl diagram and procedure, proposed WBD, and casing connection data sheet. We also plan to batch drill this well along with offline cementing, see details under variance request below. Permian Resources Operating, LLC requests to use a flex hose on H&P choke manifold for this well. The Flex Hose specifications are attached below.

Other proposed operations facets attachment:

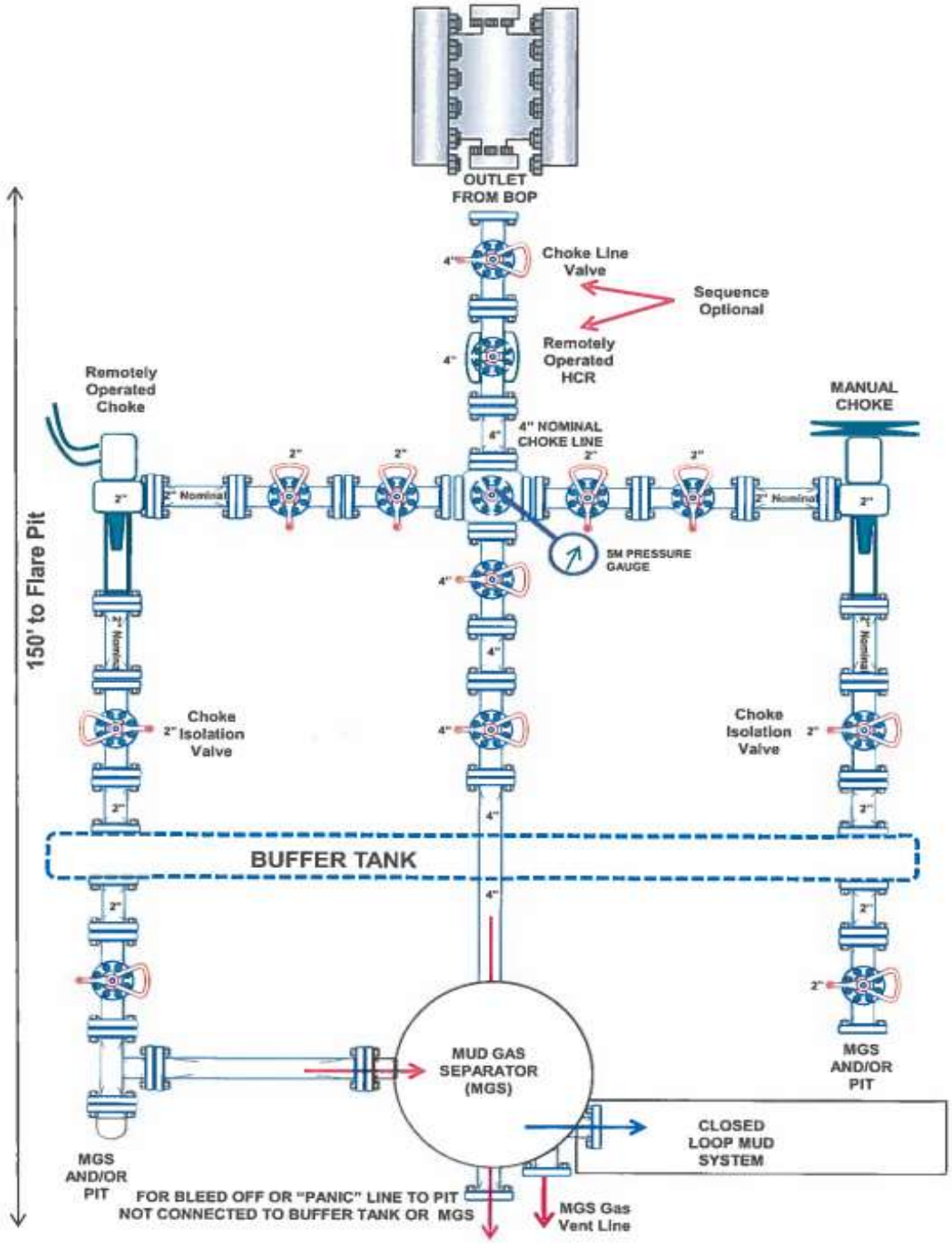
Koala_9_Fed_Com_133H_drilling_packet_20230627153534.pdf

Other Variance attachment:

Flex_Hose_Specs_20230627153539.pdf

Multi_Well_Pad_Batch_Drilling___Off_Line_Cement_Procedure_20230627153543.pdf

5M Choke Manifold Equipment (WITH MGS + CLOSED LOOP)



Continental
ContiTech

CONTITECH RUBBER Industrial Kft.	No:QC-DB- 210/ 2014
	Page: 9 / 113

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE

CERT. N°: 504

PURCHASER:	ContiTech Oil & Marine Corp.			P.O. N°:	4500409659
CONTITECH RUBBER order N°:	538236	HOSE TYPE:	3" ID		Choke and Kill Hose
HOSE SERIAL N°:	67255	NOMINAL / ACTUAL LENGTH:			10,67 m / 10,77 m
W.P. 68,9 MPa	10000 psi	T.P. 103,4 MPa	15000 psi	Duration:	60 min.

Pressure test with water at ambient tempecature

See attachment. (1 page)

↑ 10 mm = 10 Min.
→ 10 mm = 20 MPa

COUPLINGS Type	Serial N°		Quality	Heat N°
3" coupling with	9251	9254	AISI 4130	A0579N
4 1/16" 10K API b.w. Flange end			AISI 4130	035608

Not Designed For Well Testing

API Spec 16 C

Temperature rate:"B"

All metal parts are flawless

WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

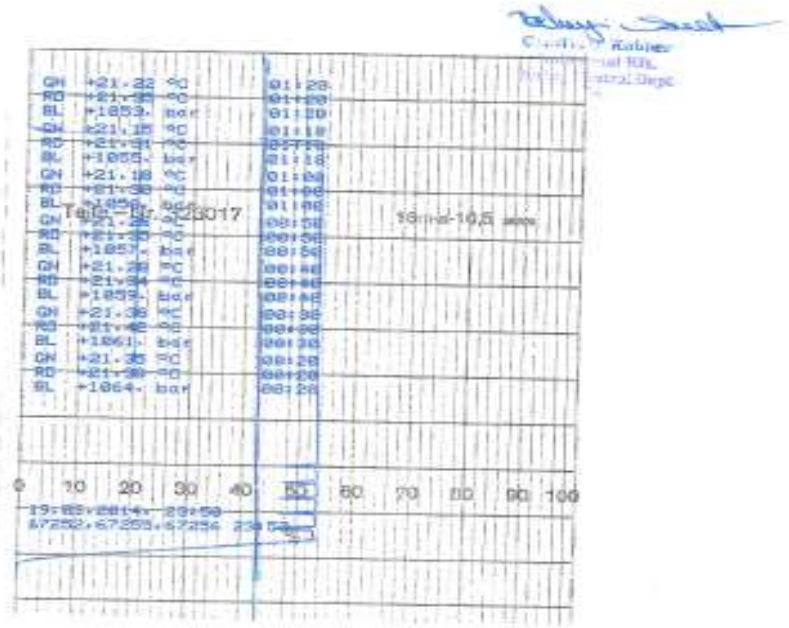
STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.

COUNTRY OF ORIGIN HUNGARY/EU

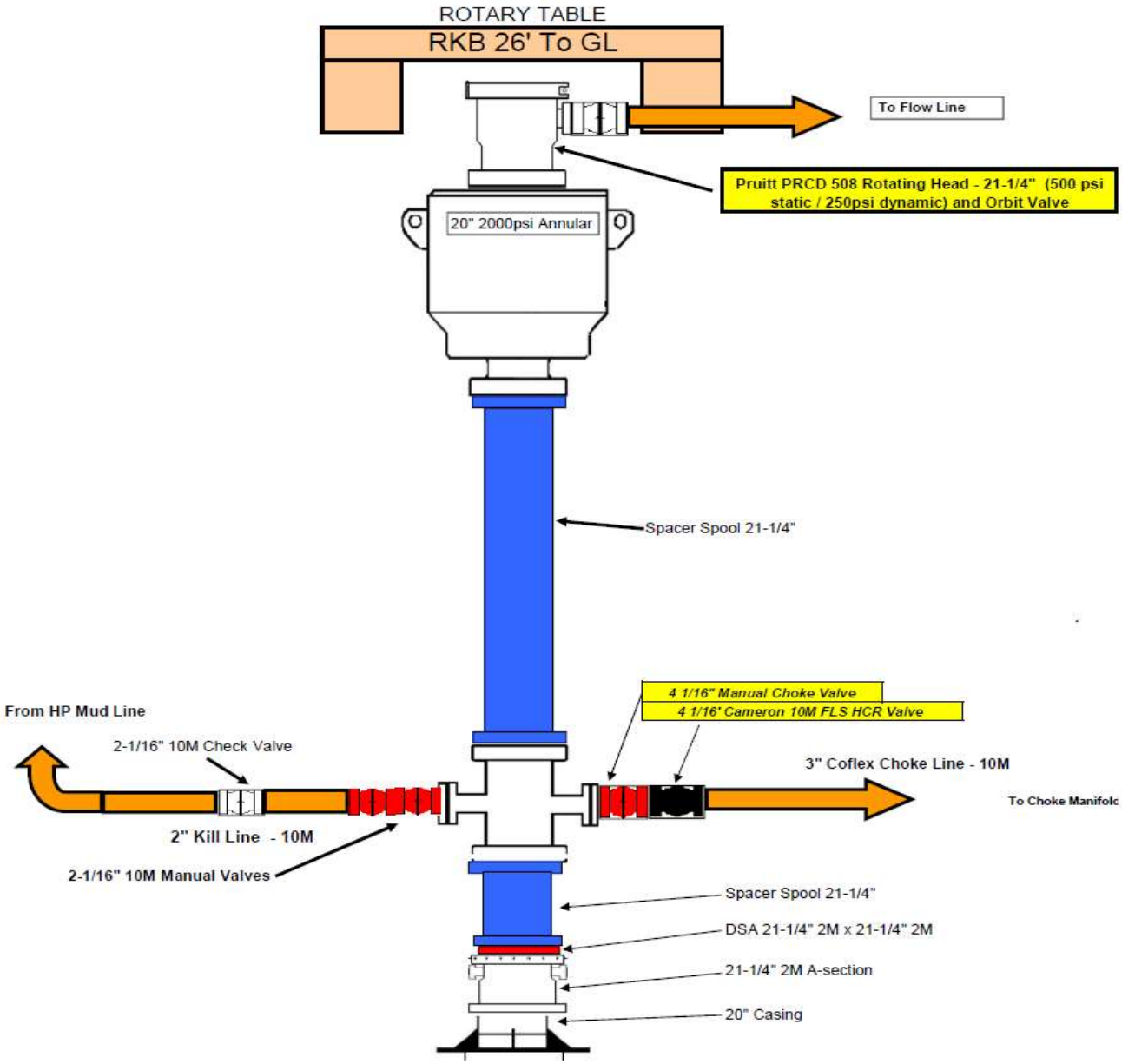
Date:	Inspector	Quality Control
20. March 2014.		

ATTACHMENT OF QUALITY CONTROL INSPECTION AND TEST CERTIFICATE No: 501, 504, 505

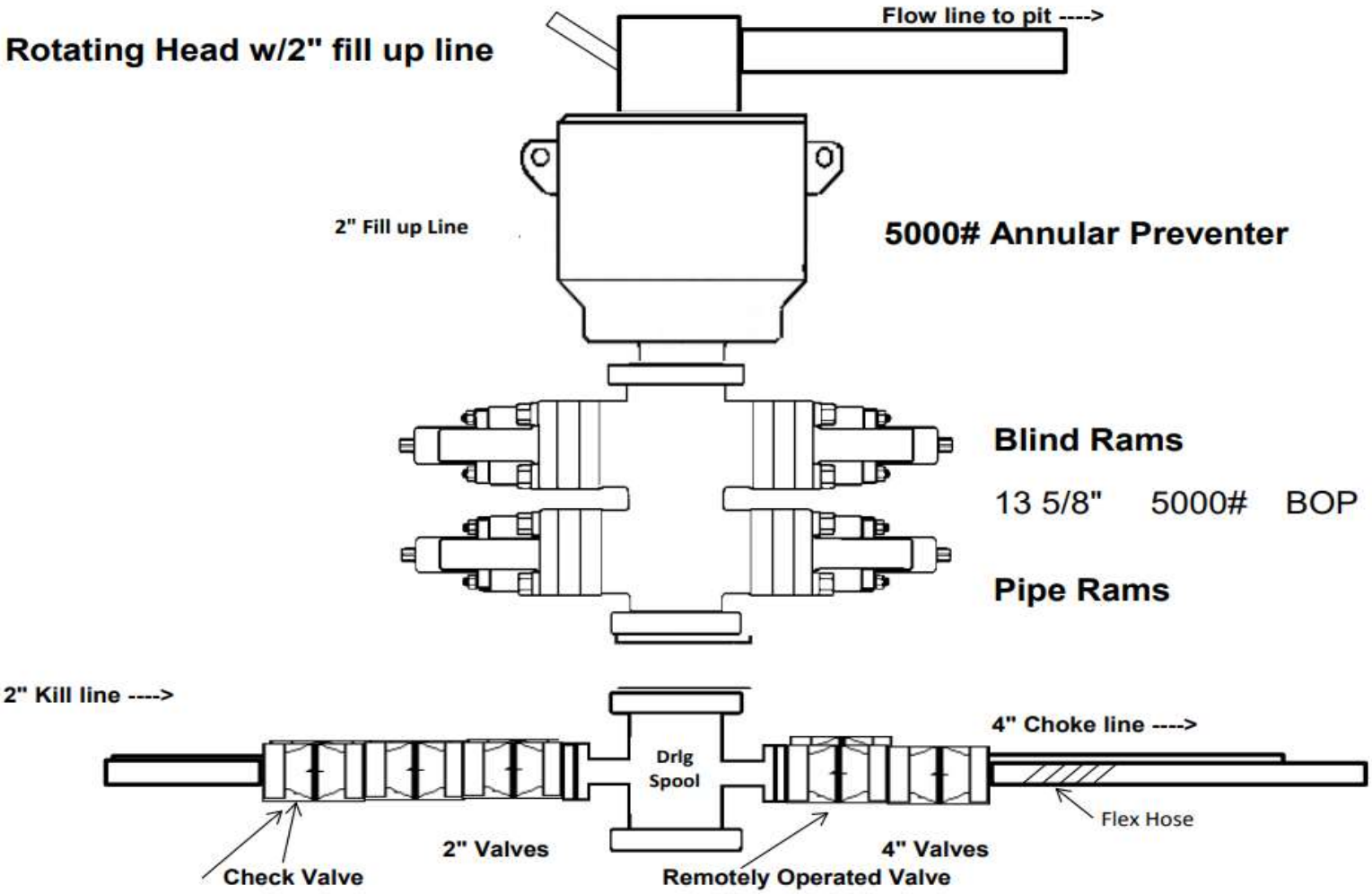
Page: 1 / 1



2M BOP


ROTARY TABLE
RKB 26' To GL
To Flow Line
Pruitt PRCD 508 Rotating Head - 21-1/4" (500 psi static / 250psi dynamic) and Orbit Valve
20" 2000psi Annular
Spacer Spool 21-1/4"
4 1/16" Manual Choke Valve
4 1/16' Cameron 10M FLS HCR Valve
From HP Mud Line
2-1/16" 10M Check Valve
3" Coflex Choke Line - 10M
To Choke Manifolc
2" Kill Line - 10M
2-1/16" 10M Manual Valves
Spacer Spool 21-1/4"
DSA 21-1/4" 2M x 21-1/4" 2M
21-1/4" 2M A-section
20" Casing

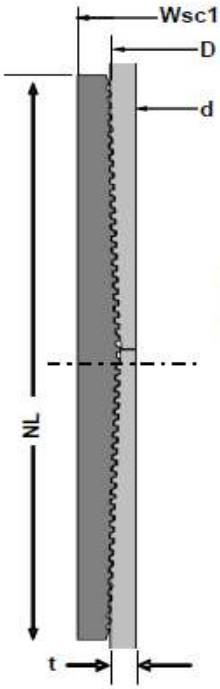
5,000 psi BOP Schematic



Metal One Corp.	GEOCONN-SC Pipe: SeAH P110RY 95%PBW (SMYS110ksi) *1 Coupling: P110RY (SMYS110ksi) Connection Data Sheet	Page	MAI GC 5.5 17 SeAH P110RY 95%RBW+SC-Cplg6.050 P110RY
Metal One		Date	3-Feb-21
		Rev.	0

Geometry

GEOCONN-SC



Pipe Body

	Imperial		S.I.	
Grade *1	P110RY	-	P110RY	-
SMYS	110	ksi	110	ksi
Pipe OD (D)	5.500	in	139.70	mm
Weight	17.00	lb/ft	25.33	kg/m
Wall Thickness (t)	0.304	in	7.72	mm
Pipe ID (d)	4.892	in	124.26	mm
Drift Dia.	4.767	in	121.08	mm

Connection

Coupling SMYS	110	ksi	110	ksi
SC-Coupling OD (Wsc1)	6.050	in	153.67	mm
Coupling Length (NL)	8.350	in	212.09	mm
Make up Loss	4.125	in	104.78	mm
Pipe Critical Area	4.96	in^2	3,202	mm^2
Box Critical Area	6.10	in^2	3,937	mm^2
Thread Taper	1 / 16 (3/4" per ft)			
Number of Threads	5 TPI			

Performance

Performance Properties for Pipe Body

	Imperial		S.I.	
S.M.Y.S. *1	546	kips	2,428	kN
M.I.Y.P. *1	11,550	psi	79.66	MPa
Collapse Strength *1	7,480	psi	51.59	MPa

Note S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body
M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body

*1: SeAH P110RY 95%RBW: SMYS110ksi, MIYP11,550psi

Performance Properties for Connection

Min. Connection Joint Strength	100% of S.M.Y.S.
Min. Compression Yield	100% of S.M.Y.S.
Internal Pressure	100% of M.I.Y.P.
External Pressure	100% of Collapse Strength
Max. DLS (deg. /100ft)	>90

Recommended Torque

Min.	10,800	ft-lb	14,600	N-m
Opti.	12,000	ft-lb	16,200	N-m
Max.	13,200	ft-lb	17,800	N-m
Operational Max.	15,600	ft-lb	21,100	N-m

Note : Operational Max. torque can be applied for high torque application

Metal One Corp.	GEOCONN-SC Pipe: SeAH P110RY 95%PBW (SMYS110ksi) *1 Coupling: P110RY (SMYS110ksi) Connection Data Sheet	Page	MAI GC 5.5 17 SeAH P110RY 95%RBW+SC-Cplg6.050 P110RY
Metal One		Date	3-Feb-21
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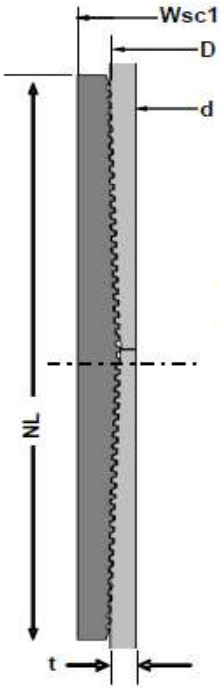
Geometry

GEOCONN-SC



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Permian Resources Casing Design Criteria

A sundry will be requested if any lesser grade or different size casing is substituted. All casing will be centralized as specified in On Shore Order II. Casing will be tested as specified in On Shore Order II.

Casing Design Assumptions:

Surface

1) Burst Design Loads
   a) Displacement to Gas
      (1) Internal: Assumes a full column of gas in the casing with a gas gradient of 0.7 psi/ft in the absence of better information. It is limited to the controlling pressure based on the maximum expected pore pressure within the next drilling interval.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
   b) Lost Returns with Mud Drop
      (1) Internal: Lost circulation at the TD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

Intermediate I

1) Burst Design Loads
   a) Displacement to Gas
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      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test
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(2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.

2) Collapse Loads
   a) Cementing
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   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

<u>Intermediate or Intermediate II</u>

1) Burst Design Loads
   a) Gas Kick Profile
      (1) Internal: Load profile based on influx encountered in lateral portion of wellbore with a maximum influx volume of 150 bbl and a kick intensity of 1.5 ppg using maximum anticipated MW of 9.9 ppg.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
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      (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
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      (1) Internal: Lost circulation at the deepest TVD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
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Production

1) Burst Design Loads
   a) Injection Down Casing
      (1) Internal: Surface pressure plus injection fluid gradient.
      (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test (Drilling)
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   c) Casing Pressure Test (Production)
      (1) Internal: The design pressure test should be the greater of the planned test pressure prior to simulation down the casing, the regulatory test pressure, and the expected gas lift system pressure. The design test fluid should be the fluid associated with the pressure test having the greatest pressure.
      (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
   d) Tubing Leak
      (1) Internal: SITP plus a packer fluid gradient to the top of packer.
      (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
   b) Full Evacuation
      (1) Internal: Full void pipe.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
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Intermediate I

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   b) Casing Pressure Test
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(2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.

2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
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<u>Intermediate or Intermediate II</u>

1) Burst Design Loads
   a) Gas Kick Profile
      (1) Internal: Load profile based on influx encountered in lateral portion of wellbore with a maximum influx volume of 150 bbl and a kick intensity of 1.5 ppg using maximum anticipated MW of 9.9 ppg.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
   b) Lost Returns with Mud Drop
      (1) Internal: Lost circulation at the deepest TVD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
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      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

Colgate's Minimum Design Criteria

Burst, collapse and tension SF are calculated using Landmark's StressCheck (casing design) software. A sundry will be requested if any lesser grade or different size casing is substituted.

Casing Design Assumptions:

Surface

1) Burst Design Loads
   a) Displacement to Gas
      (1) Internal: Assumes a full column of gas in the casing with a gas gradient of 0.7 psi/ft in the absence of better information. It is limited to the controlling pressure based on the maximum expected pore pressure within the next drilling interval.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
   b) Lost Returns with Mud Drop
      (1) Internal: Lost circulation at the TD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

Intermediate I

1) Burst Design Loads
   a) Displacement to Gas
      (1) Internal: Assumes a full column of gas in the casing with a gas gradient of 0.7 psi/ft in the absence of better information. It is limited to the controlling pressure based on the maximum expected pore pressure within the next drilling interval.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.

(2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.

2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
   b) Lost Returns with Mud Drop
      (1) Internal: Lost circulation at the TD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
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      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

<u>Intermediate or Intermediate II</u>

1) Burst Design Loads
   a) Gas Kick Profile
      (1) Internal: Load profile based on influx encountered in lateral portion of wellbore with a maximum influx volume of 150 bbl and a kick intensity of 1.5 ppg using maximum anticipated MW of 9.9 ppg.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
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      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
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      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

Production

1) Burst Design Loads
   a) Injection Down Casing
      (1) Internal: Surface pressure plus injection fluid gradient.
      (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test (Drilling)
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   c) Casing Pressure Test (Production)
      (1) Internal: The design pressure test should be the greater of the planned test pressure prior to simulation down the casing, the regulatory test pressure, and the expected gas lift system pressure. The design test fluid should be the fluid associated with the pressure test having the greatest pressure.
      (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
   d) Tubing Leak
      (1) Internal: SITP plus a packer fluid gradient to the top of packer.
      (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
   b) Full Evacuation
      (1) Internal: Full void pipe.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

U. S. Steel Tubular Products

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5.500" 17.00lbs/ft (0.304" Wall) P110 HP USS-CDC HTQ®

MECHANICAL PROPERTIES	Pipe	USS-CDC HTQ®	
Minimum Yield Strength	125,000	--	psi
Maximum Yield Strength	140,000	--	psi
Minimum Tensile Strength	130,000	--	psi
DIMENSIONS	**Pipe**	**USS-CDC HTQ®**	
Outside Diameter	5.500	6.300	in.
Wall Thickness	0.304	--	in.
Inside Diameter	4.892	4.892	in.
Standard Drift	4.767	4.767	in.
Alternate Drift	--	--	in.
Coupling Length	--	9.250	in.
Nominal Linear Weight, T&C	17.00	--	lbs/ft
Plain End Weight	16.89	--	lbs/ft
SECTION AREA	**Pipe**	**USS-CDC HTQ®**	
Critical Area	4.962	4.962	sq. in.
Joint Efficiency	--	97.1	%
PERFORMANCE	**Pipe**	**USS-CDC HTQ®**	
Minimum Collapse Pressure	9,440	9,440	psi
External Pressure Leak Resistance	--	7,550	psi
Minimum Internal Yield Pressure	12,090	12,090	psi
Minimum Pipe Body Yield Strength	620,000	--	lbs
Joint Strength	--	602,000	lbs
Compression Rating	--	361,000	lbs
Reference Length	--	23,608	ft
Maximum Uniaxial Bend Rating	--	60.7	deg/100 ft
MAKE-UP DATA	**Pipe**	**USS-CDC HTQ®**	
Make-Up Loss	--	4.63	in.
Minimum Make-Up Torque	--	11,000	ft-lbs
Maximum Make-Up Torque	--	15,500	ft-lbs
Connection Yield Torque	--	19,200	ft-lbs

1. Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness and Specified Minimum Yield Strength (SMYS).
2. Uniaxial bending rating shown is structural only, and equal to compression efficiency.
3. Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
4. Reference length is calculated by joint strength divided by nominal threaded and coupled weight with 1.5 safety factor.
5. Connection external pressure leak resistance has been verified to 80% API pipe body collapse pressure following the guidelines of API 5C5 Cal II.

U. S. Steel Tubular Products
460 Wildwood Forest Drive, Suite 300S
Spring, Texas 77380

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

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WELL SUMMARY

	String	OD/Weight/Grade	Connection	MD Interval (usft)	Drift Dia. (")	Minimum Safety Factor (Abs)			
						Burst	Collapse	Axial	Triaxial
1	Conductor Casing	20", 94.000 ppf, H-40	N/A	25-140	18.936	12.04	7.26	44.02	13.69
2									
3	Surface Casing	13 3/8", 54.500 ppf, J-55	BTC, J-55	25-320	12.459	1.79	4.91	7.19	1.96
4									
5									
6	Intermediate Casing	9 5/8", 36.000 ppf, J-55	BTC, J-55	25-2900	8.765	1.31	3.13	2.91	1.41
7									
8									
9									
10	Production Casing	5 1/2", 17.000 ppf, HP P-110	CDC HTQ	25-19009	4.767	1.32	2.06	2.31	1.39
11									
12									

Permian Resources Casing Design Criteria

A sundry will be requested if any lesser grade or different size casing is substituted. All casing will be centralized as specified in On Shore Order II. Casing will be tested as specified in On Shore Order II.

Casing Design Assumptions:

Surface

1) Burst Design Loads
   a) Displacement to Gas
      (1) Internal: Assumes a full column of gas in the casing with a gas gradient of 0.7 psi/ft in the absence of better information. It is limited to the controlling pressure based on the maximum expected pore pressure within the next drilling interval.
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3) Tension Loads
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Production

1) Burst Design Loads
   a) Injection Down Casing
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      (1) Internal: Full void pipe.
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H_2S Contingency Plan

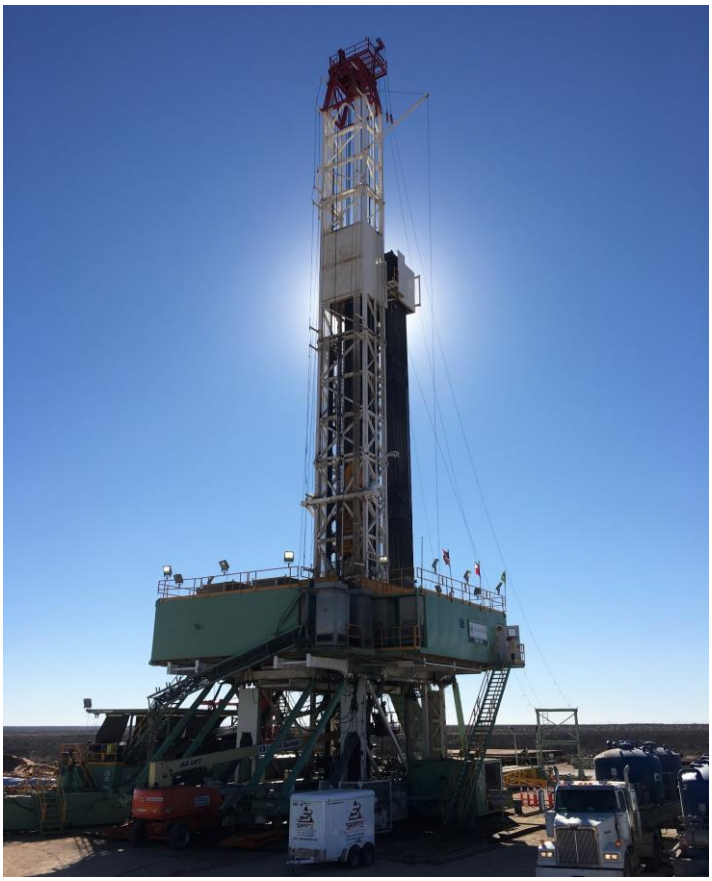


Table of Contents

I. EMERGENCY ASSISTANCE TELEPHONE LIST

PUBLIC SAFETY	**911 or**
Sheriff's Department:	
Eddy County Sherriff's Office	(575) 887-7551
Fire Department:	
Carlsbad Fire Department	(575) 885-3125
Artesia Fire Department	(575) 746-5051
Ambulance:	
Elite Medical Transport (Carlsbad)	(915) 542-1144
Trans Aero MedEvac (Artesia)	(970) 657-7449
Hospitals:	
Carlsbad Medical Center	(575) 887-4100
Artesia General Hospital	(575) 748-3333
New Mexico Dept. of Transportation:	
Highway & Transportation Department	(505) 795- 1401
New Mexico Railroad Commission:	
Main Line	(505) 476-3441
OSHA 24 Hr. Reporting	(800) 321-6742
(8 hrs. after death or 24 hrs. after in-patient, amputation, loss of an eye)	

Office Contacts	911 or
Colgate Energy LLC.	**(432) 695-4222**
Vice President of Operations:	
Casey McCain	(432) 664-6140
Drilling Engineering Supervisor	
Rafael Madrid	(432) 556-6387
Drilling Engineering Technical Adviser	
Steven Segrest	(405) 550-0277
Operations Superintendent	
Rick Lawson	(432) 530- 3188
Drilling Superintendent	
Daniel Cameron	(405) 933-0435
Onsite Supervision (H&P 481 Rig Managers)	
Juan Gutierrez	(970)394-4768
Jonathan Jackson	(970)394-4768
Onsite Supervision (H&P 481 Company Men)	
Pierre Dupuis	(432)438-0114
Eric Rutherford	(432)438-0114
Rolando Torres	(432)438-0114
Trevor Hein	(432)438-0114

Emergency Accommodations	
Safety Solutions Office	(432) 563-0400
Safety Solutions Dispatch	(432) 556-2002
Craig Strasner	(432) 894-0341 (Cell)

II. H_2S CONTINGENCY PLAN SECTION

Scope:

This contingency plan provides an organized plan of action for alerting and protecting the public within an area of exposure prior to an intentional release or following the accidental release of a potentially hazardous volume of hydrogen sulfide. The plan establishes guidelines for all personnel whose work activity may involve exposure to Hydrogen Sulfide Gas (H_2S).

Objective:

Prevent any and all accidents and prevent the uncontrolled release of H_2S into the atmosphere.
Provide proper evacuation procedures to cope with emergencies.
Provide immediate and adequate medical attention should an injury occur.

Purpose, Distribution and Updating of Contingency Plan:

The Purpose of this contingency plan is to protect the general public from the harmful effects of H_2S accidentally escaping from the subject producing well. This plan is designed to accomplish its purpose by assuring the preparedness necessary to:

1. Minimize the possibility of releasing H_2S into the atmosphere during related operations.
2. Provide for the logical, efficient, and safe emergency actions required to protect the general public in the event of an accidental release of a potentially hazardous quantity of H_2S.

Supplemental information is included with this plan and is intended as reference material for anyone needing a more detailed understanding of the many factors pertinent to H_2S drilling operations safety. The release of a potentially hazardous quantity of H_2S is highly unlikely. If such a release should occur however, obviously the exact time, rate, duration, and other pertinent facts will be known in advance thus, this contingency plan must necessarily be somewhat general. The plan does review in detail, as is reasonably possible, the type of accidental release that could possibly endanger the general public, the probable extent of such danger, and the emergency actions generally appropriate. In the event of such an accidental release, the specific actions to be taken will have to be determined at the time of release by the responsible personnel at the drilling location. Complete familiarity with this plan will help such personnel make the proper decisions rapidly. Familiarity with this plan is so required all operators, operator representatives, and drilling contractor supervisory personnel who could possibly be on duty at the drilling location at the time of an H_2S emergency.

IT IS THE RESPONSIBILITY OF THE OPERATOR TO ASSURE SUCH FAMILIARITY BEFORE DRILLING WITHIN 1000' OR THREE DAYS PRIOR TO PENETRATION OF THE SHALLOWEST FORMATION KNOWN OR SUSPECTED TO CONTAIN H_2S IN POTENTIALLY HAZARDOUS QUANTITIES, AND ALSO TO ASSURE THE TIMELY ACCOMPLISHMENT OF ALL THE OTHER ACTION SPECIFIED HERE IN.

As this contingency plan was prepared considerably in advance of the anticipated H_2S operation, the plan must be kept current if it is to effectively serve its purpose. The operators will be responsible for seeing that all copies are updated. Updating the plan is required when any changes to the personnel Call List (Section) including telephone numbers occur or when any pertinent data or plans for the well are altered. The plan must also be updated when any changes in the general public likely to be within the exposure area in the event of an

accidental release from the well bore of a potentially hazardous quantity of H_2S. Two copies of this plan shall be retained at the office of Colgate Energy. Two copies shall be retained at the drilling location.

Discussion of Plan:

Suspected Problem Zones:

Implementation: This plan, with all details, is to be fully implemented 1000' before drilling into the first sour zone.

Emergency Response Procedure: This section outlines the conditions and denotes steps to be taken in the event of an emergency.

Emergency Equipment and Procedure: This section outlines the safety and emergency equipment that will be required for the drilling of this well.

Training Provisions: This section outlines the training provisions that must be adhered to 1000' before drilling into the first sour zone.

Emergency call list: Included are the telephone numbers of all persons that would need to be contacted, should an H_2S emergency occur.

Briefing: This section deals with the briefing of all persons involved with the drilling of this well.

Public Safety: Public Safety Personnel will be made aware of the drilling of this well.

Check Lists: Status check lists and procedural check lists have been included to ensure adherence to the plan.

General Information: A general information section has been included to supply support information.

III. OPERATING PROCEDURES

A. Blowout Preventer Drills

Due to the special piping and Mani folding necessary to handle poisonous gas, particular care will be taken to ensure that all rig personnel are completely familiar with their jobs during the drills. The Drilling Consultant and Tool Pusher (Rig Superintendent) are thoroughly familiar with the additional controls and piping necessary.

B. H_2S Alarm Drills

The Company Man and/ or designee will conduct frequent H_2S alarm drills for each crew by injecting a trace of H_2S where the detector will give an alarm. Under these conditions all personnel on location will put on air equipment and remain masked until all clear is announced.

C. Surface Annular Preventer/ Diverter System Testing

After installation of the surface annular preventer, Hydraulic Control Valve and diverter system, both are to be function tested. They also should be function tested frequently while drilling surface hole.

D. Blowout Preventer

After installation of the Blowout Preventer Stack, the stack will be pressure tested. The Choke manifold is also to be pressure tested at this time. This procedure will be repeated as required by the NMOCD, the BLM, or if any of the stack is nipped down. Also, at this time, the Blind and Pipe Rams are checked for correct operation.

E. Well Control Practice Drills and Safety Meeting for Crew Members

Pit drills are for the purpose of acquainting each member of the drilling crew with his duties in the event of an emergency. Drills will be held with each crew as frequently as required to thoroughly familiarize each man with his duties. Drills are to be held at least weekly from that time forward.

1. BOP Drill while on Bottom Drilling:
   A. Signal will be three or more long blast given by driller on the horn.

   B. Procedure will be as follows:
      1. Tool Pusher: Supervises entire operation.
      2. Driller
         a. Gives signal.
         b. Picks up Kelly.
         c. Stops pumps.
         d. Observes flow.
         e. Signal to close (pipe rams if necessary).
         f. Check that Choke Manifold is closed.
         g. Record drill pipe pressure, casing pressure and determine mud volume gain.
      3. Motorman
         a. Go to closing unit and standby for signal to close BOP.
         b. Close BOP in signal.
         c. Check on BOP closing.
         d. Go to floor to assist driller. (NOTE: During test drills the BOP

need not be completely closed at the discretion of the supervisor. Supervisor should make it very clear that it is a test drill only!)

4. Derrickman
    a. Check pumps.
    b. Go to floor for directions from the driller.
5. Floorman
    a. Go to manifold.
    b. Observe and record pressure.
    c. Check manifold and BOP for leaks.
    d. Check with driller for additional instructions.

2. BOP Drill While Making Trip:

A. During trip driller will fill hole every five (5) stands and check the pits to be sure hole is taking mud.

B. Drill Procedure is as follows:

1. Driller
    a. Order Safety valve installed.
    b. Alert those not on the floor.
    c. Go to stations as described in above drill.

3. Safety Meetings

A. Every person involved in the operating will be informed of the characteristics of H_2S, its danger and safety procedures to be used when it is encountered, and recommended first-aid procedure for regular rig personnel. This will be done through a series of talks made before spud.

B. The Safety Advisor or Drilling Supervisor will conduct these training sessions and will repeat them as deemed necessary by him or as instructed by Colgate Energy. Talks may include the following subjects:

1. Dangers of Hydrogen Sulfide (H_2S).
2. Use and limitations of air equipment.
3. Use of resuscitator.
4. Organize Buddy System.
5. First Aid procedures.
6. Use of H_2S detection devices.
7. Designate responsible people.
8. Explain rig layout and policy to visitors.
    a. Designate smoking and safety or Muster area.
    b. Emphasize the importance of wind directions.
9. Describe and explain operation of BOP stack, manifold, separator, and pit piping. Include maximum allowable pressure for casing procedure.
10. Explain functions of Safety Supervisor.
11. Explain organize H_2S Drills.
12. Explain the overall emergency plan with emphasis given to the evacuation phase of the plans.

- Note: The above talks will be attended by every person involved in the operation. When drilling has reached a depth where H_2S is anticipated, temporary service personnel and visitors will be directed to the Drilling Consultant, who will designate the air equipment to be used by them in case of emergency, acquaint them with the dangers involved and be sure of their safety while they are in the area. He will point out the Briefing Areas, Windsocks, and Smoking Areas. He may refuse entrance to anyone, who in his opinion should not be admitted because of lack of safety equipment, special operations in progress or for other reasons involving personnel safety.

F. Outside Service Personnel

All service people such as cementing crews, logging crews, specialist, mechanics, and welders will furnish their own safety equipment. The Company Man/ or designee will be sure that the number of people on location does not exceed the number of masks on location, and they have been briefed regarding safety procedures. He will also be sure each of these people know about smoking and "Briefing Areas" and know what to do in case of an emergency alert or drill. Visitors will be restricted, except with special permission from the Drilling Consultant, when H_2S might be encountered. They will be briefed as to what to do in case of an alert or drill.

G. Onsite/ off shift workers

All workers that are staying on site must be identified as to where they are staying while off tour. If a drill/ or emergency takes place related to an H_2S release, each crew must have a designated person(s) that will wake them up and ensure that they are cleared to the appropriate muster area immediately.

H. Simultaneous Operations (SIMOPS)

If work is going on adjacent to the location is the responsibility of the Drilling Consultant or designee to communicate any applicable risks that may affect personnel working on that adjacent location. In the case of an H2S drill or event, there should be a designated crew member that is responsible for contacting personnel on adjacent locations. This could include just communication on potential events or in case of an event, notification to evacuate location. Drilling Consultant or designee are the Point of Contact and oversee all activities at such point of an H_2S event occurrence.

I. Area Residences/ Occupied Locations/ Public Roads

Any occupied residences/ businesses that are within a reasonable perimeter of the location (attached map will identify a 3000' radius around location) should be identified as part of this contingency and a reasonable effort will be made to gain contact information for them. As part of the briefing of the contingency plan, the team reviewing should identify where these potential receptors are and plan on who will contact them in case of a release that may impact that area.

J. Drilling Fluids

Drilling Fluid Monitoring – On Any Hazardous H_2S gas well, the earlier the warning of danger the better chance to control operations. Mud Company will be in daily contact with Colgate Energy Consultant. The Mud Engineer will take samples of the mud, analyze these samples, and make necessary recommendations to prevent H_2S gas from the formation, the pH will be increased as necessary for corrosion control.

pH Control – For normal drilling, pH of 10.5 – 11.5. Would be enough for corrosion protection. If there is an influx of H_2S gas from the formation, the pH will be increased as necessary for corrosion control.

H_2S Scavengers – If necessary H_2S scavengers will be added to the drilling mud.

IV. OPERATING CONDITIONS

A. Posting Well Condition Flags

Post the green, yellow or red well condition flag, as appropriate, on the well condition sign at the location entrance, and take necessary precautions as indicated below:

1. **Green Flag**: Potential Danger- When Drilling in known H_2S zones or when H_2S has been detected in the drilling fluid atmosphere. Protective breathing equipment shall be inspected, and all personnel on duty shall be alerted to be ready to use this equipment.
2. **Yellow Flag**: Potential Danger- When the threshold limit value of H_2S (10 PPM) or of SO_2 (5 PPM) is reached. If the concentration of H_2S or SO_2 reaches 10 PPM, protective breathing equipment shall be worn by all working personnel, and non-working personnel shall go to the upwind Safe Briefing Area.
3. **Red Flag**: Extreme danger*- When the ambient concentration of H_2S or SO_2 is reasonably believed or determined to have exceeded the potentially hazardous level. All non-essential personnel shall leave the drilling location taking the route most likely to exposure to escaping gas.

B. Requiring Air Masks Conditions

1. Whenever air masks are used, the person must be clean shaven as shown in the APC Guidelines
2. When breaking out any line where H_2S can reasonably be expected.
3. When sampling air in areas to determine if toxic concentrations of H_2S exist.
4. When working in areas where 10 PPM or more of H_2S has been detected.
5. At any time, there is doubt as to the H_2S level in the area to be entered.

C. Kick Procedure

1. It is very important that the driller be continuously alert, especially when approaching a gas formation.
2. Should gas come into the well bore, it is very important to be aware of a kick at the earliest time.
3. If a kick is identified, follow appropriate diverter or shut in procedures according to the situation that is presented utilizing appropriate kick procedures.

V. EMERGENCY PROCEDURES

I. In the event of any evidence of H_2S level above 10ppm, take the following steps immediately:
   a. Secure breathing apparatus.
   b. Order non-essential personnel out of the danger zone.
   c. Take steps to determine if the H_2S level can be corrected or suppressed, and if so, proceed with normal operations.

II. If uncontrollable conditions occur, proceed with the following:
   a. Take steps to protect and/or remove any public downwind of the rig, including partial evacuation or isolation. Notify necessary public safety personnel.
   b. Remove all personnel to the Safe Briefing Area.
   c. Notify public safety personnel for help with maintaining roadblocks, thus limiting traffic and implementing evacuation.
   d. Determine and proceed with the best possible plan to regain control of the well. Maintain tight security and safety measures.

III. Responsibility
   a. The Company Approved Supervisor shall be responsible for the total implementation of the plan.
   b. The Company Approved Supervisor shall be in complete command during any emergency.
   c. The Company Approved Supervisor shall designate a backup Supervisor if he/she is not available.

IV. Actions to be taken

   a. Assign specific tasks to drilling location personnel
   b. Evacuate the general public from the exposure area
   c. Cordon off the exposure area to prevent entry by unauthorized persons
   d. Request assistance if and as needed and initiate emergency notifications
   e. Stop the dispersion of H_2S
   f. Complete emergency notifications as required
   g. Return the situation to normal

EMERGENCY PROCEDURE IMPLEMENTATION

I. Drilling or Tripping

a. *All Personnel*

i. When alarm sounds, don escape unit and report to upwind Safe Briefing Area.
ii. Check status of other personnel (buddy system).
iii. Secure breathing apparatus.
iv. Wait for orders from supervisor.

b. *Drilling Consultant*

i. Report to the upwind Safe Briefing Area.
ii. Don Breathing Apparatus and return to the point of release with the Tool Pusher or Driller (buddy system).
iii. Determine the concentration of H_2S.
iv. Assess the situation and take appropriate control measures.

c. *Tool Pusher*

i. Report to the upwind Safe Briefing Area.
ii. Don Breathing Apparatus and return to the point of release with the Drilling Consultant or the Driller (buddy system).
iii. Determine the concentration of H_2S.
iv. Assess the situation and take appropriate control measures.

d. *Driller*

i. Check the status of other personnel (in a rescue attempt, always use the buddy system).
ii. Assign the least essential person to notify the Drilling Consultant and Tool Pusher, in the event of their absence.
iii. Assume the responsibility of the Drilling Consultant and the Tool Pusher until they arrive, in the event of their absence.

e. *Derrick Man and Floor Hands*

i. Remain in the upwind Safe Briefing Area until otherwise instructed by a supervisor.

f. *Mud Engineer*

i. Report to the upwind Safe Briefing Area.
ii. When instructed, begin check of mud for pH level and H_2S level.

g. *Safety Personnel*

i. Don Breathing Apparatus.
ii. Check status of personnel.
iii. Wait for instructions from Drilling Consultant or Tool Pusher.

II. Taking a Kick

a. All Personnel report to the upwind Safe Briefing Area.
b. Follow standard BOP/ diverter procedures.

III. Open Hole Logging

a. All unnecessary personnel should leave the rig floor.

b. Drilling Consultant and Safety Personnel should monitor the conditions and make necessary safety equipment recommendations.

IV. Running Casing or Plugging

a. Follow “Drilling or Tripping” procedures.

b. Assure that all personnel have access to protective equipment.

VI. POST EMERGENCY ACTIONS

In the event this plan is activated, the following post emergency actions shall be taken in an effort to reduce the possibility of a reoccurrence of the type of problem that required its activation, and/or assure that any future activation of a similar plan will be as effective as possible.

A. Review the factors that caused or permitted the emergency occur, and if the need is indicated, modify operating, maintance and/or surveillance procedures.
B. If the need is indicated, retrain employees in blowout prevention, H_2S emergency procedures and etc.
C. Clean up, recharge, restock, reapair, and/ or repalce H_2S emergency equipment as necessary , and return it to its proper place. (For whatever rental equipment is used, this will be the resposibility of Rental Company).
D. See that future H_2S drilling contingency plans are modified accordingly, if the need is indicated.

VII. IGNITION PROCEDURES

Responsibilities:

The decision to ignite the well is the responsibility of the DRILLING CONSULTANT in concurrence with the STATE POLICE. In the event the Drilling Consultant is incapacitated, it becomes the responsibility of the RIG TOOL PUSHER. This decision should be made only as a last resort and in a situation where it is clear that:

1. Human life and property are endangered.

2. There is no hope of controlling the blowout under the prevailing conditions.

If time permits, notify the main office, but do not delay if human life is in danger. Initiate the first phase of the evacuation plan.

Instructions for Igniting the Well:

1. Two people are required for the actual igniting operation. Both men must wear self-contained breathing apparatus and must use a full body harness and attach a retrievable safety line to the D-Ring in the back. One man must monitor the atmosphere for explosive gases with the LEL monitor, while the Drilling Consultant is responsible for igniting the well.

2. The primary method to ignite is a 25mm flare gun with a range of approximately 500 feet.

3. Ignite from upwind and do not approach any closer than is warranted.

4. Select the ignition site best suited for protection and which offers an easy escape route.

5. Before igniting, check for the presence of combustible gases.

6. After igniting, continue emergency actions and procedures as before.

7. All unassigned personnel will limit their actions to those directed by the Drilling Consultant.

Note: After the well is ignited, burning Hydrogen Sulfide will convert to Sulfur Dioxide, which is also highly toxic. Also, both are heavier than air. Do not assume the area is safe even after the well is ignited.

VIII. TRAINING PROGRAM

When working in an area where Hydrogen Sulfide (H_2S) might be encountered, definite training requirements must be carried out. The Company Supervisor will ensure that all personnel, at the well site, have had adequate training in the following:

1. Hazards and characteristics of Hydrogen Sulfide (H_2S).
2. Physicals effects of Hydrogen Sulfide on the human body.
3. Toxicity of Hydrogen Sulfide and Sulfur Dioxide.
4. H_2S detection, Emergency alarm and sensor location.
5. Don and Doff of SCBA and be clean shaven.
6. Emergency rescue.
7. Resuscitators.
8. First aid and artificial resuscitation.
9. The effects of Hydrogen Sulfide on metals.
10. Location safety.

Service company personnel and visiting personnel must be notified if the zone contains H_2S, and each service company must provide adequate training and equipment for their employees before they arrive at the well site.

IX. EMERGENCY EQUIPMENT

Lease Entrance Sign:

Should be located at the lease entrance with the following information:

CAUTION – POTENTIAL POISON GAS
HYDROGEN SULFIDE
NO ADMITTANCE WITHOUT AUTHORIZATION

Respiratory Equipment:

- Fresh air breathing equipment should be placed at the safe briefing areas and should include the following:
- Two SCBA's at each briefing area.
- Enough airline units to operate safely, anytime the H_2S concentration reaches the IDLH level (100 ppm).

- Cascade system with enough breathing air hose and manifolds to reach the rig floor, the derrickman and the other operation areas.

Windsocks or Wind Streamers:

- A minimum of two 10" windsocks located at strategic locations so that they may be seen from any point on location.
- Wind streamers (if preferred) should always be placed at various locations on the well site to ensure wind consciousness. (Corners of location).

Hydrogen Sulfide Detector and Alarms:

- 1 - Four channel H_2S monitor with alarms.
- Three (3) sensors located as follows: #1 – Rig Floor, #2 – Shale Shaker, #3 – Cellar.
- Gastec or Draeger pump with tubes.
- Sensor test gas.

Well Condition Sign and Flags:

The Well Condition Sign w/flags should be placed a minimum of 150' before you enter the location. It should have three (3) color coded flags (green, yellow and red) that will be used to denote the following location conditions:

GREEN – Normal Operating Conditions
YELLOW – Potential Danger
RED – Danger, H_2S Gas Present

Auxiliary Rescue Equipment:

- Stretcher
- 2 – 100' Rescue lines.
- First Aid kit properly stocked.

Mud Inspection Equipment:

Garret Gas Train or Hach Tester for inspection of Hydrogen Sulfide in the drilling mud system.

Fire Extinguishers:

Adequate fire extinguishers shall be located at strategic locations.

Blowout Preventer:

- The well shall have hydraulic BOP equipment for the anticipated bottom hole pressure (BHP).
- The BOP should be tested upon installation.
- BOP, Choke Line and Kill Line will be tested as specified by Operator.

Confined Space Monitor:

There should be a portable multi-gas monitor with at least 3 sensors (O_2, LEL H_2S), preferably 4 (O_2, LEL, H_2S, CO). This instrument should be used to test the atmosphere of any confined space before entering. It should also be used for atmospheric testing for LEL gas before beginning any type of Hot Work. Proper calibration documentation will need to be provided.

Communication Equipment:

- Proper communication equipment such as cell phones or 2-way radios should be available at the rig.
- Radio communication shall be available for communication between the company man's trailer, rig floor and the tool pusher's trailer.
- Communication equipment shall be available on the vehicles.

Special Control Equipment:

- Hydraulic BOP equipment with remote control on the ground.
- Rotating head at the surface casing point.

Evacuation Plan:

- Evacuation routes should be established prior to spudding the well.
- Should be discussed with all rig personnel.

Designated Areas:

Parking and Visitor area:

- All vehicles are to be parked at a pre-determined safe distance from the wellhead.
- Designated smoking area.

Safe Briefing Areas:

- Two Safe Briefing Areas shall be designated on either side of the location at the maximum allowable distance from the well bore so they offset prevailing winds, or they are at a 180-degree angle if wind directions tend to shift in the area.

- Personal protective equipment should be stored at both briefing areas and if a moveable cascade trailer is used, it should be kept upwind of existing winds. When wind is from the prevailing direction, both briefing areas should be accessible.

Note:

- Additional equipment will be available at the H_2S Provider Safety office.

- Additional personal H_2S monitors are available for all employees on location.

- Automatic Flare Igniters are recommended for installation on the rig.

X. CHECKLISTS

Rig-up & Equipment Status Check List

Note: Initial & Date each item as they are implemented. Multiple wells require additional Columns to be Dated/ Initialed

	Date & Initial 1st Well	Date & Initial 2nd Well	Date & Initial 3rd Well	Date & Initial 4th Well
Sign at location entrance.				
Two (2) windsocks (in required locations).				
Wind Streamers (if required).				
SCBA's on location (Minimum of 2 @ each Muster Area)				
Air packs (working packs and escape packs), inspected and ready for use.				
Spare bottles for each air pack (if required).				
Cascade system and hose line hook up.				
Choke manifold hooked-up and tested. (before drilling out surface casing.)				
Remote Hydraulic BOP control tested (before drilling out surface casing).				
BOP tested (before drilling out surface casing).				
Safe Briefing Areas set-up				
Well Condition sign and flags on location and ready.				
Hydrogen Sulfide detection/ alarm system hooked-up & tested.				
Stretcher on location				
2 – 100' Lifelines on location.				
1 – 20# Fire Extinguisher in safety trailer.				
Confined Space monitor on location and tested.				
All rig crews and supervisor trained (as required).				
All rig crews and supervision medically qualified and fit tested on proper respirators				
Access restricted for unauthorized personnel.				
Pre-spud meeting held reviewing Contingencies				
Drills on H_2S and well control procedures.				
All outside service contractors advised of potential H_2S on the well.				
25mm Flare Gun on location w/flares.				

Procedural Check List

Perform the following on each tour:

1. Check fire extinguishers to see that they have the proper charge.
2. Check breathing equipment to ensure that they have not been tampered with.
3. Check pressure on the supply air bottles to make sure they are capable of recharging.
4. Make sure all the Hydrogen Sulfide detection systems are operative.
5. Ensure that all BOP/ Surface Annular/ Diverter systems are functioning and operational.

Perform the following each week:

1. Check each piece of breathing equipment to make sure that they are fully charged and operational. This requires that the air cylinder be opened, and the mask assembly be put on and tested to make sure that the regulators and masks are properly working. Negative and Positive pressure should be conducted on all masks.
2. BOP skills.
3. Check supply pressure on BOP accumulator stand-by source.
4. Check all breathing air mask assemblies to see that straps are loosened and turned back, ready for use.
5. Check pressure on cascade air cylinders to make sure they are fully charged and ready to use for refill purposes if necessary.
6. Check all cascade system regulators to make sure they work properly.
7. Perform breathing drills with on-site personnel.
8. Check the following supplies for availability (may be with H_2S Techs On-call):
    - Stretcher
    - Safety Belts and Ropes
    - Spare air Bottles
    - Spare Oxygen Bottles (if resuscitator required)
    - Gas Detector Pump and Tubes
    - Emergency telephone lists
    - Test the Confined Space Monitor to verify the batteries are good.

XI. BRIEFING PROCEDURES

The following scheduled briefings will be held to ensure the effective drilling and operation of this project:

Pre-Spud Meeting

Date: Prior to spudding the well.

Attendance:
Drilling Supervisor
Drilling Engineer
Drilling Consultant
Rig Tool Pushers
Rig Drillers
Mud Engineer
All Safety Personnel
Key Service Company Personnel

Purpose: Review and discuss the well program, step-by-step, to insure complete understanding of assignments and responsibilities.

XII. EVACUATION PLAN

General Plan

The direct lines of action prepared by Colgate Energy to protect the public from hazardous gas situations are as follows:

1. When the company approved supervisor (Drilling Consultant, Tool Pusher or Driller) determine that Hydrogen Sulfide gas cannot be limited to the well location, and the public will be involved, he will activate the evacuation plan. Escape routes are noted on the area map.

2. Company safety personnel or designee will notify the appropriate local government agency that a hazardous condition exists, and evacuation needs to be implemented.

3. Company approved safety personnel that have been trained in the use of the proper emergency equipment will be utilized.

4. Law enforcement personnel (State Police, Local Police Department, Fire Department, and the Sheriff's Department) will be called to aid in setting up and maintaining roadblocks. Also, they will aid in evacuation of the public if necessary.

NOTE: Law enforcement personnel will not be asked to come into a contaminated area. Their assistance will be limited to uncontaminated areas. Constant radio contact will be maintained with them.

5. After the discharge of gas has been controlled, "Company" personnel will determine when the area is safe for re-entry.

6. If a major release is secured, all exposed housing, vehicles, rig buildings, and low-lying areas and other structures downwind must be tested and clear with SCBAs donned to ensure that all residual H_2S is cleared. Fans, or opening of doors is recommended to ensure that areas are cleared out as part of this process.

XIII. APPENDICES AND GENERAL INFORMATION

Radius of Exposure
Affected Notification List

(within a 65' radius of exposure @100ppm)

The geologic zones that will be encountered during drilling are known to contain hazardous quantities of H_2S. The accompanying map illustrates the affected areas of the community. The residents within this radius will be notified via a hand delivered written notice describing the activities, potential hazards, conditions of evacuation, evacuation drill siren alarms and other precautionary measures.

Evacuee Description:
Residents:

Notification Process:

A continuous siren audible to all residence will be activated, signaling evacuation of previously notified and informed residents.

Evacuation Plan:

All evacuees will migrate lateral to the wind direction.

The Operating Company will identify all home bound or highly susceptible individuals and make special evacuation preparations, interfacing with the local and emergency medical service as necessary.

Toxic Effects of H_2S Poisoning

Hydrogen Sulfide is extremely toxic. The acceptable ceiling concentration for eight-hour exposure is 10 PPM, which is .001% by volume. Hydrogen Sulfide is heavier than air (specific gravity – 1.192) and is colorless and transparent. Hydrogen Sulfide is almost as toxic as Hydrogen Cyanide and is 5-6 times more toxic than Carbon Monoxide. Occupational exposure limits for Hydrogen Sulfide and other gases are compared below in Table 1. Toxicity table for H_2S and physical effects are shown in Table 2.

Table 1
Permissible Exposure Limits of Various Gases

Common Name	Symbol	Sp. Gravity	TLV	STEL	IDLH
Hydrogen Cyanide	HCN	.94	4.7 ppm	4.7 ppm	50 ppm
Hydrogen Sulfide	H_2S	1.192	10 ppm	15 ppm	100 ppm
Sulfide Dioxide	SO_2	2.21	2 ppm	5 ppm	100 ppm
Chlorine	CL	2.45	.5 ppm	1 ppm	10 ppm
Carbon Monoxide	CO	.97	25 ppm	200 ppm	1200 ppm
Carbon Dioxide	CO_2	1.52	5000 ppm	30,000 ppm	40,000 ppm
Methane	CH_4	.55	5% LEL	15% UEL	

Definitions

A. TLV – Threshold Limit Value is the concentration employees may be exposed based on a TWA (time weighted average) for eight (8) hours in one day for 40 hours in one (1) week. This is set by ACGIH (American Conference of Governmental Hygienists) and regulated by OSHA.

B. STEL – Short Term Exposure Limit is the 15-minute average concentration an employee may be exposed to providing that the highest exposure never exceeds the OEL (Occupational Exposure Limit). The OEL for H_2S is 20 PPM.

C. IDLH – Immediately Dangerous to Life and Health is the concentration that has been determined by the ACGIH to cause serious health problems or death if exposed to this level. The IDLH for H_2S is 100 PPM.

D. TWA – Time Weighted Average is the average concentration of any chemical or gas for an eight (8) hour period. This is the concentration that any employee may be exposed based on a TWA.

Toxicity Table of H_2S

Percent %	PPM	Physical Effects
.0001	1	Can smell less than 1 ppm.
.001	10	TLV for 8 hours of exposure.
.0015	15	STEL for 15 minutes of exposure.
.01	100	Immediately Dangerous to Life & Health. Kills sense of smell in 3 to 5 minutes.
.02	200	Kills sense of smell quickly, may burn eyes and throat.
.05	500	Dizziness, cessation of breathing begins **in a few minutes.**
.07	700	Unconscious quickly, death will result if not rescued promptly.
.10	1000	Death will result unless rescued promptly. Artificial resuscitation may be necessary.

PHYSICAL PROPERTIES OF H_2S

The properties of all gases are usually described in the context of seven major categories:

COLOR
ODOR
VAPOR DENSITY
EXPLOSIVE LIMITS
FLAMMABILITY
SOLUBILITY (IN WATER)
BOILING POINT

Hydrogen Sulfide is no exception. Information from these categories should be considered in order to provide a complete picture of the properties of the gas.

COLOR – TRANSPARENT

Hydrogen Sulfide is colorless, so it is invisible. This fact simply means that you can't rely on your eyes to detect its presence. In fact, that makes this gas extremely dangerous to be around.

ODOR – ROTTEN EGGS

Hydrogen Sulfide has a distinctive offensive smell, like "rotten eggs". For this reason, it earned its common name "sour gas". However, H_2S, even in low concentrations, is so toxic that it attacks and quickly impairs a victim's sense of smell, so it could be fatal to rely on your nose as a detection device.

VAPOR DENSITY – SPECIFIC GRAVITY OF 1.192

Hydrogen Sulfide is heavier than air, so it tends to settle in low-lying areas like pits, cellars or tanks. If you find yourself in a location where H_2S is known to exist, protect yourself. Whenever possible, work in an area upwind and keep to higher ground.

EXPLOSIVE LIMITS – 4.0% TO 44%

Mixed with the right proportion of air or oxygen, H_2S will ignite and burn or explode, producing another alarming element of danger besides poisoning.

FLAMMABILITY

Hydrogen Sulfide will burn readily with a distinctive clear blue flame, producing Sulfur Dioxide (SO_2), another hazardous gas that irritates the eyes and lungs.

SOLUBILITY – 4 TO 1 RATIO WITH WATER

Hydrogen Sulfide can be dissolved in liquids, which means that it can be present in any container or vessel used to carry or hold well fluids including oil, water, emulsion and sludge. The solubility of H_2S is dependent on temperature and pressure, but if conditions are right, simply agitating a fluid containing H_2S may release the gas into the air.

BOILING POINT – (-77° Fahrenheit)

Liquefied Hydrogen Sulfide boils at a very low temperature, so it is usually found as a gas.

RESPIRATOR USE

The Occupational Safety and Health Administration (OSHA) regulate the use of respiratory protection to protect the health of employees. OSHA's requirements are written in the Code of Federal Regulations, Title 29, Part 1910, Section 134, Respiratory Protection. This regulation requires that all employees who might be required to wear respirators, shall complete an OSHA mandated medical evaluation questionnaire. The employee then should be fit tested prior to wearing any respirator while being exposed to hazardous gases.

Written procedures shall be prepared covering safe use of respirators in dangerous atmospheric situations, which might be encountered in normal operations or in emergencies. Personnel shall be familiar with these procedures and the available respirators.

Respirators shall be inspected prior to and after each use to make sure that the respirator has been properly cleaned, disinfected and that the respirator works properly. The unit should be fully charged prior to being used.

Anyone who may use respirators shall be properly trained in how to properly seal the face piece. They shall wear respirators in normal air and then in a test atmosphere. (Note: Such items as facial hair (beard or sideburns) and eyeglass temple pieces will not allow a proper seal.) Anyone who may be expected to wear respirators should have these items removed before entering a toxic atmosphere. A special mask must be obtained for anyone who must wear eyeglasses. Contact lenses should not be allowed.

Respirators shall be worn during the following conditions:

A. Any employee who works near the top or on the top of any tank unless tests reveal less than 20 ppm of H_2S.

B. When breaking out any line where H_2S can reasonably be expected.

C. When sampling air in areas where H_2S may be present.

D. When working in areas where the concentration of H_2S exceeds the Threshold Limit Value for H_2S (10 ppm).

E. At any time where there is a doubt as to the H_2S level in the area to be entered.

EMERGENCY RESCUE PROCEDURES

DO NOT PANIC!!!

Remain Calm – Think

1. Before attempting any rescue, you must first get out of the hazardous area yourself. Go to a safe briefing area.

2. Sound alarm and activate the 911 system.

3. Put on breathing apparatus. At least two persons should do this, when available use the buddy system.

4. Rescue the victim and return them to a safe briefing area.

5. Perform an initial assessment and begin proper First Aid/CPR procedures.

6. Keep victim lying down with a blanket or coat, etc.., under the shoulders to keep airway open. Conserve body heat and do not leave unattended.

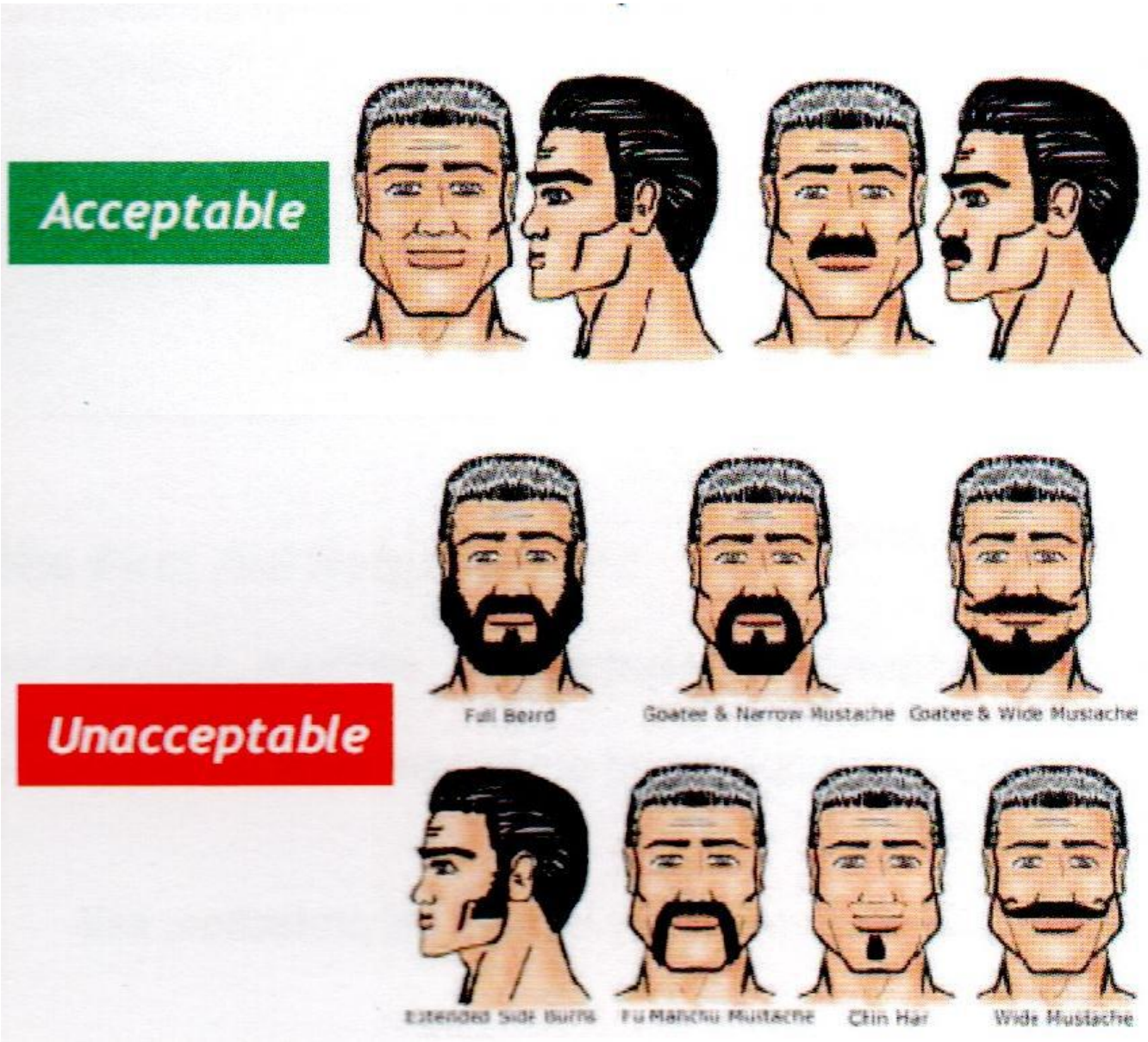
7. If the eyes are affected by H_2S, wash them thoroughly with potable water. For slight irritation, cold compresses are helpful.

8. In case a person has only minor exposure and does not lose consciousness totally, it's best if he doesn't return to work until the following day.

9. Any personnel overcome by H_2S should always be examined by medical personnel. They should always be transported to a hospital or doctor.

Facial Hair – Clean Shaven Examples

Purpose: To define clean shaven expectations in the field for: 1) Respirator Use, if applicable and 2) First Aid Administration, if situation occurs related to H_2S exposure, having no facial hair can greatly benefit response time and treatment ability.



Colgate Energy

(Permit) Eddy County, NM (83-NME)
(Permit) Koala 9 Fed Com
(B03) Koala 9 Fed Com 133H

Permit

Plan: APD-Rev00

Standard Planning Report - Geographic

12 May, 2022

COLGATE ENERGY

Planning Report - Geographic

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Company:	Colgate Energy	**TVD Reference:**	3274+30 @ 3304.00usft
Project:	(Permit) Eddy County, NM (83-NME)	**MD Reference:**	3274+30 @ 3304.00usft
Site:	(Permit) Koala 9 Fed Com	**North Reference:**	Grid
Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Permit		
Design:	APD-Rev00		

Project (Permit) Eddy County, NM (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 (Permit) Koala 9 Fed Com

Site Position:		**Northing:**	579,560.58 usft	**Latitude:**	32.59318638
From:	Map	**Easting:**	584,661.65 usft	**Longitude:**	-104.19265949
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "		

Well (B03) Koala 9 Fed Com 133H

Well Position	**+N/-S**	0.00 usft	**Northing:**	576,206.98 usft	**Latitude:**	32.58396748
	+E/-W	0.00 usft	**Easting:**	584,863.30 usft	**Longitude:**	-104.19201920
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,274.00 usft
Grid Convergence:		0.08 °				

Wellbore Permit

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	5/6/2022	6.76	60.11	47,550.50397980

Design APD-Rev00

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	89.62

Plan Survey Tool Program **Date** 5/12/2022

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	19,009.61	APD-Rev00 (Permit)	MWD+IFR1+SAG+FDIR (SQC OWSG MWD + IFR1 + Sag + I	

COLGATE ENERGY

Planning Report - Geographic

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Company:	Colgate Energy	**TVD Reference:**	3274+30 @ 3304.00usft
Project:	(Permit) Eddy County, NM (83-NME)	**MD Reference:**	3274+30 @ 3304.00usft
Site:	(Permit) Koala 9 Fed Com	**North Reference:**	Grid
Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Permit		
Design:	APD-Rev00		

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,663.83	6.96	355.14	1,662.69	28.03	-2.38	1.50	1.50	0.00	355.14	
6,070.90	6.96	355.14	6,037.31	559.94	-47.62	0.00	0.00	0.00	0.00	
6,534.73	0.00	0.00	6,500.00	587.97	-50.00	1.50	-1.50	0.00	180.00	
7,672.73	0.00	0.00	7,638.00	587.97	-50.00	0.00	0.00	0.00	0.00	
8,272.73	60.00	94.60	8,134.20	564.99	235.56	10.00	10.00	0.00	94.60	
9,791.36	90.00	89.62	8,523.00	516.15	1,684.41	2.00	1.98	-0.33	-9.89	
19,009.61	90.00	89.62	8,523.00	577.35	10,902.46	0.00	0.00	0.00	0.00	PBHL(K9- 133H)

COLGATE ENERGY

Planning Report - Geographic

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Company:	Colgate Energy	**TVD Reference:**	3274+30 @ 3304.00usft
Project:	(Permit) Eddy County, NM (83-NME)	**MD Reference:**	3274+30 @ 3304.00usft
Site:	(Permit) Koala 9 Fed Com	**North Reference:**	Grid
Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Permit		
Design:	APD-Rev00		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	576,206.98	584,863.30	32.58396748	-104.19201920
100.00	0.00	0.00	100.00	0.00	0.00	576,206.98	584,863.30	32.58396748	-104.19201920
200.00	0.00	0.00	200.00	0.00	0.00	576,206.98	584,863.30	32.58396748	-104.19201920
227.00	0.00	0.00	227.00	0.00	0.00	576,206.98	584,863.30	32.58396748	-104.19201920
Rustler									
300.00	0.00	0.00	300.00	0.00	0.00	576,206.98	584,863.30	32.58396748	-104.19201920
368.00	0.00	0.00	368.00	0.00	0.00	576,206.98	584,863.30	32.58396748	-104.19201920
T/Salt									
400.00	0.00	0.00	400.00	0.00	0.00	576,206.98	584,863.30	32.58396748	-104.19201920
500.00	0.00	0.00	500.00	0.00	0.00	576,206.98	584,863.30	32.58396748	-104.19201920
600.00	0.00	0.00	600.00	0.00	0.00	576,206.98	584,863.30	32.58396748	-104.19201920
700.00	0.00	0.00	700.00	0.00	0.00	576,206.98	584,863.30	32.58396748	-104.19201920
704.00	0.00	0.00	704.00	0.00	0.00	576,206.98	584,863.30	32.58396748	-104.19201920
Tansill									
779.00	0.00	0.00	779.00	0.00	0.00	576,206.98	584,863.30	32.58396748	-104.19201920
Yates									
800.00	0.00	0.00	800.00	0.00	0.00	576,206.98	584,863.30	32.58396748	-104.19201920
900.00	0.00	0.00	900.00	0.00	0.00	576,206.98	584,863.30	32.58396748	-104.19201920
1,000.00	0.00	0.00	1,000.00	0.00	0.00	576,206.98	584,863.30	32.58396748	-104.19201920
1,100.00	0.00	0.00	1,100.00	0.00	0.00	576,206.98	584,863.30	32.58396748	-104.19201920
1,154.00	0.00	0.00	1,154.00	0.00	0.00	576,206.98	584,863.30	32.58396748	-104.19201920
Seven Rivers									
1,200.00	0.00	0.00	1,200.00	0.00	0.00	576,206.98	584,863.30	32.58396748	-104.19201920
1,300.00	1.50	355.14	1,299.99	1.30	-0.11	576,208.29	584,863.19	32.58397106	-104.19201955
1,400.00	3.00	355.14	1,399.91	5.22	-0.44	576,212.20	584,862.86	32.58398181	-104.19202062
1,500.00	4.50	355.14	1,499.69	11.73	-1.00	576,218.72	584,862.31	32.58399973	-104.19202239
1,600.00	6.00	355.14	1,599.27	20.85	-1.77	576,227.83	584,861.53	32.58402479	-104.19202487
1,663.83	6.96	355.14	1,662.69	28.03	-2.38	576,235.01	584,860.92	32.58404452	-104.19202682
1,700.00	6.96	355.14	1,698.59	32.39	-2.75	576,239.37	584,860.55	32.58405652	-104.19202800
1,800.00	6.96	355.14	1,797.86	44.46	-3.78	576,251.44	584,859.52	32.58408970	-104.19203128
1,826.34	6.96	355.14	1,824.00	47.64	-4.05	576,254.62	584,859.25	32.58409844	-104.19203215
Queen									
1,900.00	6.96	355.14	1,897.12	56.53	-4.81	576,263.51	584,858.50	32.58412288	-104.19203456
2,000.00	6.96	355.14	1,996.39	68.60	-5.83	576,275.58	584,857.47	32.58415606	-104.19203784
2,058.04	6.96	355.14	2,054.00	75.61	-6.43	576,282.59	584,856.87	32.58417532	-104.19203975
Grayburg									
2,100.00	6.96	355.14	2,095.65	80.67	-6.86	576,287.65	584,856.44	32.58418924	-104.19204112
2,200.00	6.96	355.14	2,194.91	92.74	-7.89	576,299.72	584,855.42	32.58422242	-104.19204440
2,300.00	6.96	355.14	2,294.18	104.81	-8.91	576,311.79	584,854.39	32.58425560	-104.19204768
2,400.00	6.96	355.14	2,393.44	116.88	-9.94	576,323.86	584,853.36	32.58428878	-104.19205096
2,410.64	6.96	355.14	2,404.00	118.16	-10.05	576,325.15	584,853.25	32.58429231	-104.19205131
San Andres									
2,500.00	6.96	355.14	2,492.70	128.95	-10.97	576,335.93	584,852.34	32.58432196	-104.19205424
2,600.00	6.96	355.14	2,591.97	141.02	-11.99	576,348.00	584,851.31	32.58435514	-104.19205752
2,700.00	6.96	355.14	2,691.23	153.09	-13.02	576,360.07	584,850.28	32.58438832	-104.19206081
2,800.00	6.96	355.14	2,790.49	165.16	-14.04	576,372.14	584,849.26	32.58442150	-104.19206409
2,900.00	6.96	355.14	2,889.76	177.23	-15.07	576,384.21	584,848.23	32.58445468	-104.19206737
2,989.90	6.96	355.14	2,979.00	188.08	-15.99	576,395.06	584,847.31	32.58448451	-104.19207031
CYCN									
3,000.00	6.96	355.14	2,989.02	189.30	-16.10	576,396.28	584,847.21	32.58448786	-104.19207065
3,100.00	6.96	355.14	3,088.29	201.37	-17.12	576,408.35	584,846.18	32.58452104	-104.19207393
3,200.00	6.96	355.14	3,187.55	213.44	-18.15	576,420.42	584,845.15	32.58455422	-104.19207721
3,300.00	6.96	355.14	3,286.81	225.51	-19.18	576,432.49	584,844.13	32.58458740	-104.19208049

COLGATE ENERGY

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Project:	(Permit) Eddy County, NM (83-NME)	**MD Reference:**	3274+30 @ 3304.00usft
Site:	(Permit) Koala 9 Fed Com	**North Reference:**	Grid
Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Permit		
Design:	APD-Rev00		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
3,400.00	6.96	355.14	3,386.08	237.58	-20.20	576,444.56	584,843.10	32.58462058	-104.19208377
3,500.00	6.96	355.14	3,485.34	249.65	-21.23	576,456.63	584,842.07	32.58465376	-104.19208705
3,600.00	6.96	355.14	3,584.60	261.71	-22.26	576,468.70	584,841.05	32.58468694	-104.19209033
3,700.00	6.96	355.14	3,683.87	273.78	-23.28	576,480.77	584,840.02	32.58472012	-104.19209361
3,800.00	6.96	355.14	3,783.13	285.85	-24.31	576,492.84	584,838.99	32.58475330	-104.19209689
3,900.00	6.96	355.14	3,882.39	297.92	-25.33	576,504.91	584,837.97	32.58478648	-104.19210017
4,000.00	6.96	355.14	3,981.66	309.99	-26.36	576,516.98	584,836.94	32.58481966	-104.19210345
4,100.00	6.96	355.14	4,080.92	322.06	-27.39	576,529.05	584,835.92	32.58485284	-104.19210673
4,200.00	6.96	355.14	4,180.19	334.13	-28.41	576,541.12	584,834.89	32.58488602	-104.19211001
4,300.00	6.96	355.14	4,279.45	346.20	-29.44	576,553.19	584,833.86	32.58491920	-104.19211329
4,400.00	6.96	355.14	4,378.71	358.27	-30.47	576,565.26	584,832.84	32.58495238	-104.19211657
4,500.00	6.96	355.14	4,477.98	370.34	-31.49	576,577.32	584,831.81	32.58498556	-104.19211985
4,600.00	6.96	355.14	4,577.24	382.41	-32.52	576,589.39	584,830.78	32.58501874	-104.19212313
4,677.33	6.96	355.14	4,654.00	391.74	-33.31	576,598.73	584,829.99	32.58504440	-104.19212567
BSGL									
4,700.00	6.96	355.14	4,676.50	394.48	-33.55	576,601.46	584,829.76	32.58505192	-104.19212641
4,800.00	6.96	355.14	4,775.77	406.55	-34.57	576,613.53	584,828.73	32.58508510	-104.19212969
4,900.00	6.96	355.14	4,875.03	418.62	-35.60	576,625.60	584,827.70	32.58511828	-104.19213297
5,000.00	6.96	355.14	4,974.29	430.69	-36.63	576,637.67	584,826.68	32.58515146	-104.19213625
5,100.00	6.96	355.14	5,073.56	442.76	-37.65	576,649.74	584,825.65	32.58518464	-104.19213953
5,200.00	6.96	355.14	5,172.82	454.83	-38.68	576,661.81	584,824.63	32.58521782	-104.19214281
5,300.00	6.96	355.14	5,272.09	466.90	-39.70	576,673.88	584,823.60	32.58525101	-104.19214609
5,400.00	6.96	355.14	5,371.35	478.97	-40.73	576,685.95	584,822.57	32.58528419	-104.19214937
5,500.00	6.96	355.14	5,470.61	491.04	-41.76	576,698.02	584,821.55	32.58531737	-104.19215265
5,600.00	6.96	355.14	5,569.88	503.11	-42.78	576,710.09	584,820.52	32.58535055	-104.19215594
5,700.00	6.96	355.14	5,669.14	515.18	-43.81	576,722.16	584,819.49	32.58538373	-104.19215922
5,800.00	6.96	355.14	5,768.40	527.25	-44.84	576,734.23	584,818.47	32.58541691	-104.19216250
5,900.00	6.96	355.14	5,867.67	539.32	-45.86	576,746.30	584,817.44	32.58545009	-104.19216578
6,000.00	6.96	355.14	5,966.93	551.39	-46.89	576,758.37	584,816.41	32.58548327	-104.19216906
6,070.90	6.96	355.14	6,037.31	559.94	-47.62	576,766.93	584,815.69	32.58550679	-104.19217138
6,100.00	6.52	355.14	6,066.21	563.35	-47.91	576,770.33	584,815.40	32.58551614	-104.19217231
6,138.02	5.95	355.14	6,104.00	567.46	-48.26	576,774.44	584,815.05	32.58552746	-104.19217343
FBSG									
6,200.00	5.02	355.14	6,165.70	573.37	-48.76	576,780.35	584,814.55	32.58554369	-104.19217503
6,300.00	3.52	355.14	6,265.42	580.79	-49.39	576,787.77	584,813.91	32.58556409	-104.19217705
6,400.00	2.02	355.14	6,365.30	585.60	-49.80	576,792.59	584,813.50	32.58557733	-104.19217836
6,500.00	0.52	355.14	6,465.27	587.81	-49.99	576,794.80	584,813.32	32.58558340	-104.19217896
6,534.73	0.00	0.00	6,500.00	587.97	-50.00	576,794.95	584,813.30	32.58558383	-104.19217900
6,600.00	0.00	0.00	6,565.27	587.97	-50.00	576,794.95	584,813.30	32.58558383	-104.19217900
6,700.00	0.00	0.00	6,665.27	587.97	-50.00	576,794.95	584,813.30	32.58558383	-104.19217900
6,800.00	0.00	0.00	6,765.27	587.97	-50.00	576,794.95	584,813.30	32.58558383	-104.19217900
6,900.00	0.00	0.00	6,865.27	587.97	-50.00	576,794.95	584,813.30	32.58558383	-104.19217900
7,000.00	0.00	0.00	6,965.27	587.97	-50.00	576,794.95	584,813.30	32.58558383	-104.19217900
7,100.00	0.00	0.00	7,065.27	587.97	-50.00	576,794.95	584,813.30	32.58558383	-104.19217900
7,200.00	0.00	0.00	7,165.27	587.97	-50.00	576,794.95	584,813.30	32.58558383	-104.19217900
7,213.73	0.00	0.00	7,179.00	587.97	-50.00	576,794.95	584,813.30	32.58558383	-104.19217900
SBSG									
7,300.00	0.00	0.00	7,265.27	587.97	-50.00	576,794.95	584,813.30	32.58558383	-104.19217900
7,400.00	0.00	0.00	7,365.27	587.97	-50.00	576,794.95	584,813.30	32.58558383	-104.19217900
7,500.00	0.00	0.00	7,465.27	587.97	-50.00	576,794.95	584,813.30	32.58558383	-104.19217900
7,600.00	0.00	0.00	7,565.27	587.97	-50.00	576,794.95	584,813.30	32.58558383	-104.19217900
7,672.73	0.00	0.00	7,638.00	587.97	-50.00	576,794.95	584,813.30	32.58558383	-104.19217900
KOP: 7672.73' MD, -46.10' VS,7638.00' TVD									
7,700.00	2.73	94.60	7,665.26	587.92	-49.35	576,794.90	584,813.95	32.58558369	-104.19217690

COLGATE ENERGY

Planning Report - Geographic

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Company:	Colgate Energy	**TVD Reference:**	3274+30 @ 3304.00usft
Project:	(Permit) Eddy County, NM (83-NME)	**MD Reference:**	3274+30 @ 3304.00usft
Site:	(Permit) Koala 9 Fed Com	**North Reference:**	Grid
Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Permit		
Design:	APD-Rev00		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
7,750.00	7.73	94.60	7,715.04	587.55	-44.81	576,794.54	584,818.49	32.58558267	-104.19216216
7,800.00	12.73	94.60	7,764.23	586.84	-35.97	576,793.82	584,827.33	32.58558068	-104.19213345
7,850.00	17.73	94.60	7,812.46	585.79	-22.88	576,792.77	584,840.42	32.58557774	-104.19209097
7,900.00	22.73	94.60	7,859.36	584.40	-5.66	576,791.39	584,857.65	32.58557387	-104.19203504
7,950.00	27.73	94.60	7,904.57	582.69	15.58	576,789.68	584,878.88	32.58556909	-104.19196611
8,000.00	32.73	94.60	7,947.76	580.68	40.66	576,787.66	584,903.96	32.58556345	-104.19188468
8,050.00	37.73	94.60	7,988.59	578.36	69.40	576,785.35	584,932.70	32.58555699	-104.19179138
8,100.00	42.73	94.60	8,026.76	575.77	101.58	576,782.76	584,964.88	32.58554976	-104.19168693
8,150.00	47.73	94.60	8,061.96	572.93	136.95	576,779.91	585,000.25	32.58554181	-104.19157210
8,200.00	52.73	94.60	8,093.94	569.85	175.24	576,776.83	585,038.54	32.58553320	-104.19144779
8,250.00	57.73	94.60	8,122.44	566.55	216.16	576,773.54	585,079.47	32.58552400	-104.19131493
8,272.73	60.00	94.60	8,134.20	564.99	235.56	576,771.98	585,098.86	32.58551964	-104.19125198
8,300.00	60.54	94.49	8,147.72	563.12	259.16	576,770.10	585,122.46	32.58551439	-104.19117534
8,400.00	62.51	94.11	8,195.40	556.53	346.81	576,763.51	585,210.11	32.58549596	-104.19089080
8,419.72	62.90	94.03	8,204.44	555.29	364.29	576,762.27	585,227.59	32.58549248	-104.19083405
100'FWL									
8,500.00	64.48	93.74	8,240.02	550.41	436.09	576,757.40	585,299.39	32.58547882	-104.19060098
8,553.97	65.55	93.54	8,262.82	547.31	484.90	576,754.29	585,348.21	32.58547010	-104.19044250
FTP(K9- 133H)									
8,600.00	66.45	93.38	8,281.54	544.77	526.88	576,751.75	585,390.18	32.58546298	-104.19030622
8,657.52	67.59	93.17	8,304.00	541.75	579.75	576,748.73	585,443.05	32.58545446	-104.19013458
TBSG									
8,700.00	68.43	93.03	8,319.91	539.62	619.08	576,746.60	585,482.38	32.58544846	-104.19000690
8,800.00	70.40	92.69	8,355.06	534.95	712.57	576,741.93	585,575.88	32.58543529	-104.18970337
8,900.00	72.38	92.36	8,386.98	530.78	807.25	576,737.76	585,670.55	32.58542348	-104.18939601
9,000.00	74.35	92.03	8,415.60	527.11	902.99	576,734.09	585,766.29	32.58541304	-104.18908518
9,100.00	76.33	91.72	8,440.91	523.95	999.67	576,730.93	585,862.98	32.58540398	-104.18877128
9,200.00	78.31	91.40	8,462.86	521.29	1,097.19	576,728.28	585,960.50	32.58539632	-104.18845467
9,300.00	80.28	91.10	8,481.43	519.15	1,195.43	576,726.14	586,058.73	32.58539007	-104.18813575
9,400.00	82.26	90.79	8,496.61	517.53	1,294.25	576,724.51	586,157.55	32.58538523	-104.18781491
9,500.00	84.24	90.49	8,508.36	516.42	1,393.54	576,723.40	586,256.85	32.58538181	-104.18749253
9,600.00	86.22	90.19	8,516.68	515.83	1,493.19	576,722.81	586,356.49	32.58537981	-104.18716901
9,700.00	88.19	89.89	8,521.56	515.76	1,593.07	576,722.74	586,456.37	32.58537924	-104.18684474
9,791.36	90.00	89.62	8,523.00	516.15	1,684.41	576,723.13	586,547.71	32.58537997	-104.18654817
EOC: 9791.36' MD, 1687.80' VS,8523.00' TVD									
9,800.00	90.00	89.62	8,523.00	516.21	1,693.05	576,723.19	586,556.35	32.58538009	-104.18652012
9,900.00	90.00	89.62	8,523.00	516.87	1,793.05	576,723.85	586,656.35	32.58538154	-104.18619545
10,000.00	90.00	89.62	8,523.00	517.53	1,893.05	576,724.52	586,756.35	32.58538298	-104.18587078
10,100.00	90.00	89.62	8,523.00	518.20	1,993.04	576,725.18	586,856.35	32.58538442	-104.18554611
10,200.00	90.00	89.62	8,523.00	518.86	2,093.04	576,725.84	586,956.34	32.58538587	-104.18522145
10,300.00	90.00	89.62	8,523.00	519.53	2,193.04	576,726.51	587,056.34	32.58538731	-104.18489678
10,400.00	90.00	89.62	8,523.00	520.19	2,293.04	576,727.17	587,156.34	32.58538875	-104.18457211
10,500.00	90.00	89.62	8,523.00	520.85	2,393.03	576,727.84	587,256.34	32.58539019	-104.18424744
10,600.00	90.00	89.62	8,523.00	521.52	2,493.03	576,728.50	587,356.34	32.58539163	-104.18392278
10,700.00	90.00	89.62	8,523.00	522.18	2,593.03	576,729.16	587,456.33	32.58539307	-104.18359811
10,800.00	90.00	89.62	8,523.00	522.85	2,693.03	576,729.83	587,556.33	32.58539450	-104.18327344
10,900.00	90.00	89.62	8,523.00	523.51	2,793.03	576,730.49	587,656.33	32.58539594	-104.18294877
11,000.00	90.00	89.62	8,523.00	524.17	2,893.02	576,731.16	587,756.33	32.58539738	-104.18262411
11,036.79	90.00	89.62	8,523.00	524.42	2,929.81	576,731.40	587,793.12	32.58539791	-104.18250466
Exit NM 015003 - Enter NM 013232									
11,100.00	90.00	89.62	8,523.00	524.84	2,993.02	576,731.82	587,856.32	32.58539881	-104.18229944
11,200.00	90.00	89.62	8,523.00	525.50	3,093.02	576,732.48	587,956.32	32.58540025	-104.18197477
11,300.00	90.00	89.62	8,523.00	526.17	3,193.02	576,733.15	588,056.32	32.58540168	-104.18165010
11,400.00	90.00	89.62	8,523.00	526.83	3,293.02	576,733.81	588,156.32	32.58540311	-104.18132544

COLGATE ENERGY

Planning Report - Geographic

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Company:	Colgate Energy	**TVD Reference:**	3274+30 @ 3304.00usft
Project:	(Permit) Eddy County, NM (83-NME)	**MD Reference:**	3274+30 @ 3304.00usft
Site:	(Permit) Koala 9 Fed Com	**North Reference:**	Grid
Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Permit		
Design:	APD-Rev00		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
11,500.00	90.00	89.62	8,523.00	527.49	3,393.01	576,734.48	588,256.32	32.58540454	-104.18100077
11,600.00	90.00	89.62	8,523.00	528.16	3,493.01	576,735.14	588,356.31	32.58540598	-104.18067610
11,700.00	90.00	89.62	8,523.00	528.82	3,593.01	576,735.80	588,456.31	32.58540741	-104.18035143
11,800.00	90.00	89.62	8,523.00	529.48	3,693.01	576,736.47	588,556.31	32.58540884	-104.18002677
11,900.00	90.00	89.62	8,523.00	530.15	3,793.00	576,737.13	588,656.31	32.58541026	-104.17970210
12,000.00	90.00	89.62	8,523.00	530.81	3,893.00	576,737.80	588,756.30	32.58541169	-104.17937743
12,100.00	90.00	89.62	8,523.00	531.48	3,993.00	576,738.46	588,856.30	32.58541312	-104.17905276
12,200.00	90.00	89.62	8,523.00	532.14	4,093.00	576,739.12	588,956.30	32.58541454	-104.17872809
12,300.00	90.00	89.62	8,523.00	532.80	4,193.00	576,739.79	589,056.30	32.58541597	-104.17840343
12,400.00	90.00	89.62	8,523.00	533.47	4,292.99	576,740.45	589,156.30	32.58541739	-104.17807876
12,500.00	90.00	89.62	8,523.00	534.13	4,392.99	576,741.11	589,256.29	32.58541882	-104.17775409
12,600.00	90.00	89.62	8,523.00	534.80	4,492.99	576,741.78	589,356.29	32.58542024	-104.17742942
12,700.00	90.00	89.62	8,523.00	535.46	4,592.99	576,742.44	589,456.29	32.58542166	-104.17710476
12,800.00	90.00	89.62	8,523.00	536.12	4,692.98	576,743.11	589,556.29	32.58542308	-104.17678009
12,900.00	90.00	89.62	8,523.00	536.79	4,792.98	576,743.77	589,656.29	32.58542450	-104.17645542
13,000.00	90.00	89.62	8,523.00	537.45	4,892.98	576,744.43	589,756.28	32.58542592	-104.17613075
13,100.00	90.00	89.62	8,523.00	538.12	4,992.98	576,745.10	589,856.28	32.58542734	-104.17580609
13,200.00	90.00	89.62	8,523.00	538.78	5,092.98	576,745.76	589,956.28	32.58542876	-104.17548142
13,300.00	90.00	89.62	8,523.00	539.44	5,192.97	576,746.43	590,056.28	32.58543017	-104.17515675
13,400.00	90.00	89.62	8,523.00	540.11	5,292.97	576,747.09	590,156.27	32.58543159	-104.17483208
13,500.00	90.00	89.62	8,523.00	540.77	5,392.97	576,747.75	590,256.27	32.58543300	-104.17450741
13,600.00	90.00	89.62	8,523.00	541.43	5,492.97	576,748.42	590,356.27	32.58543442	-104.17418275
13,700.00	90.00	89.62	8,523.00	542.10	5,592.96	576,749.08	590,456.27	32.58543583	-104.17385808
13,703.24	90.00	89.62	8,523.00	542.12	5,596.20	576,749.10	590,459.51	32.58543588	-104.17384756
Enter NM 015003 - Exit NM 013232									
13,800.00	90.00	89.62	8,523.00	542.76	5,692.96	576,749.75	590,556.27	32.58543724	-104.17353341
13,900.00	90.00	89.62	8,523.00	543.43	5,792.96	576,750.41	590,656.26	32.58543866	-104.17320874
14,000.00	90.00	89.62	8,523.00	544.09	5,892.96	576,751.07	590,756.26	32.58544007	-104.17288408
14,100.00	90.00	89.62	8,523.00	544.75	5,992.96	576,751.74	590,856.26	32.58544148	-104.17255941
14,200.00	90.00	89.62	8,523.00	545.42	6,092.95	576,752.40	590,956.26	32.58544289	-104.17223474
14,300.00	90.00	89.62	8,523.00	546.08	6,192.95	576,753.07	591,056.25	32.58544429	-104.17191007
14,400.00	90.00	89.62	8,523.00	546.75	6,292.95	576,753.73	591,156.25	32.58544570	-104.17158540
14,500.00	90.00	89.62	8,523.00	547.41	6,392.95	576,754.39	591,256.25	32.58544711	-104.17126074
14,600.00	90.00	89.62	8,523.00	548.07	6,492.94	576,755.06	591,356.25	32.58544851	-104.17093607
14,700.00	90.00	89.62	8,523.00	548.74	6,592.94	576,755.72	591,456.25	32.58544992	-104.17061140
14,800.00	90.00	89.62	8,523.00	549.40	6,692.94	576,756.38	591,556.24	32.58545132	-104.17028673
14,900.00	90.00	89.62	8,523.00	550.07	6,792.94	576,757.05	591,656.24	32.58545273	-104.16996207
15,000.00	90.00	89.62	8,523.00	550.73	6,892.94	576,757.71	591,756.24	32.58545413	-104.16963740
15,100.00	90.00	89.62	8,523.00	551.39	6,992.93	576,758.38	591,856.24	32.58545553	-104.16931273
15,200.00	90.00	89.62	8,523.00	552.06	7,092.93	576,759.04	591,956.23	32.58545693	-104.16898806
15,300.00	90.00	89.62	8,523.00	552.72	7,192.93	576,759.70	592,056.23	32.58545833	-104.16866339
15,400.00	90.00	89.62	8,523.00	553.39	7,292.93	576,760.37	592,156.23	32.58545973	-104.16833873
15,500.00	90.00	89.62	8,523.00	554.05	7,392.92	576,761.03	592,256.23	32.58546113	-104.16801406
15,600.00	90.00	89.62	8,523.00	554.71	7,492.92	576,761.70	592,356.23	32.58546253	-104.16768939
15,700.00	90.00	89.62	8,523.00	555.38	7,592.92	576,762.36	592,456.22	32.58546392	-104.16736472
15,800.00	90.00	89.62	8,523.00	556.04	7,692.92	576,763.02	592,556.22	32.58546532	-104.16704005
15,900.00	90.00	89.62	8,523.00	556.70	7,792.92	576,763.69	592,656.22	32.58546671	-104.16671539
16,000.00	90.00	89.62	8,523.00	557.37	7,892.91	576,764.35	592,756.22	32.58546811	-104.16639072
16,100.00	90.00	89.62	8,523.00	558.03	7,992.91	576,765.02	592,856.21	32.58546950	-104.16606605
16,200.00	90.00	89.62	8,523.00	558.70	8,092.91	576,765.68	592,956.21	32.58547089	-104.16574138
16,300.00	90.00	89.62	8,523.00	559.36	8,192.91	576,766.34	593,056.21	32.58547228	-104.16541671
16,400.00	90.00	89.62	8,523.00	560.02	8,292.90	576,767.01	593,156.21	32.58547367	-104.16509205
16,500.00	90.00	89.62	8,523.00	560.69	8,392.90	576,767.67	593,256.21	32.58547506	-104.16476738
16,600.00	90.00	89.62	8,523.00	561.35	8,492.90	576,768.34	593,356.20	32.58547645	-104.16444271

COLGATE ENERGY

Planning Report - Geographic

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Company:	Colgate Energy	**TVD Reference:**	3274+30 @ 3304.00usft
Project:	(Permit) Eddy County, NM (83-NME)	**MD Reference:**	3274+30 @ 3304.00usft
Site:	(Permit) Koala 9 Fed Com	**North Reference:**	Grid
Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Permit		
Design:	APD-Rev00		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
16,700.00	90.00	89.62	8,523.00	562.02	8,592.90	576,769.00	593,456.20	32.58547784	-104.16411804
16,800.00	90.00	89.62	8,523.00	562.68	8,692.90	576,769.66	593,556.20	32.58547923	-104.16379337
16,900.00	90.00	89.62	8,523.00	563.34	8,792.89	576,770.33	593,656.20	32.58548061	-104.16346871
17,000.00	90.00	89.62	8,523.00	564.01	8,892.89	576,770.99	593,756.19	32.58548200	-104.16314404
17,100.00	90.00	89.62	8,523.00	564.67	8,992.89	576,771.65	593,856.19	32.58548338	-104.16281937
17,200.00	90.00	89.62	8,523.00	565.34	9,092.89	576,772.32	593,956.19	32.58548477	-104.16249470
17,300.00	90.00	89.62	8,523.00	566.00	9,192.89	576,772.98	594,056.19	32.58548615	-104.16217004
17,400.00	90.00	89.62	8,523.00	566.66	9,292.88	576,773.65	594,156.19	32.58548753	-104.16184537
17,500.00	90.00	89.62	8,523.00	567.33	9,392.88	576,774.31	594,256.18	32.58548892	-104.16152070
17,600.00	90.00	89.62	8,523.00	567.99	9,492.88	576,774.97	594,356.18	32.58549030	-104.16119603
17,700.00	90.00	89.62	8,523.00	568.66	9,592.88	576,775.64	594,456.18	32.58549168	-104.16087136
17,800.00	90.00	89.62	8,523.00	569.32	9,692.87	576,776.30	594,556.18	32.58549305	-104.16054669
17,900.00	90.00	89.62	8,523.00	569.98	9,792.87	576,776.97	594,656.18	32.58549443	-104.16022203
18,000.00	90.00	89.62	8,523.00	570.65	9,892.87	576,777.63	594,756.17	32.58549581	-104.15989736
18,100.00	90.00	89.62	8,523.00	571.31	9,992.87	576,778.29	594,856.17	32.58549719	-104.15957269
18,200.00	90.00	89.62	8,523.00	571.97	10,092.87	576,778.96	594,956.17	32.58549856	-104.15924802
18,300.00	90.00	89.62	8,523.00	572.64	10,192.86	576,779.62	595,056.17	32.58549994	-104.15892335
18,400.00	90.00	89.62	8,523.00	573.30	10,292.86	576,780.29	595,156.16	32.58550131	-104.15859869
18,500.00	90.00	89.62	8,523.00	573.97	10,392.86	576,780.95	595,256.16	32.58550268	-104.15827402
18,600.00	90.00	89.62	8,523.00	574.63	10,492.86	576,781.61	595,356.16	32.58550406	-104.15794935
18,700.00	90.00	89.62	8,523.00	575.29	10,592.85	576,782.28	595,456.16	32.58550543	-104.15762468
18,800.00	90.00	89.62	8,523.00	575.96	10,692.85	576,782.94	595,556.16	32.58550680	-104.15730001
18,900.00	90.00	89.62	8,523.00	576.62	10,792.85	576,783.61	595,656.15	32.58550817	-104.15697535
18,919.58	90.00	89.62	8,523.00	576.75	10,812.43	576,783.74	595,675.73	32.58550844	-104.15691178
100'FEL - LTP(K9- 133H)									
19,009.61	90.00	89.62	8,523.00	577.35	10,902.46	576,784.33	595,765.76	32.58550967	-104.15661948
TD: 19009.61' MD, 10906.05' VS,8523.00' TVD - PBHL(K9- 133H)									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP(K9- 133H)	0.00	0.00	8,523.00	507.84	363.47	576,714.82	585,226.77	32.58536206	-104.19083692
- plan misses target center by 289.82usft at 8553.97usft MD (8262.82 TVD, 547.31 N, 484.90 E)									
- Point									
PBHL(K9- 133H)	0.00	0.00	8,523.00	577.35	10,902.46	576,784.33	595,765.76	32.58550967	-104.15661947
- plan hits target center									
- Point									
LTP(K9- 133H)	0.00	0.00	8,523.00	576.79	10,812.44	576,783.77	595,675.74	32.58550854	-104.15691174
- plan misses target center by 0.04usft at 18919.58usft MD (8523.00 TVD, 576.75 N, 10812.43 E)									
- Point									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
19,009.61	8,523.00	20" Casing	20	24

COLGATE ENERGY

Planning Report - Geographic

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Company:	Colgate Energy	**TVD Reference:**	3274+30 @ 3304.00usft
Project:	(Permit) Eddy County, NM (83-NME)	**MD Reference:**	3274+30 @ 3304.00usft
Site:	(Permit) Koala 9 Fed Com	**North Reference:**	Grid
Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Permit		
Design:	APD-Rev00		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
227.00	227.00	Rustler			
368.00	368.00	T/Salt			
704.00	704.00	Tansill			
779.00	779.00	Yates			
1,154.00	1,154.00	Seven Rivers			
1,826.34	1,824.00	Queen			
2,058.04	2,054.00	Grayburg			
2,410.64	2,404.00	San Andres			
2,989.90	2,979.00	CYCN			
4,677.33	4,654.00	BSGL			
6,138.02	6,104.00	FBSG			
7,213.73	7,179.00	SBSG			
8,657.52	8,304.00	TBSG			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
7,672.73	7,638.00	587.97	-50.00	KOP: 7672.73' MD, -46.10' VS,7638.00' TVD
8,419.72	8,204.44	555.29	364.29	100'FWL
9,791.36	8,523.00	516.15	1,684.41	EOC: 9791.36' MD, 1687.80' VS,8523.00' TVD
11,036.79	8,523.00	524.42	2,929.81	Exit NM 015003
11,036.79	8,523.00	524.42	2,929.81	Enter NM 013232
13,703.24	8,523.00	542.12	5,596.20	Enter NM 015003
13,703.24	8,523.00	542.12	5,596.20	Exit NM 013232
18,919.58	8,523.00	576.75	10,812.43	100'FEL
19,009.61	8,523.00	577.35	10,902.46	TD: 19009.61' MD, 10906.05' VS,8523.00' TVD

Colgate Energy

(Permit) Eddy County, NM (83-NME)
(Permit) Koala 9 Fed Com
(B03) Koala 9 Fed Com 133H

Permit
APD-Rev00

Anticollision Report

13 May, 2022

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Reference APD-Rev00

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum separation factor of 25	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 5/12/2022

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	19,009.61	APD-Rev00 (Permit)	MWD+IFR1+SAG+FDIR (SQ	OWSG MWD + IFR1 + Sag + FDIR Correction

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
(Permit) Koala 9 Fed Com						
(A01) Koala 9 Fed Com 201H - Permit - APD-Rev00	13,400.00	14,043.66	3,328.63	3,194.99	24.907	CC
(A01) Koala 9 Fed Com 201H - Permit - APD-Rev00	19,009.61	19,653.27	3,332.63	3,081.03	13.246	ES, SF
(A02) Koala 9 Fed Com 202H - Permit - APD-Rev00	10,500.00	11,201.87	2,016.27	1,934.86	24.769	CC
(A02) Koala 9 Fed Com 202H - Permit - APD-Rev00	19,009.61	19,711.48	2,021.53	1,771.32	8.080	ES, SF
(A03) Koala 9 Fed Com 131H - Permit - APD-Rev00	12,000.00	12,291.12	2,654.43	2,547.98	24.937	CC
(A03) Koala 9 Fed Com 131H - Permit - APD-Rev00	19,009.61	19,300.73	2,659.35	2,407.08	10.542	ES, SF
(A04) Koala 9 Fed Com 132H - Permit - APD-Rev00	8,604.15	9,110.25	1,311.32	1,250.38	21.516	CC
(A04) Koala 9 Fed Com 132H - Permit - APD-Rev00	19,009.61	19,481.99	1,339.67	1,087.35	5.309	ES, SF
(A05) Koala 9 Fed Com 121H - Permit - APD-Rev00	13,200.00	12,294.45	2,933.81	2,815.37	24.770	CC
(A05) Koala 9 Fed Com 121H - Permit - APD-Rev00	19,009.61	18,104.07	2,937.32	2,704.51	12.617	ES, SF
(A06) Koala 9 Fed Com 122H - Permit - APD-Rev00	7,223.07	7,475.15	1,285.89	1,234.41	24.977	CC, ES
(A06) Koala 9 Fed Com 122H - Permit - APD-Rev00	19,009.61	18,247.03	1,830.40	1,633.62	9.301	SF
(A07) Koala 9 Fed Com 111H - Permit - APD-Rev00	15,600.00	13,549.22	3,528.95	3,386.91	24.845	CC
(A07) Koala 9 Fed Com 111H - Permit - APD-Rev00	19,009.61	16,958.84	3,530.81	3,329.27	17.519	ES, SF
(A08) Koala 9 Fed Com 112H - Permit - APD-Rev00	15,600.00	13,726.19	2,680.05	2,572.10	24.827	CC
(A08) Koala 9 Fed Com 112H - Permit - APD-Rev00	19,009.61	17,135.80	2,681.27	2,527.63	17.451	ES, SF
(B01) Koala 9 Fed Com 203H - Permit - APD-Rev00	800.00	800.00	60.02	54.75	11.390	CC
(B01) Koala 9 Fed Com 203H - Permit - APD-Rev00	1,000.00	999.74	60.38	53.68	9.011	ES
(B01) Koala 9 Fed Com 203H - Permit - APD-Rev00	19,009.61	19,697.20	737.86	510.37	3.243	SF
(B02) Koala 9 Fed Com 204H - Permit - APD-Revv00	1,200.00	1,200.00	30.01	21.87	3.688	CC
(B02) Koala 9 Fed Com 204H - Permit - APD-Revv00	1,300.00	1,299.72	30.42	21.59	3.444	ES
(B02) Koala 9 Fed Com 204H - Permit - APD-Revv00	19,009.61	19,583.50	737.97	506.92	3.194	SF
(B04) Koala 9 Fed Com 134H - Permit - APD-Rev00	1,200.00	1,200.00	29.96	21.82	3.682	CC
(B04) Koala 9 Fed Com 134H - Permit - APD-Rev00	1,300.00	1,299.98	30.10	21.27	3.407	ES
(B04) Koala 9 Fed Com 134H - Permit - APD-Rev00	1,400.00	1,399.55	31.84	22.32	3.345	SF
(B05) Koala 9 Fed Com 123H - Permit - APD-Rev00	1,200.00	1,200.00	59.96	51.82	7.369	CC
(B05) Koala 9 Fed Com 123H - Permit - APD-Rev00	2,500.00	2,500.39	62.97	45.52	3.609	ES
(B05) Koala 9 Fed Com 123H - Permit - APD-Rev00	6,500.00	6,509.56	99.69	53.35	2.151	SF
(B06) Koala 9 Fed Com 124H - Permit - APD-Rev00	1,200.00	1,200.00	89.97	81.83	11.057	CC
(B06) Koala 9 Fed Com 124H - Permit - APD-Rev00	1,400.00	1,399.76	90.67	81.15	9.526	ES
(B06) Koala 9 Fed Com 124H - Permit - APD-Rev00	19,009.61	17,993.15	1,780.72	1,584.91	9.094	SF
(B07) Koala 9 Fed Com 113H - Permit - APD-Rev00	5,569.43	5,571.51	112.88	73.18	2.843	CC
(B07) Koala 9 Fed Com 113H - Permit - APD-Rev00	5,600.00	5,601.87	112.94	73.01	2.829	ES
(B07) Koala 9 Fed Com 113H - Permit - APD-Rev00	5,700.00	5,701.09	113.94	73.32	2.805	SF
(B08) Koala 9 Fed Com 114H - Permit - APD-Rev00	1,042.13	1,042.29	149.78	142.84	21.560	CC
(B08) Koala 9 Fed Com 114H - Permit - APD-Rev00	1,200.00	1,199.34	150.37	142.33	18.696	ES
(B08) Koala 9 Fed Com 114H - Permit - APD-Rev00	1,500.00	1,491.77	165.67	155.55	16.375	SF

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Koala 9 Fed Com Offsets						
W01_PRE-ONGARD WELL #001_1520917 - Depth Only						Out of range
W02_GOVERNMENT AO COM #001_1524032 - Inc Only	5,500.00	5,442.23	3,217.47	3,086.84	24.631	CC
W02_GOVERNMENT AO COM #001_1524032 - Inc Only	7,700.00	7,655.07	3,241.47	2,989.66	12.873	ES
W02_GOVERNMENT AO COM #001_1524032 - Inc Only	7,900.00	7,840.02	3,281.12	3,023.35	12.729	SF
W03_PRE-ONGARD WELL #001_1525793 - Inc Only - In	3,000.00	2,961.44	1,854.43	1,779.42	24.723	CC, ES
W03_PRE-ONGARD WELL #001_1525793 - Inc Only - In	4,800.00	4,711.00	1,928.50	1,812.51	16.626	SF
W04_FEDERAL V #001_1526451 - Inc Only - Inc Only	7,432.73	7,410.34	2,444.48	2,242.97	12.131	CC
W04_FEDERAL V #001_1526451 - Inc Only - Inc Only	7,700.00	7,655.41	2,445.08	2,235.52	11.668	ES
W04_FEDERAL V #001_1526451 - Inc Only - Inc Only	7,950.00	7,907.89	2,499.48	2,281.69	11.477	SF
W05_FEDERAL V #002_1526702 - Inc Only - Inc Only	6,445.65	6,330.00	3,441.00	3,282.99	21.777	CC, ES
W05_FEDERAL V #002_1526702 - Inc Only - Inc Only	6,534.73	6,330.00	3,443.07	3,284.84	21.759	SF
W06_FEDERAL V #003_1526867 - Depth Only - Depth O	6,402.51	6,300.00	4,600.90	4,180.18	10.936	CC, ES, SF
W07_PRE-ONGARD WELL #001_1527282 - Depth Only	1,200.00	1,167.00	1,712.35	1,634.57	22.015	CC
W07_PRE-ONGARD WELL #001_1527282 - Depth Only	7,500.00	7,432.27	1,921.16	1,424.99	3.872	ES
W07_PRE-ONGARD WELL #001_1527282 - Depth Only	7,600.00	7,450.00	1,923.35	1,426.30	3.870	SF
W08_FEDERAL V COM #004_1535127 - Inc Only - Inc O	7,221.50	7,186.01	4,513.15	4,313.76	22.635	CC
W08_FEDERAL V COM #004_1535127 - Inc Only - Inc O	7,700.00	7,665.98	4,513.91	4,299.15	21.019	ES
W08_FEDERAL V COM #004_1535127 - Inc Only - Inc O	7,950.00	7,907.77	4,574.82	4,353.44	20.665	SF
W09_GOVERNMENT AB #002_1521480 - Inc Only - Inc	18,351.93	8,493.63	329.22	3.32	1.010	Level 2, CC, ES, SF
W10_GOVERNMENT AB #003_1521774 - Inc Only - Inc	15,680.12	8,497.83	328.96	72.84	1.284	Level 3, CC, ES, SF
W11_GOVERNMENT AB #006_1527846 - Inc Only - Inc	14,415.37	6,554.00	3,561.92	3,355.15	17.226	CC, ES
W11_GOVERNMENT AB #006_1527846 - Inc Only - Inc	15,000.00	6,554.00	3,609.58	3,397.38	17.010	SF
W12_GOVERNMENT AB #007_1527847 - Inc Only - Inc	15,735.90	6,590.00	3,540.99	3,310.48	15.362	CC
W12_GOVERNMENT AB #007_1527847 - Inc Only - Inc	15,800.00	6,590.00	3,541.57	3,310.45	15.323	ES
W12_GOVERNMENT AB #007_1527847 - Inc Only - Inc	16,200.00	6,590.00	3,571.27	3,336.41	15.205	SF
W13_GOVERNMENT AB #008_1527863 - Inc Only - Inc	17,081.54	6,630.00	3,394.47	3,173.32	15.349	CC
W13_GOVERNMENT AB #008_1527863 - Inc Only - Inc	17,100.00	6,630.00	3,394.52	3,173.19	15.337	ES
W13_GOVERNMENT AB #008_1527863 - Inc Only - Inc	17,500.00	6,630.00	3,420.17	3,195.16	15.201	SF
W14_ GOVERNMENT AB #009_1527964 - MWD/Inc - M						Out of range
W15_GOVERNMENT AB FEDERAL #011_1540853 - MW						Out of range
W16_GOVERNMENT AB FEDERAL #014_1540854 - MW						Out of range
W17_GOVERNMENT AB FEDERAL #013_1540920 - MW	18,331.39	6,652.00	2,518.28	2,410.29	23.318	CC, ES
W17_GOVERNMENT AB FEDERAL #013_1540920 - MW	18,700.00	6,652.00	2,545.12	2,434.40	22.988	SF
W18_GOVERNMENT AB FEDERAL #012_1541049 - MW						Out of range

Offset Design: (Permit) Koala 9 Fed Com - (A01) Koala 9 Fed Com 201H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Rule Assigned:

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
13,400.00	8,523.00	14,043.66	8,839.00	66.29	68.20	-95.19	3,855.01	5,268.59	3,328.63	3,194.99	133.64	24.907	CC
13,500.00	8,523.00	14,143.66	8,839.00	67.28	69.19	-95.19	3,855.74	5,368.58	3,328.70	3,193.07	135.63	24.543	
13,600.00	8,523.00	14,243.66	8,839.00	68.28	70.20	-95.19	3,856.48	5,468.58	3,328.77	3,191.15	137.62	24.187	
13,700.00	8,523.00	14,343.66	8,839.00	69.29	71.20	-95.19	3,857.22	5,568.58	3,328.84	3,189.22	139.63	23.841	
13,800.00	8,523.00	14,443.66	8,839.00	70.30	72.21	-95.19	3,857.95	5,668.58	3,328.91	3,187.28	141.63	23.504	
13,900.00	8,523.00	14,543.65	8,839.00	71.31	73.22	-95.19	3,858.69	5,768.57	3,328.99	3,185.34	143.65	23.174	
14,000.00	8,523.00	14,643.65	8,839.00	72.32	74.23	-95.19	3,859.42	5,868.57	3,329.06	3,183.39	145.67	22.853	
14,100.00	8,523.00	14,743.65	8,839.00	73.34	75.25	-95.19	3,860.16	5,968.57	3,329.13	3,181.43	147.70	22.540	
14,200.00	8,523.00	14,843.65	8,839.00	74.36	76.27	-95.19	3,860.89	6,068.56	3,329.20	3,179.47	149.73	22.234	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (A01) Koala 9 Fed Com 201H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Rule Assigned: Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,300.00	8,523.00	14,943.65	8,839.00	75.39	77.29	-95.19	3,861.63	6,168.56	3,329.27	3,177.50	151.77	21.936	
14,400.00	8,523.00	15,043.65	8,839.00	76.41	78.32	-95.19	3,862.37	6,268.56	3,329.34	3,175.53	153.82	21.645	
14,500.00	8,523.00	15,143.65	8,839.00	77.44	79.35	-95.19	3,863.10	6,368.56	3,329.41	3,173.55	155.87	21.361	
14,600.00	8,523.00	15,243.65	8,839.00	78.47	80.38	-95.19	3,863.84	6,468.55	3,329.49	3,171.56	157.92	21.083	
14,700.00	8,523.00	15,343.65	8,839.00	79.51	81.41	-95.19	3,864.57	6,568.55	3,329.56	3,169.58	159.98	20.812	
14,800.00	8,523.00	15,443.65	8,839.00	80.55	82.45	-95.19	3,865.31	6,668.55	3,329.63	3,167.58	162.05	20.547	
14,900.00	8,523.00	15,543.65	8,839.00	81.58	83.48	-95.19	3,866.04	6,768.55	3,329.70	3,165.58	164.11	20.289	
15,000.00	8,523.00	15,643.65	8,839.00	82.63	84.52	-95.19	3,866.78	6,868.54	3,329.77	3,163.58	166.19	20.036	
15,100.00	8,523.00	15,743.65	8,839.00	83.67	85.57	-95.19	3,867.51	6,968.54	3,329.84	3,161.58	168.27	19.789	
15,200.00	8,523.00	15,843.65	8,839.00	84.71	86.61	-95.19	3,868.25	7,068.54	3,329.91	3,159.57	170.35	19.548	
15,300.00	8,523.00	15,943.65	8,839.00	85.76	87.66	-95.19	3,868.99	7,168.53	3,329.99	3,157.55	172.43	19.312	
15,400.00	8,523.00	16,043.65	8,839.00	86.81	88.70	-95.19	3,869.72	7,268.53	3,330.06	3,155.54	174.52	19.081	
15,500.00	8,523.00	16,143.65	8,839.00	87.86	89.75	-95.19	3,870.46	7,368.53	3,330.13	3,153.52	176.61	18.856	
15,600.00	8,523.00	16,243.65	8,839.00	88.91	90.81	-95.19	3,871.19	7,468.53	3,330.20	3,151.49	178.71	18.635	
15,700.00	8,523.00	16,343.65	8,839.00	89.97	91.86	-95.19	3,871.93	7,568.52	3,330.27	3,149.46	180.81	18.419	
15,800.00	8,523.00	16,443.65	8,839.00	91.02	92.91	-95.19	3,872.66	7,668.52	3,330.34	3,147.43	182.91	18.208	
15,900.00	8,523.00	16,543.65	8,839.00	92.08	93.97	-95.19	3,873.40	7,768.52	3,330.41	3,145.40	185.02	18.001	
16,000.00	8,523.00	16,643.65	8,839.00	93.14	95.03	-95.19	3,874.13	7,868.52	3,330.49	3,143.36	187.12	17.798	
16,100.00	8,523.00	16,743.65	8,839.00	94.20	96.09	-95.19	3,874.87	7,968.51	3,330.56	3,141.32	189.24	17.600	
16,200.00	8,523.00	16,843.65	8,839.00	95.26	97.15	-95.19	3,875.61	8,068.51	3,330.63	3,139.28	191.35	17.406	
16,300.00	8,523.00	16,943.65	8,839.00	96.32	98.21	-95.18	3,876.34	8,168.51	3,330.70	3,137.23	193.47	17.216	
16,400.00	8,523.00	17,043.65	8,839.00	97.39	99.27	-95.18	3,877.08	8,268.50	3,330.77	3,135.18	195.59	17.030	
16,500.00	8,523.00	17,143.65	8,839.00	98.45	100.34	-95.18	3,877.81	8,368.50	3,330.84	3,133.13	197.71	16.847	
16,600.00	8,523.00	17,243.65	8,839.00	99.52	101.40	-95.18	3,878.55	8,468.50	3,330.91	3,131.08	199.83	16.669	
16,700.00	8,523.00	17,343.65	8,839.00	100.59	102.47	-95.18	3,879.28	8,568.50	3,330.98	3,129.03	201.96	16.493	
16,800.00	8,523.00	17,443.65	8,839.00	101.66	103.54	-95.18	3,880.02	8,668.49	3,331.06	3,126.97	204.09	16.322	
16,900.00	8,523.00	17,543.65	8,839.00	102.73	104.61	-95.18	3,880.75	8,768.49	3,331.13	3,124.91	206.22	16.153	
17,000.00	8,523.00	17,643.65	8,839.00	103.80	105.68	-95.18	3,881.49	8,868.49	3,331.20	3,122.85	208.35	15.988	
17,100.00	8,523.00	17,743.65	8,839.00	104.87	106.75	-95.18	3,882.23	8,968.49	3,331.27	3,120.78	210.49	15.826	
17,200.00	8,523.00	17,843.65	8,839.00	105.95	107.82	-95.18	3,882.96	9,068.48	3,331.34	3,118.72	212.63	15.668	
17,300.00	8,523.00	17,943.65	8,839.00	107.02	108.89	-95.18	3,883.70	9,168.48	3,331.41	3,116.65	214.77	15.512	
17,400.00	8,523.00	18,043.65	8,839.00	108.10	109.97	-95.18	3,884.43	9,268.48	3,331.48	3,114.58	216.91	15.359	
17,500.00	8,523.00	18,143.65	8,839.00	109.17	111.04	-95.18	3,885.17	9,368.47	3,331.56	3,112.50	219.05	15.209	
17,600.00	8,523.00	18,243.65	8,839.00	110.25	112.12	-95.18	3,885.90	9,468.47	3,331.63	3,110.43	221.20	15.062	
17,700.00	8,523.00	18,343.65	8,839.00	111.33	113.20	-95.18	3,886.64	9,568.47	3,331.70	3,108.36	223.34	14.917	
17,800.00	8,523.00	18,443.65	8,839.00	112.41	114.28	-95.18	3,887.38	9,668.47	3,331.77	3,106.28	225.49	14.776	
17,900.00	8,523.00	18,543.65	8,839.00	113.49	115.35	-95.18	3,888.11	9,768.46	3,331.84	3,104.20	227.64	14.636	
18,000.00	8,523.00	18,643.65	8,839.00	114.57	116.43	-95.18	3,888.85	9,868.46	3,331.91	3,102.12	229.79	14.500	
18,100.00	8,523.00	18,743.65	8,839.00	115.65	117.51	-95.18	3,889.58	9,968.46	3,331.98	3,100.04	231.95	14.365	
18,200.00	8,523.00	18,843.65	8,839.00	116.73	118.60	-95.18	3,890.32	10,068.46	3,332.06	3,097.95	234.10	14.233	
18,300.00	8,523.00	18,943.65	8,839.00	117.82	119.68	-95.18	3,891.05	10,168.45	3,332.13	3,095.87	236.26	14.104	
18,400.00	8,523.00	19,043.65	8,839.00	118.90	120.76	-95.18	3,891.79	10,268.45	3,332.20	3,093.78	238.42	13.976	
18,500.00	8,523.00	19,143.65	8,839.00	119.98	121.84	-95.18	3,892.52	10,368.45	3,332.27	3,091.69	240.58	13.851	
18,600.00	8,523.00	19,243.65	8,839.00	121.07	122.93	-95.18	3,893.26	10,468.44	3,332.34	3,089.60	242.74	13.728	
18,700.00	8,523.00	19,343.65	8,839.00	122.16	124.01	-95.18	3,894.00	10,568.44	3,332.41	3,087.51	244.90	13.607	
18,800.00	8,523.00	19,443.65	8,839.00	123.24	125.10	-95.18	3,894.73	10,668.44	3,332.48	3,085.42	247.06	13.488	
18,900.00	8,523.00	19,543.65	8,839.00	124.33	126.19	-95.18	3,895.47	10,768.44	3,332.56	3,083.33	249.23	13.372	
19,009.61	8,523.00	19,653.27	8,839.00	125.52	127.38	-95.18	3,896.27	10,878.05	3,332.63	3,081.03	251.60	13.246	ES, SF

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (A02) Koala 9 Fed Com 202H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,500.00	8,523.00	11,201.87	8,839.00	40.33	41.87	-98.59	2,514.47	2,378.55	2,016.27	1,934.86	81.40	24.769	CC
10,600.00	8,523.00	11,301.87	8,839.00	41.07	42.62	-98.59	2,515.20	2,478.55	2,016.33	1,933.44	82.88	24.327	
10,700.00	8,523.00	11,401.87	8,839.00	41.82	43.39	-98.58	2,515.93	2,578.55	2,016.39	1,931.99	84.40	23.892	
10,800.00	8,523.00	11,501.87	8,839.00	42.60	44.18	-98.58	2,516.65	2,678.54	2,016.45	1,930.51	85.94	23.464	
10,900.00	8,523.00	11,601.87	8,839.00	43.38	44.98	-98.58	2,517.38	2,778.54	2,016.51	1,929.00	87.51	23.043	
11,000.00	8,523.00	11,701.87	8,839.00	44.19	45.80	-98.58	2,518.10	2,878.54	2,016.57	1,927.46	89.11	22.629	
11,100.00	8,523.00	11,801.87	8,839.00	45.00	46.63	-98.58	2,518.83	2,978.54	2,016.64	1,925.90	90.74	22.225	
11,200.00	8,523.00	11,901.87	8,839.00	45.83	47.46	-98.58	2,519.56	3,078.53	2,016.70	1,924.31	92.39	21.828	
11,300.00	8,523.00	12,001.87	8,839.00	46.67	48.32	-98.58	2,520.28	3,178.53	2,016.76	1,922.69	94.06	21.440	
11,400.00	8,523.00	12,101.87	8,839.00	47.53	49.18	-98.58	2,521.01	3,278.53	2,016.82	1,921.06	95.76	21.061	
11,500.00	8,523.00	12,201.87	8,839.00	48.39	50.05	-98.58	2,521.74	3,378.53	2,016.88	1,919.40	97.48	20.690	
11,600.00	8,523.00	12,301.87	8,839.00	49.26	50.93	-98.58	2,522.46	3,478.52	2,016.95	1,917.73	99.22	20.329	
11,700.00	8,523.00	12,401.87	8,839.00	50.15	51.82	-98.58	2,523.19	3,578.52	2,017.01	1,916.03	100.97	19.976	
11,800.00	8,523.00	12,501.87	8,839.00	51.04	52.72	-98.58	2,523.92	3,678.52	2,017.07	1,914.32	102.75	19.631	
11,900.00	8,523.00	12,601.87	8,839.00	51.94	53.63	-98.58	2,524.64	3,778.51	2,017.13	1,912.59	104.54	19.295	
12,000.00	8,523.00	12,701.87	8,839.00	52.85	54.55	-98.58	2,525.37	3,878.51	2,017.19	1,910.84	106.35	18.968	
12,100.00	8,523.00	12,801.87	8,839.00	53.77	55.47	-98.58	2,526.10	3,978.51	2,017.25	1,909.08	108.17	18.649	
12,200.00	8,523.00	12,901.87	8,839.00	54.70	56.41	-98.58	2,526.82	4,078.51	2,017.32	1,907.31	110.01	18.338	
12,300.00	8,523.00	13,001.87	8,839.00	55.63	57.34	-98.58	2,527.55	4,178.50	2,017.38	1,905.52	111.86	18.035	
12,400.00	8,523.00	13,101.87	8,839.00	56.57	58.29	-98.58	2,528.27	4,278.50	2,017.44	1,903.71	113.73	17.740	
12,500.00	8,523.00	13,201.87	8,839.00	57.52	59.24	-98.58	2,529.00	4,378.50	2,017.50	1,901.90	115.60	17.452	
12,600.00	8,523.00	13,301.87	8,839.00	58.47	60.20	-98.58	2,529.73	4,478.50	2,017.56	1,900.07	117.49	17.172	
12,700.00	8,523.00	13,401.87	8,839.00	59.43	61.16	-98.58	2,530.45	4,578.49	2,017.63	1,898.23	119.39	16.899	
12,800.00	8,523.00	13,501.87	8,839.00	60.39	62.13	-98.58	2,531.18	4,678.49	2,017.69	1,896.38	121.30	16.633	
12,900.00	8,523.00	13,601.87	8,839.00	61.36	63.10	-98.58	2,531.91	4,778.49	2,017.75	1,894.52	123.23	16.374	
13,000.00	8,523.00	13,701.87	8,839.00	62.34	64.08	-98.58	2,532.63	4,878.49	2,017.81	1,892.65	125.16	16.122	
13,100.00	8,523.00	13,801.87	8,839.00	63.32	65.06	-98.58	2,533.36	4,978.48	2,017.87	1,890.77	127.10	15.876	
13,200.00	8,523.00	13,901.87	8,839.00	64.30	66.05	-98.58	2,534.09	5,078.48	2,017.93	1,888.88	129.05	15.637	
13,300.00	8,523.00	14,001.87	8,839.00	65.29	67.04	-98.58	2,534.81	5,178.48	2,018.00	1,886.99	131.01	15.403	
13,400.00	8,523.00	14,101.87	8,839.00	66.29	68.03	-98.58	2,535.54	5,278.48	2,018.06	1,885.08	132.98	15.176	
13,500.00	8,523.00	14,201.87	8,839.00	67.28	69.03	-98.58	2,536.27	5,378.47	2,018.12	1,883.17	134.95	14.954	
13,600.00	8,523.00	14,301.87	8,839.00	68.28	70.03	-98.58	2,536.99	5,478.47	2,018.18	1,881.25	136.93	14.738	
13,700.00	8,523.00	14,401.87	8,839.00	69.29	71.04	-98.58	2,537.72	5,578.47	2,018.24	1,879.32	138.92	14.528	
13,800.00	8,523.00	14,501.87	8,839.00	70.30	72.05	-98.58	2,538.44	5,678.46	2,018.31	1,877.39	140.92	14.322	
13,900.00	8,523.00	14,601.87	8,839.00	71.31	73.06	-98.58	2,539.17	5,778.46	2,018.37	1,875.44	142.92	14.122	
14,000.00	8,523.00	14,701.87	8,839.00	72.32	74.08	-98.58	2,539.90	5,878.46	2,018.43	1,873.50	144.93	13.927	
14,100.00	8,523.00	14,801.87	8,839.00	73.34	75.10	-98.58	2,540.62	5,978.46	2,018.49	1,871.54	146.95	13.736	
14,200.00	8,523.00	14,901.87	8,839.00	74.36	76.12	-98.58	2,541.35	6,078.45	2,018.55	1,869.58	148.97	13.550	
14,300.00	8,523.00	15,001.87	8,839.00	75.39	77.15	-98.58	2,542.08	6,178.45	2,018.61	1,867.62	151.00	13.369	
14,400.00	8,523.00	15,101.87	8,839.00	76.41	78.17	-98.58	2,542.80	6,278.45	2,018.68	1,865.65	153.03	13.191	
14,500.00	8,523.00	15,201.87	8,839.00	77.44	79.20	-98.57	2,543.53	6,378.45	2,018.74	1,863.67	155.07	13.019	
14,600.00	8,523.00	15,301.87	8,839.00	78.47	80.24	-98.57	2,544.26	6,478.44	2,018.80	1,861.69	157.11	12.850	
14,700.00	8,523.00	15,401.87	8,839.00	79.51	81.27	-98.57	2,544.98	6,578.44	2,018.86	1,859.71	159.16	12.685	
14,800.00	8,523.00	15,501.87	8,839.00	80.55	82.31	-98.57	2,545.71	6,678.44	2,018.92	1,857.72	161.21	12.524	
14,900.00	8,523.00	15,601.87	8,839.00	81.58	83.35	-98.57	2,546.44	6,778.44	2,018.99	1,855.72	163.26	12.366	
15,000.00	8,523.00	15,701.87	8,839.00	82.63	84.39	-98.57	2,547.16	6,878.43	2,019.05	1,853.72	165.32	12.213	
15,100.00	8,523.00	15,801.87	8,839.00	83.67	85.43	-98.57	2,547.89	6,978.43	2,019.11	1,851.72	167.39	12.062	
15,200.00	8,523.00	15,901.87	8,839.00	84.71	86.48	-98.57	2,548.61	7,078.43	2,019.17	1,849.71	169.46	11.916	
15,300.00	8,523.00	16,001.87	8,839.00	85.76	87.53	-98.57	2,549.34	7,178.42	2,019.23	1,847.70	171.53	11.772	
15,400.00	8,523.00	16,101.87	8,839.00	86.81	88.58	-98.57	2,550.07	7,278.42	2,019.29	1,845.69	173.61	11.632	
15,500.00	8,523.00	16,201.87	8,839.00	87.86	89.63	-98.57	2,550.79	7,378.42	2,019.36	1,843.67	175.68	11.494	
15,600.00	8,523.00	16,301.87	8,839.00	88.91	90.68	-98.57	2,551.52	7,478.42	2,019.42	1,841.65	177.77	11.360	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (A02) Koala 9 Fed Com 202H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Rule Assigned:

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,700.00	8,523.00	16,401.87	8,839.00	89.97	91.73	-98.57	2,552.25	7,578.41	2,019.48	1,839.63	179.85	11.228	
15,800.00	8,523.00	16,501.87	8,839.00	91.02	92.79	-98.57	2,552.97	7,678.41	2,019.54	1,837.60	181.94	11.100	
15,900.00	8,523.00	16,601.87	8,839.00	92.08	93.85	-98.57	2,553.70	7,778.41	2,019.60	1,835.57	184.04	10.974	
16,000.00	8,523.00	16,701.87	8,839.00	93.14	94.91	-98.57	2,554.43	7,878.41	2,019.67	1,833.53	186.13	10.851	
16,100.00	8,523.00	16,801.87	8,839.00	94.20	95.97	-98.57	2,555.15	7,978.40	2,019.73	1,831.50	188.23	10.730	
16,200.00	8,523.00	16,901.87	8,839.00	95.26	97.03	-98.57	2,555.88	8,078.40	2,019.79	1,829.46	190.33	10.612	
16,300.00	8,523.00	17,001.87	8,839.00	96.32	98.09	-98.57	2,556.61	8,178.40	2,019.85	1,827.42	192.43	10.496	
16,400.00	8,523.00	17,101.87	8,839.00	97.39	99.16	-98.57	2,557.33	8,278.40	2,019.91	1,825.37	194.54	10.383	
16,500.00	8,523.00	17,201.87	8,839.00	98.45	100.22	-98.57	2,558.06	8,378.39	2,019.97	1,823.33	196.65	10.272	
16,600.00	8,523.00	17,301.87	8,839.00	99.52	101.29	-98.57	2,558.79	8,478.39	2,020.04	1,821.28	198.76	10.163	
16,700.00	8,523.00	17,401.87	8,839.00	100.59	102.36	-98.57	2,559.51	8,578.39	2,020.10	1,819.23	200.87	10.057	
16,800.00	8,523.00	17,501.87	8,839.00	101.66	103.43	-98.57	2,560.24	8,678.38	2,020.16	1,817.17	202.99	9.952	
16,900.00	8,523.00	17,601.87	8,839.00	102.73	104.50	-98.57	2,560.96	8,778.38	2,020.22	1,815.11	205.11	9.850	
17,000.00	8,523.00	17,701.87	8,839.00	103.80	105.57	-98.57	2,561.69	8,878.38	2,020.28	1,813.06	207.23	9.749	
17,100.00	8,523.00	17,801.87	8,839.00	104.87	106.64	-98.57	2,562.42	8,978.38	2,020.35	1,811.00	209.35	9.651	
17,200.00	8,523.00	17,901.87	8,839.00	105.95	107.71	-98.57	2,563.14	9,078.37	2,020.41	1,808.93	211.47	9.554	
17,300.00	8,523.00	18,001.87	8,839.00	107.02	108.79	-98.57	2,563.87	9,178.37	2,020.47	1,806.87	213.60	9.459	
17,400.00	8,523.00	18,101.87	8,839.00	108.10	109.86	-98.57	2,564.60	9,278.37	2,020.53	1,804.80	215.73	9.366	
17,500.00	8,523.00	18,201.87	8,839.00	109.17	110.94	-98.57	2,565.32	9,378.37	2,020.59	1,802.73	217.86	9.275	
17,600.00	8,523.00	18,301.87	8,839.00	110.25	112.02	-98.57	2,566.05	9,478.36	2,020.66	1,800.67	219.99	9.185	
17,700.00	8,523.00	18,401.87	8,839.00	111.33	113.10	-98.57	2,566.78	9,578.36	2,020.72	1,798.59	222.12	9.097	
17,800.00	8,523.00	18,501.87	8,839.00	112.41	114.17	-98.57	2,567.50	9,678.36	2,020.78	1,796.52	224.26	9.011	
17,900.00	8,523.00	18,601.87	8,839.00	113.49	115.25	-98.57	2,568.23	9,778.36	2,020.84	1,794.45	226.40	8.926	
18,000.00	8,523.00	18,701.87	8,839.00	114.57	116.34	-98.57	2,568.96	9,878.35	2,020.90	1,792.37	228.53	8.843	
18,100.00	8,523.00	18,801.87	8,839.00	115.65	117.42	-98.57	2,569.68	9,978.35	2,020.96	1,790.29	230.67	8.761	
18,200.00	8,523.00	18,901.87	8,839.00	116.73	118.50	-98.57	2,570.41	10,078.35	2,021.03	1,788.21	232.82	8.681	
18,300.00	8,523.00	19,001.87	8,839.00	117.82	119.58	-98.56	2,571.13	10,178.34	2,021.09	1,786.13	234.96	8.602	
18,400.00	8,523.00	19,101.87	8,839.00	118.90	120.67	-98.56	2,571.86	10,278.34	2,021.15	1,784.05	237.10	8.524	
18,500.00	8,523.00	19,201.87	8,839.00	119.98	121.75	-98.56	2,572.59	10,378.34	2,021.21	1,781.96	239.25	8.448	
18,600.00	8,523.00	19,301.87	8,839.00	121.07	122.83	-98.56	2,573.31	10,478.34	2,021.27	1,779.88	241.40	8.373	
18,700.00	8,523.00	19,401.87	8,839.00	122.16	123.92	-98.56	2,574.04	10,578.33	2,021.34	1,777.79	243.54	8.300	
18,800.00	8,523.00	19,501.87	8,839.00	123.24	125.01	-98.56	2,574.77	10,678.33	2,021.40	1,775.70	245.69	8.227	
18,900.00	8,523.00	19,601.87	8,839.00	124.33	126.09	-98.56	2,575.49	10,778.33	2,021.46	1,773.61	247.84	8.156	
19,009.61	8,523.00	19,711.48	8,839.00	125.52	127.29	-98.56	2,576.29	10,887.94	2,021.53	1,771.32	250.20	8.080	ES, SF

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (A03) Koala 9 Fed Com 131H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,000.00	8,523.00	12,291.12	8,494.00	52.85	53.60	-89.07	3,184.82	3,873.52	2,654.43	2,547.98	106.44	24.937 CC	
12,100.00	8,523.00	12,391.12	8,494.00	53.77	54.54	-89.07	3,185.55	3,973.51	2,654.50	2,546.20	108.30	24.511	
12,200.00	8,523.00	12,491.12	8,494.00	54.70	55.48	-89.07	3,186.29	4,073.51	2,654.57	2,544.40	110.17	24.096	
12,300.00	8,523.00	12,591.12	8,494.00	55.63	56.43	-89.07	3,187.02	4,173.51	2,654.64	2,542.59	112.05	23.691	
12,400.00	8,523.00	12,691.12	8,494.00	56.57	57.38	-89.07	3,187.76	4,273.50	2,654.71	2,540.76	113.95	23.298	
12,500.00	8,523.00	12,791.12	8,494.00	57.52	58.34	-89.07	3,188.49	4,373.50	2,654.78	2,538.92	115.86	22.914	
12,600.00	8,523.00	12,891.12	8,494.00	58.47	59.31	-89.07	3,189.23	4,473.50	2,654.85	2,537.07	117.78	22.541	
12,700.00	8,523.00	12,991.12	8,494.00	59.43	60.28	-89.07	3,189.96	4,573.50	2,654.92	2,535.21	119.71	22.178	
12,800.00	8,523.00	13,091.12	8,494.00	60.39	61.26	-89.07	3,190.69	4,673.49	2,654.99	2,533.34	121.65	21.825	
12,900.00	8,523.00	13,191.12	8,494.00	61.36	62.24	-89.07	3,191.43	4,773.49	2,655.06	2,531.46	123.60	21.481	
13,000.00	8,523.00	13,291.12	8,494.00	62.34	63.23	-89.07	3,192.16	4,873.49	2,655.13	2,529.57	125.57	21.145	
13,100.00	8,523.00	13,391.12	8,494.00	63.32	64.22	-89.07	3,192.90	4,973.49	2,655.20	2,527.66	127.54	20.819	
13,200.00	8,523.00	13,491.12	8,494.00	64.30	65.22	-89.07	3,193.63	5,073.48	2,655.27	2,525.75	129.52	20.501	
13,300.00	8,523.00	13,591.12	8,494.00	65.29	66.22	-89.07	3,194.36	5,173.48	2,655.34	2,523.83	131.51	20.192	
13,400.00	8,523.00	13,691.12	8,494.00	66.29	67.22	-89.07	3,195.10	5,273.48	2,655.41	2,521.91	133.50	19.890	
13,500.00	8,523.00	13,791.12	8,494.00	67.28	68.23	-89.07	3,195.83	5,373.47	2,655.48	2,519.97	135.51	19.596	
13,600.00	8,523.00	13,891.12	8,494.00	68.28	69.24	-89.07	3,196.57	5,473.47	2,655.55	2,518.03	137.52	19.310	
13,700.00	8,523.00	13,991.12	8,494.00	69.29	70.25	-89.07	3,197.30	5,573.47	2,655.62	2,516.08	139.54	19.031	
13,800.00	8,523.00	14,091.12	8,494.00	70.30	71.27	-89.07	3,198.04	5,673.47	2,655.69	2,514.13	141.57	18.759	
13,900.00	8,523.00	14,191.12	8,494.00	71.31	72.29	-89.07	3,198.77	5,773.46	2,655.76	2,512.16	143.60	18.494	
14,000.00	8,523.00	14,291.12	8,494.00	72.32	73.31	-89.07	3,199.50	5,873.46	2,655.83	2,510.20	145.64	18.236	
14,100.00	8,523.00	14,391.12	8,494.00	73.34	74.34	-89.07	3,200.24	5,973.46	2,655.90	2,508.22	147.68	17.984	
14,200.00	8,523.00	14,491.12	8,494.00	74.36	75.37	-89.07	3,200.97	6,073.46	2,655.97	2,506.24	149.73	17.738	
14,300.00	8,523.00	14,591.12	8,494.00	75.39	76.40	-89.07	3,201.71	6,173.45	2,656.04	2,504.26	151.79	17.498	
14,400.00	8,523.00	14,691.12	8,494.00	76.41	77.44	-89.07	3,202.44	6,273.45	2,656.11	2,502.27	153.85	17.264	
14,500.00	8,523.00	14,791.12	8,494.00	77.44	78.47	-89.07	3,203.18	6,373.45	2,656.18	2,500.27	155.92	17.036	
14,600.00	8,523.00	14,891.12	8,494.00	78.47	79.51	-89.07	3,203.91	6,473.45	2,656.25	2,498.27	157.99	16.813	
14,700.00	8,523.00	14,991.12	8,494.00	79.51	80.55	-89.07	3,204.64	6,573.44	2,656.33	2,496.26	160.06	16.596	
14,800.00	8,523.00	15,091.12	8,494.00	80.55	81.60	-89.07	3,205.38	6,673.44	2,656.40	2,494.25	162.14	16.383	
14,900.00	8,523.00	15,191.12	8,494.00	81.58	82.64	-89.07	3,206.11	6,773.44	2,656.47	2,492.24	164.23	16.176	
15,000.00	8,523.00	15,291.12	8,494.00	82.63	83.69	-89.07	3,206.85	6,873.43	2,656.54	2,490.22	166.32	15.973	
15,100.00	8,523.00	15,391.12	8,494.00	83.67	84.74	-89.07	3,207.58	6,973.43	2,656.61	2,488.20	168.41	15.775	
15,200.00	8,523.00	15,491.12	8,494.00	84.71	85.79	-89.07	3,208.31	7,073.43	2,656.68	2,486.17	170.51	15.581	
15,300.00	8,523.00	15,591.12	8,494.00	85.76	86.84	-89.07	3,209.05	7,173.43	2,656.75	2,484.14	172.61	15.392	
15,400.00	8,523.00	15,691.12	8,494.00	86.81	87.90	-89.07	3,209.78	7,273.42	2,656.82	2,482.11	174.71	15.207	
15,500.00	8,523.00	15,791.12	8,494.00	87.86	88.95	-89.07	3,210.52	7,373.42	2,656.89	2,480.07	176.82	15.026	
15,600.00	8,523.00	15,891.12	8,494.00	88.91	90.01	-89.07	3,211.25	7,473.42	2,656.96	2,478.03	178.93	14.849	
15,700.00	8,523.00	15,991.12	8,494.00	89.97	91.07	-89.07	3,211.99	7,573.42	2,657.03	2,475.99	181.04	14.676	
15,800.00	8,523.00	16,091.12	8,494.00	91.02	92.13	-89.07	3,212.72	7,673.41	2,657.10	2,473.94	183.16	14.507	
15,900.00	8,523.00	16,191.12	8,494.00	92.08	93.19	-89.07	3,213.45	7,773.41	2,657.17	2,471.89	185.28	14.342	
16,000.00	8,523.00	16,291.12	8,494.00	93.14	94.26	-89.07	3,214.19	7,873.41	2,657.24	2,469.84	187.40	14.179	
16,100.00	8,523.00	16,391.12	8,494.00	94.20	95.32	-89.07	3,214.92	7,973.40	2,657.31	2,467.78	189.53	14.021	
16,200.00	8,523.00	16,491.12	8,494.00	95.26	96.39	-89.07	3,215.66	8,073.40	2,657.38	2,465.72	191.65	13.865	
16,300.00	8,523.00	16,591.12	8,494.00	96.32	97.46	-89.07	3,216.39	8,173.40	2,657.45	2,463.66	193.79	13.713	
16,400.00	8,523.00	16,691.12	8,494.00	97.39	98.52	-89.07	3,217.12	8,273.40	2,657.52	2,461.60	195.92	13.564	
16,500.00	8,523.00	16,791.12	8,494.00	98.45	99.59	-89.07	3,217.86	8,373.39	2,657.59	2,459.54	198.06	13.418	
16,600.00	8,523.00	16,891.12	8,494.00	99.52	100.67	-89.07	3,218.59	8,473.39	2,657.66	2,457.47	200.19	13.275	
16,700.00	8,523.00	16,991.12	8,494.00	100.59	101.74	-89.07	3,219.33	8,573.39	2,657.73	2,455.40	202.33	13.135	
16,800.00	8,523.00	17,091.12	8,494.00	101.66	102.81	-89.07	3,220.06	8,673.39	2,657.80	2,453.32	204.48	12.998	
16,900.00	8,523.00	17,191.12	8,494.00	102.73	103.89	-89.07	3,220.80	8,773.38	2,657.87	2,451.25	206.62	12.863	
17,000.00	8,523.00	17,291.12	8,494.00	103.80	104.96	-89.07	3,221.53	8,873.38	2,657.94	2,449.17	208.77	12.732	
17,100.00	8,523.00	17,391.12	8,494.00	104.87	106.04	-89.07	3,222.26	8,973.38	2,658.01	2,447.09	210.92	12.602	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (A03) Koala 9 Fed Com 131H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Rule Assigned:

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,200.00	8,523.00	17,491.12	8,494.00	105.95	107.11	-89.07	3,223.00	9,073.37	2,658.08	2,445.01	213.07	12.475	
17,300.00	8,523.00	17,591.12	8,494.00	107.02	108.19	-89.07	3,223.73	9,173.37	2,658.15	2,442.93	215.22	12.351	
17,400.00	8,523.00	17,691.12	8,494.00	108.10	109.27	-89.07	3,224.47	9,273.37	2,658.22	2,440.85	217.38	12.229	
17,500.00	8,523.00	17,791.12	8,494.00	109.17	110.35	-89.07	3,225.20	9,373.37	2,658.29	2,438.76	219.53	12.109	
17,600.00	8,523.00	17,891.12	8,494.00	110.25	111.43	-89.07	3,225.94	9,473.36	2,658.36	2,436.67	221.69	11.991	
17,700.00	8,523.00	17,991.12	8,494.00	111.33	112.51	-89.07	3,226.67	9,573.36	2,658.43	2,434.58	223.85	11.876	
17,800.00	8,523.00	18,091.12	8,494.00	112.41	113.60	-89.07	3,227.40	9,673.36	2,658.50	2,432.49	226.01	11.763	
17,900.00	8,523.00	18,191.12	8,494.00	113.49	114.68	-89.07	3,228.14	9,773.36	2,658.57	2,430.40	228.18	11.651	
18,000.00	8,523.00	18,291.12	8,494.00	114.57	115.76	-89.07	3,228.87	9,873.35	2,658.64	2,428.30	230.34	11.542	
18,100.00	8,523.00	18,391.12	8,494.00	115.65	116.85	-89.07	3,229.61	9,973.35	2,658.71	2,426.21	232.51	11.435	
18,200.00	8,523.00	18,491.12	8,494.00	116.73	117.93	-89.07	3,230.34	10,073.35	2,658.78	2,424.11	234.68	11.330	
18,300.00	8,523.00	18,591.12	8,494.00	117.82	119.02	-89.07	3,231.07	10,173.34	2,658.86	2,422.01	236.84	11.226	
18,400.00	8,523.00	18,691.12	8,494.00	118.90	120.10	-89.07	3,231.81	10,273.34	2,658.93	2,419.91	239.01	11.125	
18,500.00	8,523.00	18,791.12	8,494.00	119.98	121.19	-89.07	3,232.54	10,373.34	2,659.00	2,417.81	241.19	11.025	
18,600.00	8,523.00	18,891.12	8,494.00	121.07	122.28	-89.07	3,233.28	10,473.34	2,659.07	2,415.71	243.36	10.926	
18,700.00	8,523.00	18,991.12	8,494.00	122.16	123.37	-89.07	3,234.01	10,573.33	2,659.14	2,413.60	245.53	10.830	
18,800.00	8,523.00	19,091.12	8,494.00	123.24	124.46	-89.07	3,234.75	10,673.33	2,659.21	2,411.50	247.71	10.735	
18,900.00	8,523.00	19,191.12	8,494.00	124.33	125.55	-89.07	3,235.48	10,773.33	2,659.28	2,409.39	249.89	10.642	
19,009.61	8,523.00	19,300.73	8,494.00	125.52	126.74	-89.07	3,236.28	10,882.94	2,659.35	2,407.08	252.27	10.542 ES, SF	

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (A04) Koala 9 Fed Com 132H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,750.00	7,715.04	8,175.25	8,031.22	27.61	30.91	-101.91	1,932.05	-179.34	1,384.59	1,329.00	55.59	24.907	
7,800.00	7,764.23	8,238.10	8,091.10	27.77	31.14	-102.76	1,919.71	-164.88	1,375.16	1,319.26	55.89	24.603	
7,850.00	7,812.46	8,300.58	8,148.74	27.93	31.36	-103.50	1,907.89	-143.96	1,366.19	1,310.00	56.19	24.314	
7,900.00	7,859.36	8,362.54	8,203.37	28.08	31.55	-104.13	1,896.74	-117.01	1,357.76	1,301.29	56.47	24.042	
7,950.00	7,904.57	8,423.81	8,254.29	28.22	31.73	-104.63	1,886.39	-84.59	1,349.95	1,293.19	56.76	23.785	
8,000.00	7,947.76	8,484.28	8,300.95	28.35	31.88	-105.01	1,876.97	-47.34	1,342.82	1,285.78	57.04	23.542	
8,050.00	7,988.59	8,543.82	8,342.89	28.47	32.02	-105.27	1,868.55	-5.97	1,336.44	1,279.12	57.32	23.314	
8,100.00	8,026.76	8,602.32	8,379.80	28.58	32.13	-105.41	1,861.21	38.80	1,330.88	1,273.26	57.61	23.100	
8,150.00	8,061.96	8,659.73	8,411.49	28.70	32.22	-105.42	1,854.97	86.22	1,326.19	1,268.28	57.91	22.901	
8,200.00	8,093.94	8,715.99	8,437.89	28.84	32.30	-105.32	1,849.84	135.61	1,322.43	1,264.22	58.21	22.718	
8,250.00	8,122.44	8,771.06	8,459.03	28.98	32.36	-105.10	1,845.82	186.27	1,319.65	1,261.13	58.52	22.551	
8,272.73	8,134.20	8,795.69	8,466.93	29.04	32.39	-104.96	1,844.35	209.56	1,318.71	1,260.06	58.66	22.481	
8,300.00	8,147.72	8,824.79	8,474.98	29.12	32.41	-104.63	1,842.88	237.48	1,317.72	1,258.89	58.83	22.399	
8,400.00	8,195.40	8,925.07	8,491.92	29.40	32.50	-103.11	1,840.07	336.15	1,314.31	1,254.80	59.51	22.086	
8,500.00	8,240.02	9,015.70	8,494.00	29.71	32.57	-101.29	1,840.30	426.72	1,312.05	1,251.84	60.22	21.789	
8,600.00	8,281.54	9,106.45	8,494.00	30.04	32.65	-99.49	1,840.96	517.47	1,311.33	1,250.41	60.92	21.526	
8,604.15	8,283.20	9,110.25	8,494.00	30.06	32.65	-99.42	1,840.99	521.26	1,311.32	1,250.38	60.95	21.516 CC	
8,700.00	8,319.91	9,198.61	8,494.00	30.40	32.76	-97.78	1,841.63	609.62	1,311.85	1,250.23	61.63	21.288	
8,800.00	8,355.06	9,292.06	8,494.00	30.78	32.91	-96.18	1,842.31	703.08	1,313.35	1,251.00	62.35	21.064	
8,900.00	8,386.98	9,386.71	8,494.00	31.18	33.09	-94.71	1,842.99	797.72	1,315.54	1,252.44	63.10	20.849	
9,000.00	8,415.60	9,482.42	8,494.00	31.60	33.32	-93.36	1,843.69	893.43	1,318.19	1,254.31	63.88	20.635	
9,100.00	8,440.91	9,579.08	8,494.00	32.05	33.61	-92.15	1,844.39	990.09	1,321.06	1,256.36	64.70	20.418	
9,200.00	8,462.86	9,676.58	8,494.00	32.52	33.94	-91.10	1,845.10	1,087.58	1,323.95	1,258.39	65.56	20.193	
9,300.00	8,481.43	9,774.79	8,494.00	33.01	34.32	-90.19	1,845.81	1,185.79	1,326.69	1,260.22	66.48	19.957	
9,400.00	8,496.61	9,873.60	8,494.00	33.52	34.75	-89.45	1,846.53	1,284.60	1,329.14	1,261.70	67.44	19.709	
9,500.00	8,508.36	9,972.88	8,494.00	34.04	35.22	-88.88	1,847.25	1,383.88	1,331.17	1,262.71	68.45	19.446	
9,600.00	8,516.68	10,072.52	8,494.00	34.59	35.73	-88.47	1,847.97	1,483.52	1,332.68	1,263.16	69.52	19.169	
9,700.00	8,521.56	10,172.40	8,494.00	35.14	36.27	-88.22	1,848.70	1,583.39	1,333.62	1,262.98	70.64	18.878	
9,791.36	8,523.00	10,263.74	8,494.00	35.66	36.79	-88.15	1,849.36	1,674.73	1,333.94	1,262.23	71.71	18.602	
9,800.00	8,523.00	10,272.38	8,494.00	35.71	36.84	-88.15	1,849.42	1,683.37	1,333.95	1,262.13	71.81	18.575	
9,900.00	8,523.00	10,372.38	8,494.00	36.30	37.44	-88.15	1,850.15	1,783.37	1,334.01	1,260.98	73.03	18.266	
10,000.00	8,523.00	10,472.38	8,494.00	36.92	38.07	-88.15	1,850.88	1,883.36	1,334.07	1,259.77	74.30	17.955	
10,100.00	8,523.00	10,572.38	8,494.00	37.56	38.72	-88.15	1,851.60	1,983.36	1,334.13	1,258.52	75.61	17.644	
10,200.00	8,523.00	10,672.38	8,494.00	38.22	39.40	-88.15	1,852.33	2,083.36	1,334.20	1,257.23	76.97	17.334	
10,300.00	8,523.00	10,772.38	8,494.00	38.90	40.10	-88.15	1,853.06	2,183.36	1,334.26	1,255.89	78.37	17.026	
10,400.00	8,523.00	10,872.38	8,494.00	39.61	40.81	-88.15	1,853.78	2,283.35	1,334.32	1,254.52	79.80	16.720	
10,500.00	8,523.00	10,972.38	8,494.00	40.33	41.55	-88.15	1,854.51	2,383.35	1,334.38	1,253.11	81.27	16.418	
10,600.00	8,523.00	11,072.38	8,494.00	41.07	42.30	-88.15	1,855.23	2,483.35	1,334.44	1,251.66	82.78	16.120	
10,700.00	8,523.00	11,172.38	8,494.00	41.82	43.07	-88.15	1,855.96	2,583.35	1,334.51	1,250.19	84.32	15.827	
10,800.00	8,523.00	11,272.38	8,494.00	42.60	43.86	-88.15	1,856.69	2,683.34	1,334.57	1,248.68	85.89	15.538	
10,900.00	8,523.00	11,372.38	8,494.00	43.38	44.66	-88.15	1,857.41	2,783.34	1,334.63	1,247.14	87.49	15.254	
11,000.00	8,523.00	11,472.38	8,494.00	44.19	45.47	-88.15	1,858.14	2,883.34	1,334.69	1,245.57	89.12	14.977	
11,100.00	8,523.00	11,572.38	8,494.00	45.00	46.30	-88.15	1,858.86	2,983.33	1,334.76	1,243.98	90.77	14.704	
11,200.00	8,523.00	11,672.38	8,494.00	45.83	47.14	-88.15	1,859.59	3,083.33	1,334.82	1,242.37	92.45	14.438	
11,300.00	8,523.00	11,772.38	8,494.00	46.67	47.99	-88.15	1,860.32	3,183.33	1,334.88	1,240.73	94.15	14.178	
11,400.00	8,523.00	11,872.38	8,494.00	47.53	48.85	-88.15	1,861.04	3,283.33	1,334.94	1,239.06	95.88	13.923	
11,500.00	8,523.00	11,972.38	8,494.00	48.39	49.73	-88.15	1,861.77	3,383.32	1,335.00	1,237.38	97.62	13.675	
11,600.00	8,523.00	12,072.38	8,494.00	49.26	50.61	-88.15	1,862.50	3,483.32	1,335.07	1,235.68	99.39	13.433	
11,700.00	8,523.00	12,172.38	8,494.00	50.15	51.50	-88.15	1,863.22	3,583.32	1,335.13	1,233.95	101.17	13.196	
11,800.00	8,523.00	12,272.38	8,494.00	51.04	52.40	-88.15	1,863.95	3,683.32	1,335.19	1,232.21	102.98	12.966	
11,900.00	8,523.00	12,372.38	8,494.00	51.94	53.31	-88.15	1,864.67	3,783.31	1,335.25	1,230.46	104.80	12.741	
12,000.00	8,523.00	12,472.38	8,494.00	52.85	54.23	-88.15	1,865.40	3,883.31	1,335.31	1,228.68	106.63	12.523	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (A04) Koala 9 Fed Com 132H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,100.00	8,523.00	12,572.38	8,494.00	53.77	55.16	-88.15	1,866.13	3,983.31	1,335.38	1,226.89	108.48	12.309	
12,200.00	8,523.00	12,672.38	8,494.00	54.70	56.09	-88.15	1,866.85	4,083.31	1,335.44	1,225.09	110.35	12.102	
12,300.00	8,523.00	12,772.38	8,494.00	55.63	57.03	-88.15	1,867.58	4,183.30	1,335.50	1,223.27	112.23	11.900	
12,400.00	8,523.00	12,872.38	8,494.00	56.57	57.98	-88.15	1,868.30	4,283.30	1,335.56	1,221.44	114.12	11.703	
12,500.00	8,523.00	12,972.38	8,494.00	57.52	58.93	-88.16	1,869.03	4,383.30	1,335.63	1,219.60	116.03	11.511	
12,600.00	8,523.00	13,072.38	8,494.00	58.47	59.89	-88.16	1,869.76	4,483.29	1,335.69	1,217.74	117.94	11.325	
12,700.00	8,523.00	13,172.38	8,494.00	59.43	60.85	-88.16	1,870.48	4,583.29	1,335.75	1,215.88	119.87	11.143	
12,800.00	8,523.00	13,272.38	8,494.00	60.39	61.82	-88.16	1,871.21	4,683.29	1,335.81	1,214.00	121.81	10.966	
12,900.00	8,523.00	13,372.38	8,494.00	61.36	62.80	-88.16	1,871.93	4,783.29	1,335.87	1,212.11	123.76	10.794	
13,000.00	8,523.00	13,472.38	8,494.00	62.34	63.77	-88.16	1,872.66	4,883.28	1,335.94	1,210.21	125.72	10.626	
13,100.00	8,523.00	13,572.38	8,494.00	63.32	64.76	-88.16	1,873.39	4,983.28	1,336.00	1,208.31	127.69	10.463	
13,200.00	8,523.00	13,672.38	8,494.00	64.30	65.75	-88.16	1,874.11	5,083.28	1,336.06	1,206.39	129.67	10.304	
13,300.00	8,523.00	13,772.38	8,494.00	65.29	66.74	-88.16	1,874.84	5,183.28	1,336.12	1,204.47	131.65	10.149	
13,400.00	8,523.00	13,872.38	8,494.00	66.29	67.74	-88.16	1,875.57	5,283.27	1,336.19	1,202.54	133.65	9.998	
13,500.00	8,523.00	13,972.38	8,494.00	67.28	68.74	-88.16	1,876.29	5,383.27	1,336.25	1,200.60	135.65	9.851	
13,600.00	8,523.00	14,072.38	8,494.00	68.28	69.74	-88.16	1,877.02	5,483.27	1,336.31	1,198.65	137.66	9.707	
13,700.00	8,523.00	14,172.38	8,494.00	69.29	70.75	-88.16	1,877.74	5,583.27	1,336.37	1,196.69	139.68	9.568	
13,800.00	8,523.00	14,272.38	8,494.00	70.30	71.76	-88.16	1,878.47	5,683.26	1,336.43	1,194.73	141.70	9.431	
13,900.00	8,523.00	14,372.38	8,494.00	71.31	72.78	-88.16	1,879.20	5,783.26	1,336.50	1,192.76	143.73	9.299	
14,000.00	8,523.00	14,472.38	8,494.00	72.32	73.79	-88.16	1,879.92	5,883.26	1,336.56	1,190.79	145.77	9.169	
14,100.00	8,523.00	14,572.38	8,494.00	73.34	74.81	-88.16	1,880.65	5,983.26	1,336.62	1,188.81	147.81	9.043	
14,200.00	8,523.00	14,672.38	8,494.00	74.36	75.84	-88.16	1,881.37	6,083.25	1,336.68	1,186.82	149.86	8.920	
14,300.00	8,523.00	14,772.38	8,494.00	75.39	76.86	-88.16	1,882.10	6,183.25	1,336.75	1,184.83	151.91	8.799	
14,400.00	8,523.00	14,872.38	8,494.00	76.41	77.89	-88.16	1,882.83	6,283.25	1,336.81	1,182.84	153.97	8.682	
14,500.00	8,523.00	14,972.38	8,494.00	77.44	78.93	-88.16	1,883.55	6,383.24	1,336.87	1,180.83	156.04	8.568	
14,600.00	8,523.00	15,072.38	8,494.00	78.47	79.96	-88.16	1,884.28	6,483.24	1,336.93	1,178.83	158.10	8.456	
14,700.00	8,523.00	15,172.38	8,494.00	79.51	81.00	-88.16	1,885.01	6,583.24	1,336.99	1,176.82	160.18	8.347	
14,800.00	8,523.00	15,272.38	8,494.00	80.55	82.03	-88.16	1,885.73	6,683.24	1,337.06	1,174.80	162.26	8.240	
14,900.00	8,523.00	15,372.38	8,494.00	81.58	83.08	-88.16	1,886.46	6,783.23	1,337.12	1,172.78	164.34	8.136	
15,000.00	8,523.00	15,472.38	8,494.00	82.63	84.12	-88.16	1,887.18	6,883.23	1,337.18	1,170.75	166.43	8.035	
15,100.00	8,523.00	15,572.38	8,494.00	83.67	85.16	-88.16	1,887.91	6,983.23	1,337.24	1,168.73	168.52	7.935	
15,200.00	8,523.00	15,672.38	8,494.00	84.71	86.21	-88.16	1,888.64	7,083.23	1,337.30	1,166.69	170.61	7.838	
15,300.00	8,523.00	15,772.38	8,494.00	85.76	87.26	-88.16	1,889.36	7,183.22	1,337.37	1,164.66	172.71	7.743	
15,400.00	8,523.00	15,872.38	8,494.00	86.81	88.31	-88.16	1,890.09	7,283.22	1,337.43	1,162.62	174.81	7.651	
15,500.00	8,523.00	15,972.38	8,494.00	87.86	89.36	-88.16	1,890.81	7,383.22	1,337.49	1,160.57	176.92	7.560	
15,600.00	8,523.00	16,072.38	8,494.00	88.91	90.42	-88.16	1,891.54	7,483.22	1,337.55	1,158.53	179.03	7.471	
15,700.00	8,523.00	16,172.38	8,494.00	89.97	91.47	-88.16	1,892.27	7,583.21	1,337.62	1,156.48	181.14	7.384	
15,800.00	8,523.00	16,272.38	8,494.00	91.02	92.53	-88.16	1,892.99	7,683.21	1,337.68	1,154.42	183.25	7.300	
15,900.00	8,523.00	16,372.38	8,494.00	92.08	93.59	-88.16	1,893.72	7,783.21	1,337.74	1,152.37	185.37	7.216	
16,000.00	8,523.00	16,472.38	8,494.00	93.14	94.65	-88.16	1,894.44	7,883.20	1,337.80	1,150.31	187.49	7.135	
16,100.00	8,523.00	16,572.38	8,494.00	94.20	95.71	-88.16	1,895.17	7,983.20	1,337.86	1,148.25	189.62	7.056	
16,200.00	8,523.00	16,672.38	8,494.00	95.26	96.77	-88.16	1,895.90	8,083.20	1,337.93	1,146.18	191.74	6.978	
16,300.00	8,523.00	16,772.38	8,494.00	96.32	97.84	-88.16	1,896.62	8,183.20	1,337.99	1,144.12	193.87	6.901	
16,400.00	8,523.00	16,872.38	8,494.00	97.39	98.90	-88.16	1,897.35	8,283.19	1,338.05	1,142.05	196.01	6.827	
16,500.00	8,523.00	16,972.38	8,494.00	98.45	99.97	-88.16	1,898.08	8,383.19	1,338.11	1,139.97	198.14	6.753	
16,600.00	8,523.00	17,072.38	8,494.00	99.52	101.04	-88.16	1,898.80	8,483.19	1,338.18	1,137.90	200.28	6.682	
16,700.00	8,523.00	17,172.38	8,494.00	100.59	102.11	-88.16	1,899.53	8,583.19	1,338.24	1,135.82	202.42	6.611	
16,800.00	8,523.00	17,272.38	8,494.00	101.66	103.18	-88.16	1,900.25	8,683.18	1,338.30	1,133.74	204.56	6.542	
16,900.00	8,523.00	17,372.38	8,494.00	102.73	104.25	-88.16	1,900.98	8,783.18	1,338.36	1,131.66	206.70	6.475	
17,000.00	8,523.00	17,472.38	8,494.00	103.80	105.32	-88.16	1,901.71	8,883.18	1,338.42	1,129.58	208.85	6.409	
17,100.00	8,523.00	17,572.38	8,494.00	104.87	106.39	-88.16	1,902.43	8,983.18	1,338.49	1,127.49	210.99	6.344	
17,200.00	8,523.00	17,672.38	8,494.00	105.95	107.47	-88.16	1,903.16	9,083.17	1,338.55	1,125.40	213.14	6.280	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (A04) Koala 9 Fed Com 132H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Rule Assigned:

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,300.00	8,523.00	17,772.38	8,494.00	107.02	108.54	-88.16	1,903.88	9,183.17	1,338.61	1,123.31	215.30	6.218	
17,400.00	8,523.00	17,872.38	8,494.00	108.10	109.62	-88.16	1,904.61	9,283.17	1,338.67	1,121.22	217.45	6.156	
17,500.00	8,523.00	17,972.38	8,494.00	109.17	110.70	-88.16	1,905.34	9,383.16	1,338.74	1,119.13	219.60	6.096	
17,600.00	8,523.00	18,072.38	8,494.00	110.25	111.77	-88.16	1,906.06	9,483.16	1,338.80	1,117.04	221.76	6.037	
17,700.00	8,523.00	18,172.38	8,494.00	111.33	112.85	-88.16	1,906.79	9,583.16	1,338.86	1,114.94	223.92	5.979	
17,800.00	8,523.00	18,272.38	8,494.00	112.41	113.93	-88.16	1,907.51	9,683.16	1,338.92	1,112.84	226.08	5.922	
17,900.00	8,523.00	18,372.38	8,494.00	113.49	115.01	-88.16	1,908.24	9,783.15	1,338.98	1,110.74	228.24	5.866	
18,000.00	8,523.00	18,472.38	8,494.00	114.57	116.10	-88.16	1,908.97	9,883.15	1,339.05	1,108.64	230.41	5.812	
18,100.00	8,523.00	18,572.38	8,494.00	115.65	117.18	-88.16	1,909.69	9,983.15	1,339.11	1,106.54	232.57	5.758	
18,200.00	8,523.00	18,672.38	8,494.00	116.73	118.26	-88.16	1,910.42	10,083.15	1,339.17	1,104.43	234.74	5.705	
18,300.00	8,523.00	18,772.38	8,494.00	117.82	119.34	-88.16	1,911.15	10,183.14	1,339.23	1,102.33	236.91	5.653	
18,400.00	8,523.00	18,872.38	8,494.00	118.90	120.43	-88.16	1,911.87	10,283.14	1,339.29	1,100.22	239.08	5.602	
18,500.00	8,523.00	18,972.38	8,494.00	119.98	121.51	-88.16	1,912.60	10,383.14	1,339.36	1,098.11	241.25	5.552	
18,600.00	8,523.00	19,072.38	8,494.00	121.07	122.60	-88.16	1,913.32	10,483.14	1,339.42	1,096.00	243.42	5.503	
18,700.00	8,523.00	19,172.38	8,494.00	122.16	123.69	-88.16	1,914.05	10,583.13	1,339.48	1,093.89	245.59	5.454	
18,800.00	8,523.00	19,272.38	8,494.00	123.24	124.77	-88.16	1,914.78	10,683.13	1,339.54	1,091.78	247.77	5.406	
18,900.00	8,523.00	19,372.38	8,494.00	124.33	125.86	-88.16	1,915.50	10,783.13	1,339.61	1,089.66	249.94	5.360	
19,009.61	8,523.00	19,481.99	8,494.00	125.52	127.05	-88.16	1,916.30	10,892.74	1,339.67	1,087.35	252.33	5.309	ES, SF

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (A05) Koala 9 Fed Com 121H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
13,200.00	8,523.00	12,294.45	7,289.00	64.30	63.19	-64.82	3,193.84	5,073.57	2,933.81	2,815.37	118.44	24.770	CC
13,300.00	8,523.00	12,394.45	7,289.00	65.29	64.22	-64.83	3,194.57	5,173.57	2,933.87	2,813.56	120.31	24.387	
13,400.00	8,523.00	12,494.45	7,289.00	66.29	65.25	-64.83	3,195.30	5,273.57	2,933.93	2,811.75	122.18	24.014	
13,500.00	8,523.00	12,594.45	7,289.00	67.28	66.28	-64.83	3,196.03	5,373.57	2,933.99	2,809.93	124.06	23.651	
13,600.00	8,523.00	12,694.45	7,289.00	68.28	67.32	-64.83	3,196.76	5,473.56	2,934.05	2,808.11	125.94	23.297	
13,700.00	8,523.00	12,794.45	7,289.00	69.29	68.36	-64.83	3,197.49	5,573.56	2,934.11	2,806.28	127.83	22.953	
13,800.00	8,523.00	12,894.45	7,289.00	70.30	69.41	-64.83	3,198.22	5,673.56	2,934.17	2,804.44	129.73	22.618	
13,900.00	8,523.00	12,994.45	7,289.00	71.31	70.45	-64.83	3,198.95	5,773.56	2,934.23	2,802.60	131.63	22.292	
14,000.00	8,523.00	13,094.45	7,289.00	72.32	71.50	-64.83	3,199.68	5,873.55	2,934.29	2,800.75	133.53	21.974	
14,100.00	8,523.00	13,194.45	7,289.00	73.34	72.55	-64.83	3,200.41	5,973.55	2,934.35	2,798.90	135.45	21.664	
14,200.00	8,523.00	13,294.45	7,289.00	74.36	73.61	-64.83	3,201.14	6,073.55	2,934.41	2,797.05	137.36	21.363	
14,300.00	8,523.00	13,394.45	7,289.00	75.39	74.66	-64.83	3,201.87	6,173.55	2,934.47	2,795.19	139.28	21.068	
14,400.00	8,523.00	13,494.45	7,289.00	76.41	75.72	-64.83	3,202.61	6,273.54	2,934.53	2,793.32	141.21	20.781	
14,500.00	8,523.00	13,594.45	7,289.00	77.44	76.78	-64.83	3,203.34	6,373.54	2,934.59	2,791.45	143.14	20.502	
14,600.00	8,523.00	13,694.45	7,289.00	78.47	77.84	-64.83	3,204.07	6,473.54	2,934.65	2,789.58	145.07	20.229	
14,700.00	8,523.00	13,794.45	7,289.00	79.51	78.90	-64.83	3,204.80	6,573.53	2,934.71	2,787.70	147.01	19.963	
14,800.00	8,523.00	13,894.45	7,289.00	80.55	79.96	-64.83	3,205.53	6,673.53	2,934.77	2,785.82	148.95	19.703	
14,900.00	8,523.00	13,994.45	7,289.00	81.58	81.03	-64.83	3,206.26	6,773.53	2,934.83	2,783.94	150.90	19.449	
15,000.00	8,523.00	14,094.45	7,289.00	82.63	82.10	-64.83	3,206.99	6,873.53	2,934.89	2,782.05	152.84	19.202	
15,100.00	8,523.00	14,194.45	7,289.00	83.67	83.16	-64.84	3,207.72	6,973.52	2,934.95	2,780.16	154.80	18.960	
15,200.00	8,523.00	14,294.45	7,289.00	84.71	84.23	-64.84	3,208.45	7,073.52	2,935.01	2,778.26	156.75	18.724	
15,300.00	8,523.00	14,394.45	7,289.00	85.76	85.30	-64.84	3,209.18	7,173.52	2,935.07	2,776.37	158.71	18.493	
15,400.00	8,523.00	14,494.45	7,289.00	86.81	86.38	-64.84	3,209.91	7,273.52	2,935.14	2,774.46	160.67	18.268	
15,500.00	8,523.00	14,594.45	7,289.00	87.86	87.45	-64.84	3,210.64	7,373.51	2,935.20	2,772.56	162.63	18.048	
15,600.00	8,523.00	14,694.45	7,289.00	88.91	88.53	-64.84	3,211.37	7,473.51	2,935.26	2,770.65	164.60	17.833	
15,700.00	8,523.00	14,794.45	7,289.00	89.97	89.60	-64.84	3,212.10	7,573.51	2,935.32	2,768.75	166.57	17.622	
15,800.00	8,523.00	14,894.45	7,289.00	91.02	90.68	-64.84	3,212.83	7,673.50	2,935.38	2,766.83	168.54	17.416	
15,900.00	8,523.00	14,994.45	7,289.00	92.08	91.76	-64.84	3,213.57	7,773.50	2,935.44	2,764.92	170.52	17.215	
16,000.00	8,523.00	15,094.45	7,289.00	93.14	92.84	-64.84	3,214.30	7,873.50	2,935.50	2,763.00	172.49	17.018	
16,100.00	8,523.00	15,194.45	7,289.00	94.20	93.92	-64.84	3,215.03	7,973.50	2,935.56	2,761.09	174.47	16.825	
16,200.00	8,523.00	15,294.45	7,289.00	95.26	95.00	-64.84	3,215.76	8,073.49	2,935.62	2,759.16	176.45	16.637	
16,300.00	8,523.00	15,394.45	7,289.00	96.32	96.08	-64.84	3,216.49	8,173.49	2,935.68	2,757.24	178.44	16.452	
16,400.00	8,523.00	15,494.45	7,289.00	97.39	97.16	-64.84	3,217.22	8,273.49	2,935.74	2,755.32	180.42	16.271	
16,500.00	8,523.00	15,594.45	7,289.00	98.45	98.25	-64.84	3,217.95	8,373.49	2,935.80	2,753.39	182.41	16.094	
16,600.00	8,523.00	15,694.45	7,289.00	99.52	99.33	-64.84	3,218.68	8,473.48	2,935.86	2,751.46	184.40	15.921	
16,700.00	8,523.00	15,794.45	7,289.00	100.59	100.42	-64.84	3,219.41	8,573.48	2,935.92	2,749.53	186.39	15.751	
16,800.00	8,523.00	15,894.45	7,289.00	101.66	101.50	-64.84	3,220.14	8,673.48	2,935.98	2,747.60	188.39	15.585	
16,900.00	8,523.00	15,994.45	7,289.00	102.73	102.59	-64.85	3,220.87	8,773.48	2,936.04	2,745.66	190.38	15.422	
17,000.00	8,523.00	16,094.45	7,289.00	103.80	103.68	-64.85	3,221.60	8,873.47	2,936.10	2,743.72	192.38	15.262	
17,100.00	8,523.00	16,194.45	7,289.00	104.87	104.77	-64.85	3,222.33	8,973.47	2,936.16	2,741.79	194.38	15.106	
17,200.00	8,523.00	16,294.45	7,289.00	105.95	105.86	-64.85	3,223.06	9,073.47	2,936.22	2,739.85	196.38	14.952	
17,300.00	8,523.00	16,394.45	7,289.00	107.02	106.95	-64.85	3,223.80	9,173.46	2,936.28	2,737.90	198.38	14.801	
17,400.00	8,523.00	16,494.45	7,289.00	108.10	108.04	-64.85	3,224.53	9,273.46	2,936.34	2,735.96	200.38	14.654	
17,500.00	8,523.00	16,594.45	7,289.00	109.17	109.13	-64.85	3,225.26	9,373.46	2,936.40	2,734.02	202.39	14.509	
17,600.00	8,523.00	16,694.45	7,289.00	110.25	110.22	-64.85	3,225.99	9,473.46	2,936.46	2,732.07	204.39	14.367	
17,700.00	8,523.00	16,794.45	7,289.00	111.33	111.31	-64.85	3,226.72	9,573.45	2,936.53	2,730.12	206.40	14.227	
17,800.00	8,523.00	16,894.45	7,289.00	112.41	112.40	-64.85	3,227.45	9,673.45	2,936.59	2,728.17	208.41	14.090	
17,900.00	8,523.00	16,994.45	7,289.00	113.49	113.50	-64.85	3,228.18	9,773.45	2,936.65	2,726.22	210.42	13.956	
18,000.00	8,523.00	17,094.45	7,289.00	114.57	114.59	-64.85	3,228.91	9,873.45	2,936.71	2,724.27	212.43	13.824	
18,100.00	8,523.00	17,194.45	7,289.00	115.65	115.69	-64.85	3,229.64	9,973.44	2,936.77	2,722.32	214.45	13.695	
18,200.00	8,523.00	17,294.45	7,289.00	116.73	116.78	-64.85	3,230.37	10,073.44	2,936.83	2,720.37	216.46	13.567	
18,300.00	8,523.00	17,394.45	7,289.00	117.82	117.88	-64.85	3,231.10	10,173.44	2,936.89	2,718.41	218.48	13.443	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (A05) Koala 9 Fed Com 121H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Rule Assigned:

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
18,400.00	8,523.00	17,494.45	7,289.00	118.90	118.97	-64.85	3,231.83	10,273.44	2,936.95	2,716.46	220.49	13.320	
18,500.00	8,523.00	17,594.45	7,289.00	119.98	120.07	-64.85	3,232.56	10,373.43	2,937.01	2,714.50	222.51	13.199	
18,600.00	8,523.00	17,694.45	7,289.00	121.07	121.17	-64.85	3,233.29	10,473.43	2,937.07	2,712.54	224.53	13.081	
18,700.00	8,523.00	17,794.45	7,289.00	122.16	122.27	-64.86	3,234.02	10,573.43	2,937.13	2,710.58	226.55	12.965	
18,800.00	8,523.00	17,894.45	7,289.00	123.24	123.36	-64.86	3,234.76	10,673.42	2,937.19	2,708.62	228.57	12.850	
18,900.00	8,523.00	17,994.45	7,289.00	124.33	124.46	-64.86	3,235.49	10,773.42	2,937.25	2,706.66	230.59	12.738	
19,009.61	8,523.00	18,104.07	7,289.00	125.52	125.67	-64.86	3,236.29	10,883.03	2,937.32	2,704.51	232.81	12.617	ES, SF

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (A06) Koala 9 Fed Com 122H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,223.07	7,188.34	7,475.15	7,202.34	25.76	28.28	8.41	1,860.04	138.03	1,285.89	1,234.41	51.48	24.977	CC, ES
7,300.00	7,265.27	7,500.00	7,214.82	26.03	28.33	9.37	1,857.05	159.30	1,287.84	1,236.17	51.67	24.926	
11,500.00	8,523.00	10,737.42	7,289.00	48.39	46.72	-46.91	1,861.77	3,383.32	1,826.99	1,753.53	73.46	24.870	
11,600.00	8,523.00	10,837.42	7,289.00	49.26	47.64	-46.92	1,862.50	3,483.32	1,827.04	1,752.14	74.89	24.395	
11,700.00	8,523.00	10,937.42	7,289.00	50.15	48.58	-46.92	1,863.22	3,583.32	1,827.08	1,750.74	76.34	23.934	
11,800.00	8,523.00	11,037.42	7,289.00	51.04	49.52	-46.92	1,863.95	3,683.32	1,827.13	1,749.33	77.80	23.486	
11,900.00	8,523.00	11,137.42	7,289.00	51.94	50.46	-46.92	1,864.68	3,783.31	1,827.17	1,747.91	79.27	23.051	
12,000.00	8,523.00	11,237.42	7,289.00	52.85	51.42	-46.92	1,865.40	3,883.31	1,827.22	1,746.47	80.75	22.628	
12,100.00	8,523.00	11,337.42	7,289.00	53.77	52.38	-46.92	1,866.13	3,983.31	1,827.26	1,745.02	82.24	22.218	
12,200.00	8,523.00	11,437.42	7,289.00	54.70	53.35	-46.92	1,866.85	4,083.31	1,827.31	1,743.56	83.75	21.819	
12,300.00	8,523.00	11,537.42	7,289.00	55.63	54.32	-46.93	1,867.58	4,183.30	1,827.36	1,742.09	85.26	21.432	
12,400.00	8,523.00	11,637.42	7,289.00	56.57	55.30	-46.93	1,868.31	4,283.30	1,827.40	1,740.62	86.78	21.057	
12,500.00	8,523.00	11,737.42	7,289.00	57.52	56.28	-46.93	1,869.03	4,383.30	1,827.45	1,739.13	88.32	20.692	
12,600.00	8,523.00	11,837.42	7,289.00	58.47	57.27	-46.93	1,869.76	4,483.30	1,827.49	1,737.63	89.86	20.337	
12,700.00	8,523.00	11,937.42	7,289.00	59.43	58.27	-46.93	1,870.49	4,583.29	1,827.54	1,736.13	91.41	19.993	
12,800.00	8,523.00	12,037.42	7,289.00	60.39	59.27	-46.93	1,871.21	4,683.29	1,827.58	1,734.62	92.96	19.659	
12,900.00	8,523.00	12,137.42	7,289.00	61.36	60.27	-46.93	1,871.94	4,783.29	1,827.63	1,733.10	94.53	19.334	
13,000.00	8,523.00	12,237.42	7,289.00	62.34	61.28	-46.93	1,872.66	4,883.28	1,827.67	1,731.57	96.10	19.018	
13,100.00	8,523.00	12,337.42	7,289.00	63.32	62.29	-46.94	1,873.39	4,983.28	1,827.72	1,730.04	97.68	18.712	
13,200.00	8,523.00	12,437.42	7,289.00	64.30	63.30	-46.94	1,874.12	5,083.28	1,827.76	1,728.50	99.26	18.414	
13,300.00	8,523.00	12,537.42	7,289.00	65.29	64.32	-46.94	1,874.84	5,183.28	1,827.81	1,726.96	100.85	18.124	
13,400.00	8,523.00	12,637.42	7,289.00	66.29	65.34	-46.94	1,875.57	5,283.27	1,827.86	1,725.41	102.45	17.842	
13,500.00	8,523.00	12,737.42	7,289.00	67.28	66.37	-46.94	1,876.29	5,383.27	1,827.90	1,723.85	104.05	17.568	
13,600.00	8,523.00	12,837.42	7,289.00	68.28	67.40	-46.94	1,877.02	5,483.27	1,827.95	1,722.29	105.66	17.301	
13,700.00	8,523.00	12,937.42	7,289.00	69.29	68.43	-46.94	1,877.75	5,583.27	1,827.99	1,720.72	107.27	17.041	
13,800.00	8,523.00	13,037.42	7,289.00	70.30	69.46	-46.95	1,878.47	5,683.26	1,828.04	1,719.15	108.89	16.789	
13,900.00	8,523.00	13,137.42	7,289.00	71.31	70.50	-46.95	1,879.20	5,783.26	1,828.08	1,717.58	110.51	16.543	
14,000.00	8,523.00	13,237.42	7,289.00	72.32	71.54	-46.95	1,879.92	5,883.26	1,828.13	1,716.00	112.13	16.303	
14,100.00	8,523.00	13,337.42	7,289.00	73.34	72.58	-46.95	1,880.65	5,983.26	1,828.17	1,714.41	113.76	16.070	
14,200.00	8,523.00	13,437.42	7,289.00	74.36	73.63	-46.95	1,881.38	6,083.25	1,828.22	1,712.82	115.40	15.843	
14,300.00	8,523.00	13,537.42	7,289.00	75.39	74.67	-46.95	1,882.10	6,183.25	1,828.26	1,711.23	117.03	15.622	
14,400.00	8,523.00	13,637.42	7,289.00	76.41	75.72	-46.95	1,882.83	6,283.25	1,828.31	1,709.63	118.68	15.406	
14,500.00	8,523.00	13,737.42	7,289.00	77.44	76.77	-46.95	1,883.55	6,383.25	1,828.35	1,708.03	120.32	15.196	
14,600.00	8,523.00	13,837.42	7,289.00	78.47	77.83	-46.96	1,884.28	6,483.24	1,828.40	1,706.43	121.97	14.990	
14,700.00	8,523.00	13,937.42	7,289.00	79.51	78.88	-46.96	1,885.01	6,583.24	1,828.45	1,704.82	123.62	14.791	
14,800.00	8,523.00	14,037.42	7,289.00	80.55	79.94	-46.96	1,885.73	6,683.24	1,828.49	1,703.21	125.28	14.595	
14,900.00	8,523.00	14,137.42	7,289.00	81.58	81.00	-46.96	1,886.46	6,783.23	1,828.54	1,701.60	126.94	14.405	
15,000.00	8,523.00	14,237.42	7,289.00	82.63	82.06	-46.96	1,887.19	6,883.23	1,828.58	1,699.98	128.60	14.219	
15,100.00	8,523.00	14,337.42	7,289.00	83.67	83.12	-46.96	1,887.91	6,983.23	1,828.63	1,698.37	130.26	14.038	
15,200.00	8,523.00	14,437.42	7,289.00	84.71	84.18	-46.96	1,888.64	7,083.23	1,828.67	1,696.74	131.93	13.861	
15,300.00	8,523.00	14,537.42	7,289.00	85.76	85.25	-46.96	1,889.36	7,183.22	1,828.72	1,695.12	133.60	13.688	
15,400.00	8,523.00	14,637.42	7,289.00	86.81	86.31	-46.97	1,890.09	7,283.22	1,828.76	1,693.49	135.27	13.519	
15,500.00	8,523.00	14,737.42	7,289.00	87.86	87.38	-46.97	1,890.82	7,383.22	1,828.81	1,691.86	136.94	13.354	
15,600.00	8,523.00	14,837.42	7,289.00	88.91	88.45	-46.97	1,891.54	7,483.22	1,828.85	1,690.23	138.62	13.193	
15,700.00	8,523.00	14,937.42	7,289.00	89.97	89.52	-46.97	1,892.27	7,583.21	1,828.90	1,688.60	140.30	13.036	
15,800.00	8,523.00	15,037.42	7,289.00	91.02	90.59	-46.97	1,892.99	7,683.21	1,828.95	1,686.96	141.98	12.882	
15,900.00	8,523.00	15,137.42	7,289.00	92.08	91.67	-46.97	1,893.72	7,783.21	1,828.99	1,685.33	143.67	12.731	
16,000.00	8,523.00	15,237.42	7,289.00	93.14	92.74	-46.97	1,894.45	7,883.21	1,829.04	1,683.69	145.35	12.584	
16,100.00	8,523.00	15,337.42	7,289.00	94.20	93.81	-46.98	1,895.17	7,983.20	1,829.08	1,682.04	147.04	12.439	
16,200.00	8,523.00	15,437.42	7,289.00	95.26	94.89	-46.98	1,895.90	8,083.20	1,829.13	1,680.40	148.73	12.298	
16,300.00	8,523.00	15,537.42	7,289.00	96.32	95.97	-46.98	1,896.62	8,183.20	1,829.17	1,678.75	150.42	12.160	
16,400.00	8,523.00	15,637.42	7,289.00	97.39	97.05	-46.98	1,897.35	8,283.19	1,829.22	1,677.11	152.11	12.025	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (A06) Koala 9 Fed Com 122H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Rule Assigned:

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
16,500.00	8,523.00	15,737.42	7,289.00	98.45	98.13	-46.98	1,898.08	8,383.19	1,829.26	1,675.46	153.81	11.893	
16,600.00	8,523.00	15,837.42	7,289.00	99.52	99.21	-46.98	1,898.80	8,483.19	1,829.31	1,673.80	155.50	11.764	
16,700.00	8,523.00	15,937.42	7,289.00	100.59	100.29	-46.98	1,899.53	8,583.19	1,829.35	1,672.15	157.20	11.637	
16,800.00	8,523.00	16,037.42	7,289.00	101.66	101.37	-46.98	1,900.25	8,683.18	1,829.40	1,670.50	158.90	11.513	
16,900.00	8,523.00	16,137.42	7,289.00	102.73	102.45	-46.99	1,900.98	8,783.18	1,829.45	1,668.84	160.60	11.391	
17,000.00	8,523.00	16,237.42	7,289.00	103.80	103.54	-46.99	1,901.71	8,883.18	1,829.49	1,667.18	162.31	11.272	
17,100.00	8,523.00	16,337.42	7,289.00	104.87	104.62	-46.99	1,902.43	8,983.18	1,829.54	1,665.52	164.01	11.155	
17,200.00	8,523.00	16,437.42	7,289.00	105.95	105.71	-46.99	1,903.16	9,083.17	1,829.58	1,663.86	165.72	11.040	
17,300.00	8,523.00	16,537.42	7,289.00	107.02	106.79	-46.99	1,903.89	9,183.17	1,829.63	1,662.20	167.42	10.928	
17,400.00	8,523.00	16,637.42	7,289.00	108.10	107.88	-46.99	1,904.61	9,283.17	1,829.67	1,660.54	169.13	10.818	
17,500.00	8,523.00	16,737.42	7,289.00	109.17	108.97	-46.99	1,905.34	9,383.17	1,829.72	1,658.88	170.84	10.710	
17,600.00	8,523.00	16,837.42	7,289.00	110.25	110.05	-47.00	1,906.06	9,483.16	1,829.76	1,657.21	172.55	10.604	
17,700.00	8,523.00	16,937.42	7,289.00	111.33	111.14	-47.00	1,906.79	9,583.16	1,829.81	1,655.54	174.27	10.500	
17,800.00	8,523.00	17,037.42	7,289.00	112.41	112.23	-47.00	1,907.52	9,683.16	1,829.85	1,653.88	175.98	10.398	
17,900.00	8,523.00	17,137.42	7,289.00	113.49	113.32	-47.00	1,908.24	9,783.15	1,829.90	1,652.21	177.69	10.298	
18,000.00	8,523.00	17,237.42	7,289.00	114.57	114.41	-47.00	1,908.97	9,883.15	1,829.95	1,650.54	179.41	10.200	
18,100.00	8,523.00	17,337.42	7,289.00	115.65	115.51	-47.00	1,909.69	9,983.15	1,829.99	1,648.86	181.13	10.103	
18,200.00	8,523.00	17,437.42	7,289.00	116.73	116.60	-47.00	1,910.42	10,083.15	1,830.04	1,647.19	182.84	10.009	
18,300.00	8,523.00	17,537.42	7,289.00	117.82	117.69	-47.00	1,911.15	10,183.14	1,830.08	1,645.52	184.56	9.916	
18,400.00	8,523.00	17,637.42	7,289.00	118.90	118.78	-47.01	1,911.87	10,283.14	1,830.13	1,643.84	186.28	9.824	
18,500.00	8,523.00	17,737.42	7,289.00	119.98	119.88	-47.01	1,912.60	10,383.14	1,830.17	1,642.17	188.00	9.735	
18,600.00	8,523.00	17,837.42	7,289.00	121.07	120.97	-47.01	1,913.32	10,483.14	1,830.22	1,640.49	189.73	9.647	
18,700.00	8,523.00	17,937.42	7,289.00	122.16	122.07	-47.01	1,914.05	10,583.13	1,830.26	1,638.82	191.45	9.560	
18,800.00	8,523.00	18,037.42	7,289.00	123.24	123.16	-47.01	1,914.78	10,683.13	1,830.31	1,637.14	193.17	9.475	
18,900.00	8,523.00	18,137.42	7,289.00	124.33	124.26	-47.01	1,915.50	10,783.13	1,830.35	1,635.46	194.90	9.391	
19,009.61	8,523.00	18,247.03	7,289.00	125.52	125.46	-47.01	1,916.30	10,892.74	1,830.40	1,633.62	196.79	9.301	SF

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (A07) Koala 9 Fed Com 111H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2) **Rule Assigned:** **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,600.00	8,523.00	13,549.22	6,214.00	88.91	86.80	-48.83	3,211.17	7,473.35	3,528.95	3,386.91	142.04	24.845 CC	
15,700.00	8,523.00	13,649.22	6,214.00	89.97	87.89	-48.83	3,211.90	7,573.35	3,529.00	3,385.24	143.76	24.548	
15,800.00	8,523.00	13,749.22	6,214.00	91.02	88.98	-48.83	3,212.64	7,673.35	3,529.06	3,383.58	145.48	24.258	
15,900.00	8,523.00	13,849.22	6,214.00	92.08	90.07	-48.83	3,213.38	7,773.35	3,529.11	3,381.91	147.20	23.974	
16,000.00	8,523.00	13,949.22	6,214.00	93.14	91.16	-48.84	3,214.11	7,873.34	3,529.17	3,380.23	148.93	23.697	
16,100.00	8,523.00	14,049.22	6,214.00	94.20	92.25	-48.84	3,214.85	7,973.34	3,529.22	3,378.56	150.66	23.425	
16,200.00	8,523.00	14,149.22	6,214.00	95.26	93.34	-48.84	3,215.59	8,073.34	3,529.27	3,376.89	152.39	23.160	
16,300.00	8,523.00	14,249.22	6,214.00	96.32	94.43	-48.84	3,216.32	8,173.34	3,529.33	3,375.21	154.12	22.900	
16,400.00	8,523.00	14,349.22	6,214.00	97.39	95.52	-48.84	3,217.06	8,273.33	3,529.38	3,373.53	155.85	22.646	
16,500.00	8,523.00	14,449.22	6,214.00	98.45	96.62	-48.84	3,217.80	8,373.33	3,529.44	3,371.85	157.59	22.397	
16,600.00	8,523.00	14,549.22	6,214.00	99.52	97.71	-48.84	3,218.53	8,473.33	3,529.49	3,370.17	159.32	22.153	
16,700.00	8,523.00	14,649.22	6,214.00	100.59	98.81	-48.84	3,219.27	8,573.32	3,529.55	3,368.49	161.06	21.914	
16,800.00	8,523.00	14,749.22	6,214.00	101.66	99.90	-48.84	3,220.01	8,673.32	3,529.60	3,366.80	162.80	21.680	
16,900.00	8,523.00	14,849.22	6,214.00	102.73	101.00	-48.84	3,220.74	8,773.32	3,529.66	3,365.12	164.54	21.451	
17,000.00	8,523.00	14,949.22	6,214.00	103.80	102.09	-48.84	3,221.48	8,873.32	3,529.71	3,363.43	166.28	21.227	
17,100.00	8,523.00	15,049.22	6,214.00	104.87	103.19	-48.84	3,222.22	8,973.31	3,529.77	3,361.74	168.03	21.007	
17,200.00	8,523.00	15,149.22	6,214.00	105.95	104.29	-48.84	3,222.95	9,073.31	3,529.82	3,360.05	169.77	20.791	
17,300.00	8,523.00	15,249.22	6,214.00	107.02	105.39	-48.85	3,223.69	9,173.31	3,529.88	3,358.36	171.52	20.580	
17,400.00	8,523.00	15,349.22	6,214.00	108.10	106.49	-48.85	3,224.43	9,273.31	3,529.93	3,356.66	173.27	20.373	
17,500.00	8,523.00	15,449.22	6,214.00	109.17	107.59	-48.85	3,225.16	9,373.30	3,529.99	3,354.97	175.02	20.170	
17,600.00	8,523.00	15,549.22	6,214.00	110.25	108.68	-48.85	3,225.90	9,473.30	3,530.04	3,353.27	176.77	19.970	
17,700.00	8,523.00	15,649.22	6,214.00	111.33	109.78	-48.85	3,226.64	9,573.30	3,530.10	3,351.58	178.52	19.775	
17,800.00	8,523.00	15,749.22	6,214.00	112.41	110.89	-48.85	3,227.37	9,673.29	3,530.15	3,349.88	180.27	19.583	
17,900.00	8,523.00	15,849.22	6,214.00	113.49	111.99	-48.85	3,228.11	9,773.29	3,530.21	3,348.18	182.02	19.394	
18,000.00	8,523.00	15,949.22	6,214.00	114.57	113.09	-48.85	3,228.85	9,873.29	3,530.26	3,346.48	183.78	19.209	
18,100.00	8,523.00	16,049.22	6,214.00	115.65	114.19	-48.85	3,229.58	9,973.29	3,530.31	3,344.78	185.53	19.028	
18,200.00	8,523.00	16,149.22	6,214.00	116.73	115.29	-48.85	3,230.32	10,073.28	3,530.37	3,343.08	187.29	18.850	
18,300.00	8,523.00	16,249.22	6,214.00	117.82	116.39	-48.85	3,231.06	10,173.28	3,530.42	3,341.38	189.05	18.675	
18,400.00	8,523.00	16,349.22	6,214.00	118.90	117.50	-48.85	3,231.79	10,273.28	3,530.48	3,339.67	190.80	18.503	
18,500.00	8,523.00	16,449.22	6,214.00	119.98	118.60	-48.85	3,232.53	10,373.27	3,530.53	3,337.97	192.56	18.334	
18,600.00	8,523.00	16,549.22	6,214.00	121.07	119.70	-48.86	3,233.27	10,473.27	3,530.59	3,336.26	194.32	18.169	
18,700.00	8,523.00	16,649.22	6,214.00	122.16	120.81	-48.86	3,234.00	10,573.27	3,530.64	3,334.56	196.08	18.006	
18,800.00	8,523.00	16,749.22	6,214.00	123.24	121.91	-48.86	3,234.74	10,673.27	3,530.70	3,332.85	197.85	17.846	
18,900.00	8,523.00	16,849.22	6,214.00	124.33	123.02	-48.86	3,235.48	10,773.26	3,530.75	3,331.14	199.61	17.688	
19,009.61	8,523.00	16,958.84	6,214.00	125.52	124.23	-48.86	3,236.28	10,882.87	3,530.81	3,329.27	201.54	17.519 ES, SF	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (A08) Koala 9 Fed Com 112H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Rule Assigned:

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,600.00	8,523.00	13,726.19	6,214.00	88.91	86.67	-29.91	1,891.21	7,483.09	2,680.05	2,572.10	107.95	24.827	CC
15,700.00	8,523.00	13,826.19	6,214.00	89.97	87.75	-29.92	1,891.95	7,583.09	2,680.08	2,570.81	109.27	24.527	
15,800.00	8,523.00	13,926.19	6,214.00	91.02	88.83	-29.92	1,892.68	7,683.08	2,680.12	2,569.53	110.59	24.234	
15,900.00	8,523.00	14,026.19	6,214.00	92.08	89.91	-29.92	1,893.42	7,783.08	2,680.15	2,568.24	111.92	23.948	
16,000.00	8,523.00	14,126.19	6,214.00	93.14	91.00	-29.92	1,894.15	7,883.08	2,680.19	2,566.95	113.24	23.668	
16,100.00	8,523.00	14,226.19	6,214.00	94.20	92.09	-29.92	1,894.89	7,983.08	2,680.23	2,565.66	114.57	23.394	
16,200.00	8,523.00	14,326.19	6,214.00	95.26	93.17	-29.92	1,895.62	8,083.07	2,680.26	2,564.36	115.90	23.126	
16,300.00	8,523.00	14,426.19	6,214.00	96.32	94.26	-29.92	1,896.36	8,183.07	2,680.30	2,563.07	117.23	22.864	
16,400.00	8,523.00	14,526.19	6,214.00	97.39	95.35	-29.92	1,897.10	8,283.07	2,680.33	2,561.78	118.56	22.608	
16,500.00	8,523.00	14,626.19	6,214.00	98.45	96.44	-29.93	1,897.83	8,383.06	2,680.37	2,560.48	119.89	22.357	
16,600.00	8,523.00	14,726.19	6,214.00	99.52	97.53	-29.93	1,898.57	8,483.06	2,680.40	2,559.18	121.22	22.112	
16,700.00	8,523.00	14,826.19	6,214.00	100.59	98.62	-29.93	1,899.30	8,583.06	2,680.44	2,557.88	122.56	21.871	
16,800.00	8,523.00	14,926.19	6,214.00	101.66	99.71	-29.93	1,900.04	8,683.06	2,680.48	2,556.58	123.89	21.636	
16,900.00	8,523.00	15,026.19	6,214.00	102.73	100.80	-29.93	1,900.77	8,783.05	2,680.51	2,555.28	125.23	21.405	
17,000.00	8,523.00	15,126.19	6,214.00	103.80	101.89	-29.93	1,901.51	8,883.05	2,680.55	2,553.98	126.57	21.179	
17,100.00	8,523.00	15,226.19	6,214.00	104.87	102.99	-29.93	1,902.25	8,983.05	2,680.58	2,552.68	127.91	20.958	
17,200.00	8,523.00	15,326.19	6,214.00	105.95	104.08	-29.94	1,902.98	9,083.05	2,680.62	2,551.37	129.25	20.741	
17,300.00	8,523.00	15,426.19	6,214.00	107.02	105.18	-29.94	1,903.72	9,183.04	2,680.66	2,550.07	130.59	20.528	
17,400.00	8,523.00	15,526.19	6,214.00	108.10	106.27	-29.94	1,904.45	9,283.04	2,680.69	2,548.76	131.93	20.319	
17,500.00	8,523.00	15,626.19	6,214.00	109.17	107.37	-29.94	1,905.19	9,383.04	2,680.73	2,547.46	133.27	20.115	
17,600.00	8,523.00	15,726.19	6,214.00	110.25	108.46	-29.94	1,905.92	9,483.03	2,680.76	2,546.15	134.61	19.914	
17,700.00	8,523.00	15,826.19	6,214.00	111.33	109.56	-29.94	1,906.66	9,583.03	2,680.80	2,544.84	135.96	19.718	
17,800.00	8,523.00	15,926.19	6,214.00	112.41	110.66	-29.94	1,907.40	9,683.03	2,680.83	2,543.53	137.30	19.525	
17,900.00	8,523.00	16,026.19	6,214.00	113.49	111.75	-29.94	1,908.13	9,783.03	2,680.87	2,542.22	138.65	19.335	
18,000.00	8,523.00	16,126.19	6,214.00	114.57	112.85	-29.95	1,908.87	9,883.02	2,680.91	2,540.91	140.00	19.150	
18,100.00	8,523.00	16,226.19	6,214.00	115.65	113.95	-29.95	1,909.60	9,983.02	2,680.94	2,539.60	141.35	18.967	
18,200.00	8,523.00	16,326.19	6,214.00	116.73	115.05	-29.95	1,910.34	10,083.02	2,680.98	2,538.28	142.70	18.788	
18,300.00	8,523.00	16,426.19	6,214.00	117.82	116.15	-29.95	1,911.07	10,183.02	2,681.01	2,536.97	144.05	18.612	
18,400.00	8,523.00	16,526.19	6,214.00	118.90	117.25	-29.95	1,911.81	10,283.01	2,681.05	2,535.65	145.40	18.440	
18,500.00	8,523.00	16,626.19	6,214.00	119.98	118.35	-29.95	1,912.55	10,383.01	2,681.09	2,534.34	146.75	18.270	
18,600.00	8,523.00	16,726.19	6,214.00	121.07	119.45	-29.95	1,913.28	10,483.01	2,681.12	2,533.02	148.10	18.104	
18,700.00	8,523.00	16,826.19	6,214.00	122.16	120.55	-29.96	1,914.02	10,583.00	2,681.16	2,531.71	149.45	17.940	
18,800.00	8,523.00	16,926.19	6,214.00	123.24	121.65	-29.96	1,914.75	10,683.00	2,681.19	2,530.39	150.80	17.779	
18,900.00	8,523.00	17,026.19	6,214.00	124.33	122.75	-29.96	1,915.49	10,783.00	2,681.23	2,529.07	152.16	17.621	
19,009.61	8,523.00	17,135.80	6,214.00	125.52	123.96	-29.96	1,916.29	10,892.61	2,681.27	2,527.63	153.64	17.451	ES, SF

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B01) Koala 9 Fed Com 203H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
400.00	400.00	400.00	400.00	1.20	1.20	-90.23	-0.24	-60.02	60.02	57.62	2.40	24.990	
500.00	500.00	500.00	500.00	1.56	1.56	-90.23	-0.24	-60.02	60.02	56.90	3.12	19.245	
600.00	600.00	600.00	600.00	1.92	1.92	-90.23	-0.24	-60.02	60.02	56.18	3.84	15.648	
700.00	700.00	700.00	700.00	2.28	2.28	-90.23	-0.24	-60.02	60.02	55.47	4.55	13.184	
800.00	800.00	800.00	800.00	2.63	2.63	-90.23	-0.24	-60.02	60.02	54.75	5.27	11.390	CC
900.00	900.00	899.94	899.93	2.99	2.99	-88.98	1.07	-60.06	60.07	54.08	5.99	10.035	
1,000.00	1,000.00	999.74	999.65	3.35	3.35	-85.27	4.98	-60.18	60.38	53.68	6.70	9.011	ES
1,100.00	1,100.00	1,099.26	1,098.96	3.71	3.71	-79.24	11.47	-60.37	61.46	54.05	7.41	8.290	
1,200.00	1,200.00	1,198.39	1,197.66	4.07	4.07	-71.32	20.51	-60.64	64.06	55.93	8.12	7.886	
1,300.00	1,299.99	1,297.13	1,295.73	4.43	4.42	-58.27	32.05	-60.98	68.33	59.50	8.83	7.742	
1,400.00	1,399.91	1,395.61	1,393.20	4.79	4.77	-51.13	46.08	-61.40	73.70	64.18	9.52	7.741	
1,500.00	1,499.69	1,494.37	1,490.59	5.14	5.12	-45.06	62.48	-61.89	79.79	69.58	10.21	7.813	
1,600.00	1,599.27	1,594.04	1,588.80	5.50	5.48	-40.76	79.49	-62.40	85.00	74.08	10.92	7.786	
1,663.83	1,662.69	1,657.76	1,651.58	5.73	5.70	-38.85	90.37	-62.72	87.47	76.10	11.37	7.694	
1,700.00	1,698.59	1,693.89	1,687.17	5.86	5.84	-37.95	96.54	-62.91	88.68	77.05	11.63	7.628	
1,800.00	1,797.86	1,793.76	1,785.57	6.22	6.20	-35.58	113.58	-63.42	92.12	79.78	12.34	7.467	
1,900.00	1,897.12	1,893.63	1,883.98	6.57	6.56	-33.39	130.63	-63.93	95.70	82.65	13.05	7.334	
2,000.00	1,996.39	1,993.50	1,982.38	6.93	6.92	-31.35	147.68	-64.43	99.42	85.66	13.76	7.224	
2,100.00	2,095.65	2,093.37	2,080.79	7.28	7.29	-29.47	164.73	-64.94	103.25	88.77	14.48	7.132	
2,200.00	2,194.91	2,193.24	2,179.19	7.64	7.65	-27.72	181.78	-65.45	107.19	91.99	15.19	7.055	
2,300.00	2,294.18	2,293.11	2,277.59	8.00	8.02	-26.09	198.83	-65.96	111.21	95.31	15.91	6.991	
2,400.00	2,393.44	2,392.98	2,376.00	8.36	8.39	-24.58	215.87	-66.47	115.33	98.70	16.62	6.937	
2,500.00	2,492.70	2,492.85	2,474.40	8.72	8.75	-23.18	232.92	-66.98	119.51	102.17	17.34	6.892	
2,600.00	2,591.97	2,592.72	2,572.80	9.08	9.12	-21.87	249.97	-67.49	123.76	105.71	18.06	6.854	
2,700.00	2,691.23	2,692.59	2,671.21	9.44	9.49	-20.65	267.02	-68.00	128.08	109.30	18.78	6.822	
2,800.00	2,790.49	2,792.47	2,769.61	9.81	9.85	-19.51	284.07	-68.50	132.45	112.95	19.49	6.795	
2,900.00	2,889.76	2,892.34	2,868.02	10.17	10.22	-18.44	301.12	-69.01	136.86	116.65	20.21	6.772	
3,000.00	2,989.02	2,992.21	2,966.42	10.53	10.59	-17.44	318.17	-69.52	141.32	120.39	20.93	6.752	
3,100.00	3,088.29	3,092.08	3,064.82	10.89	10.96	-16.50	335.21	-70.03	145.82	124.18	21.65	6.736	
3,200.00	3,187.55	3,191.95	3,163.23	11.25	11.33	-15.62	352.26	-70.54	150.36	128.00	22.37	6.723	
3,300.00	3,286.81	3,291.82	3,261.63	11.61	11.70	-14.79	369.31	-71.05	154.93	131.85	23.09	6.711	
3,400.00	3,386.08	3,391.69	3,360.03	11.98	12.06	-14.00	386.36	-71.56	159.54	135.73	23.80	6.702	
3,500.00	3,485.34	3,491.56	3,458.44	12.34	12.43	-13.26	403.41	-72.07	164.17	139.64	24.52	6.694	
3,600.00	3,584.60	3,591.43	3,556.84	12.70	12.80	-12.57	420.46	-72.58	168.82	143.58	25.24	6.688	
3,700.00	3,683.87	3,691.30	3,655.25	13.06	13.17	-11.90	437.50	-73.08	173.50	147.54	25.96	6.683	
3,800.00	3,783.13	3,791.18	3,753.65	13.43	13.54	-11.28	454.55	-73.59	178.21	151.52	26.68	6.679	
3,900.00	3,882.39	3,891.05	3,852.05	13.79	13.91	-10.68	471.60	-74.10	182.93	155.53	27.40	6.676	
4,000.00	3,981.66	3,990.92	3,950.46	14.15	14.28	-10.12	488.65	-74.61	187.67	159.55	28.12	6.674	
4,100.00	4,080.92	4,090.79	4,048.86	14.51	14.65	-9.58	505.70	-75.12	192.43	163.59	28.84	6.672	
4,200.00	4,180.19	4,190.66	4,147.26	14.88	15.02	-9.07	522.75	-75.63	197.20	167.64	29.56	6.671	
4,300.00	4,279.45	4,290.53	4,245.67	15.24	15.39	-8.59	539.79	-76.14	201.99	171.71	30.28	6.670	
4,400.00	4,378.71	4,390.40	4,344.07	15.60	15.76	-8.12	556.84	-76.65	206.79	175.79	31.00	6.670	
4,500.00	4,477.98	4,490.27	4,442.48	15.97	16.13	-7.68	573.89	-77.15	211.61	179.89	31.72	6.671	
4,600.00	4,577.24	4,590.14	4,540.88	16.33	16.50	-7.26	590.94	-77.66	216.43	183.99	32.44	6.671	
4,700.00	4,676.50	4,690.01	4,639.28	16.69	16.87	-6.85	607.99	-78.17	221.27	188.11	33.16	6.672	
4,800.00	4,775.77	4,789.88	4,737.69	17.05	17.24	-6.47	625.04	-78.68	226.12	192.24	33.88	6.674	
4,900.00	4,875.03	4,889.76	4,836.09	17.42	17.61	-6.10	642.09	-79.19	230.98	196.38	34.60	6.675	
5,000.00	4,974.29	4,989.63	4,934.49	17.78	17.97	-5.74	659.13	-79.70	235.85	200.53	35.32	6.677	
5,100.00	5,073.56	5,089.50	5,032.90	18.14	18.34	-5.40	676.18	-80.21	240.73	204.68	36.05	6.678	
5,200.00	5,172.82	5,189.37	5,131.30	18.51	18.71	-5.07	693.23	-80.72	245.61	208.85	36.77	6.680	
5,300.00	5,272.09	5,289.24	5,229.71	18.87	19.08	-4.76	710.28	-81.22	250.51	213.02	37.49	6.682	
5,400.00	5,371.35	5,389.11	5,328.11	19.23	19.45	-4.45	727.33	-81.73	255.41	217.20	38.21	6.685	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B01) Koala 9 Fed Com 203H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,500.00	5,470.61	5,488.98	5,426.51	19.60	19.82	-4.16	744.38	-82.24	260.31	221.39	38.93	6.687	
5,600.00	5,569.88	5,588.85	5,524.92	19.96	20.19	-3.88	761.42	-82.75	265.23	225.58	39.65	6.689	
5,700.00	5,669.14	5,688.72	5,623.32	20.32	20.57	-3.61	778.47	-83.26	270.15	229.78	40.37	6.692	
5,800.00	5,768.40	5,788.59	5,721.72	20.69	20.94	-3.35	795.52	-83.77	275.07	233.98	41.09	6.694	
5,900.00	5,867.67	5,888.46	5,820.13	21.05	21.31	-3.10	812.57	-84.28	280.00	238.19	41.81	6.696	
6,000.00	5,966.93	5,988.34	5,918.53	21.42	21.68	-2.86	829.62	-84.79	284.94	242.41	42.53	6.699	
6,070.90	6,037.31	6,059.14	5,988.30	21.67	21.94	-2.69	841.71	-85.15	288.44	245.40	43.05	6.701	
6,100.00	6,066.21	6,088.20	6,016.93	21.78	22.05	-2.62	846.67	-85.29	289.99	246.74	43.26	6.704	
6,200.00	6,165.70	6,187.94	6,115.21	22.14	22.42	-2.38	863.69	-85.80	297.00	253.03	43.98	6.754	
6,300.00	6,265.42	6,287.47	6,213.27	22.50	22.78	-2.14	880.68	-86.31	306.63	261.93	44.69	6.860	
6,400.00	6,365.30	6,386.71	6,311.05	22.86	23.15	-1.89	897.62	-86.82	318.86	273.44	45.41	7.022	
6,500.00	6,465.27	6,485.59	6,408.48	23.21	23.52	-1.66	914.50	-87.32	333.68	287.56	46.12	7.235	
6,534.73	6,500.00	6,519.83	6,442.22	23.33	23.65	-6.44	920.35	-87.49	339.44	293.07	46.37	7.320	
6,600.00	6,565.27	6,584.15	6,505.59	23.56	23.88	-6.29	931.33	-87.82	350.55	303.72	46.83	7.485	
6,700.00	6,665.27	6,682.68	6,602.67	23.91	24.25	-6.07	948.14	-88.32	367.58	320.04	47.54	7.732	
6,800.00	6,765.27	6,781.21	6,699.76	24.27	24.62	-5.88	964.96	-88.83	384.61	336.36	48.25	7.971	
6,900.00	6,865.27	6,879.74	6,796.84	24.62	24.98	-5.70	981.78	-89.33	401.65	352.69	48.96	8.204	
7,000.00	6,965.27	6,978.27	6,893.92	24.97	25.35	-5.54	998.60	-89.83	418.68	369.02	49.67	8.430	
7,100.00	7,065.27	7,076.80	6,991.01	25.32	25.71	-5.39	1,015.42	-90.33	435.73	385.35	50.38	8.650	
7,200.00	7,165.27	7,175.33	7,088.09	25.68	26.08	-5.25	1,032.24	-90.83	452.77	401.69	51.08	8.863	
7,300.00	7,265.27	7,273.86	7,185.17	26.03	26.44	-5.12	1,049.06	-91.34	469.82	418.03	51.79	9.071	
7,400.00	7,365.27	7,372.39	7,282.26	26.38	26.81	-5.00	1,065.88	-91.84	486.87	434.37	52.50	9.273	
7,500.00	7,465.27	7,470.92	7,379.34	26.74	27.17	-4.89	1,082.70	-92.34	503.92	450.71	53.21	9.470	
7,600.00	7,565.27	7,569.45	7,476.42	27.09	27.54	-4.79	1,099.52	-92.84	520.97	467.05	53.92	9.662	
7,672.73	7,638.00	7,644.30	7,550.18	27.35	27.82	-4.71	1,112.23	-93.22	533.32	478.86	54.46	9.792	
7,700.00	7,665.26	7,675.57	7,581.05	27.44	27.93	-98.92	1,117.26	-93.37	537.80	483.11	54.69	9.834	
7,750.00	7,715.04	7,732.83	7,637.65	27.61	28.14	-98.60	1,125.81	-93.63	545.98	490.89	55.09	9.911	
7,800.00	7,764.23	7,789.59	7,693.90	27.77	28.35	-98.79	1,133.45	-93.85	554.14	498.67	55.47	9.990	
7,850.00	7,812.46	7,845.43	7,749.34	27.93	28.55	-99.42	1,140.15	-94.05	562.46	506.62	55.84	10.072	
7,900.00	7,859.36	7,899.90	7,803.50	28.08	28.75	-100.40	1,145.90	-94.23	571.18	514.98	56.20	10.163	
7,950.00	7,904.57	7,952.57	7,855.95	28.22	28.94	-101.63	1,150.73	-94.37	580.61	524.08	56.54	10.269	
8,000.00	7,947.76	8,003.02	7,906.25	28.35	29.12	-103.00	1,154.67	-94.49	591.15	534.29	56.86	10.396	
8,050.00	7,988.59	8,050.85	7,953.97	28.47	29.29	-104.39	1,157.80	-94.58	603.19	546.02	57.17	10.551	
8,100.00	8,026.76	8,095.66	7,998.72	28.58	29.45	-105.68	1,160.19	-94.65	617.11	559.66	57.46	10.740	
8,150.00	8,061.96	8,137.11	8,040.13	28.70	29.59	-106.74	1,161.93	-94.70	633.29	575.56	57.73	10.970	
8,200.00	8,093.94	8,174.86	8,077.86	28.84	29.72	-107.44	1,163.12	-94.74	652.02	594.03	57.99	11.244	
8,250.00	8,122.44	8,208.59	8,111.58	28.98	29.84	-107.68	1,163.88	-94.76	673.49	615.27	58.22	11.568	
8,272.73	8,134.20	8,222.52	8,125.51	29.04	29.89	-107.61	1,164.10	-94.77	684.19	625.87	58.32	11.731	
8,300.00	8,147.72	8,238.58	8,141.57	29.12	29.94	-108.51	1,164.30	-94.77	697.66	639.22	58.44	11.938	
8,400.00	8,195.40	8,292.41	8,195.40	29.40	30.13	-111.24	1,164.49	-94.78	751.41	692.55	58.86	12.766	
8,500.00	8,240.02	8,337.03	8,240.02	29.71	30.28	-113.00	1,164.49	-94.78	811.73	752.47	59.26	13.698	
8,600.00	8,281.54	9,321.63	8,853.00	30.04	32.51	-130.95	1,168.58	522.75	846.00	799.04	46.96	18.017	
8,700.00	8,319.91	9,413.80	8,853.00	30.40	32.73	-129.03	1,169.19	614.91	824.97	776.36	48.60	16.973	
8,800.00	8,355.06	9,507.26	8,853.00	30.78	32.98	-127.16	1,169.81	708.37	806.85	756.59	50.26	16.055	
8,900.00	8,386.98	9,601.90	8,853.00	31.18	33.27	-125.36	1,170.44	803.01	791.43	739.53	51.89	15.251	
9,000.00	8,415.60	9,697.62	8,853.00	31.60	33.59	-123.66	1,171.07	898.72	778.47	724.97	53.50	14.550	
9,100.00	8,440.91	9,794.28	8,853.00	32.05	33.95	-122.10	1,171.71	995.38	767.75	712.67	55.07	13.941	
9,200.00	8,462.86	9,891.78	8,853.00	32.52	34.34	-120.68	1,172.36	1,092.88	759.02	702.43	56.59	13.412	
9,300.00	8,481.43	9,990.00	8,853.00	33.01	34.76	-119.45	1,173.01	1,191.10	752.07	694.01	58.06	12.954	
9,400.00	8,496.61	10,088.81	8,853.00	33.52	35.22	-118.42	1,173.66	1,289.90	746.69	687.23	59.46	12.559	
9,500.00	8,508.36	10,188.09	8,853.00	34.04	35.70	-117.60	1,174.32	1,389.19	742.71	681.93	60.78	12.219	
9,600.00	8,516.68	10,287.73	8,853.00	34.59	36.22	-117.01	1,174.98	1,488.83	740.00	677.97	62.04	11.928	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B01) Koala 9 Fed Com 203H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Rule Assigned: Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,700.00	8,521.56	10,387.61	8,853.00	35.14	36.76	-116.66	1,175.64	1,588.70	738.45	675.25	63.21	11.683	
9,791.36	8,523.00	10,478.95	8,853.00	35.66	37.28	-116.56	1,176.24	1,680.04	738.00	673.80	64.20	11.496	
9,800.00	8,523.00	10,487.59	8,853.00	35.71	37.33	-116.56	1,176.30	1,688.68	738.00	673.71	64.29	11.480	
9,900.00	8,523.00	10,587.59	8,853.00	36.30	37.92	-116.56	1,176.96	1,788.68	738.00	672.64	65.35	11.292	
10,000.00	8,523.00	10,687.59	8,853.00	36.92	38.54	-116.56	1,177.63	1,888.67	738.00	671.53	66.47	11.103	
10,100.00	8,523.00	10,787.59	8,853.00	37.56	39.18	-116.56	1,178.29	1,988.67	737.99	670.37	67.62	10.913	
10,200.00	8,523.00	10,887.59	8,853.00	38.22	39.84	-116.56	1,178.95	2,088.67	737.99	669.17	68.82	10.723	
10,300.00	8,523.00	10,987.59	8,853.00	38.90	40.52	-116.56	1,179.61	2,188.67	737.99	667.93	70.06	10.534	
10,400.00	8,523.00	11,087.59	8,853.00	39.61	41.22	-116.56	1,180.27	2,288.67	737.99	666.66	71.33	10.346	
10,500.00	8,523.00	11,187.59	8,853.00	40.33	41.94	-116.56	1,180.94	2,388.66	737.99	665.35	72.64	10.160	
10,600.00	8,523.00	11,287.59	8,853.00	41.07	42.68	-116.56	1,181.60	2,488.66	737.99	664.01	73.98	9.976	
10,700.00	8,523.00	11,387.59	8,853.00	41.82	43.43	-116.56	1,182.26	2,588.66	737.99	662.63	75.35	9.794	
10,800.00	8,523.00	11,487.59	8,853.00	42.60	44.20	-116.56	1,182.92	2,688.66	737.98	661.23	76.75	9.615	
10,900.00	8,523.00	11,587.59	8,853.00	43.38	44.98	-116.56	1,183.59	2,788.65	737.98	659.80	78.18	9.439	
11,000.00	8,523.00	11,687.59	8,853.00	44.19	45.77	-116.56	1,184.25	2,888.65	737.98	658.34	79.64	9.267	
11,100.00	8,523.00	11,787.59	8,853.00	45.00	46.58	-116.56	1,184.91	2,988.65	737.98	656.86	81.12	9.097	
11,200.00	8,523.00	11,887.59	8,853.00	45.83	47.41	-116.56	1,185.57	3,088.65	737.98	655.35	82.63	8.931	
11,300.00	8,523.00	11,987.59	8,853.00	46.67	48.24	-116.56	1,186.24	3,188.65	737.98	653.82	84.15	8.769	
11,400.00	8,523.00	12,087.59	8,853.00	47.53	49.09	-116.56	1,186.90	3,288.64	737.98	652.27	85.70	8.611	
11,500.00	8,523.00	12,187.59	8,853.00	48.39	49.95	-116.56	1,187.56	3,388.64	737.97	650.70	87.27	8.456	
11,600.00	8,523.00	12,287.59	8,853.00	49.26	50.81	-116.56	1,188.22	3,488.64	737.97	649.11	88.86	8.305	
11,700.00	8,523.00	12,387.59	8,853.00	50.15	51.69	-116.56	1,188.88	3,588.64	737.97	647.50	90.47	8.157	
11,800.00	8,523.00	12,487.59	8,853.00	51.04	52.58	-116.56	1,189.55	3,688.63	737.97	645.88	92.09	8.013	
11,900.00	8,523.00	12,587.59	8,853.00	51.94	53.47	-116.56	1,190.21	3,788.63	737.97	644.24	93.73	7.873	
12,000.00	8,523.00	12,687.59	8,853.00	52.85	54.38	-116.56	1,190.87	3,888.63	737.97	642.58	95.39	7.737	
12,100.00	8,523.00	12,787.59	8,853.00	53.77	55.29	-116.56	1,191.53	3,988.63	737.97	640.91	97.06	7.604	
12,200.00	8,523.00	12,887.59	8,853.00	54.70	56.21	-116.56	1,192.20	4,088.63	737.96	639.22	98.74	7.474	
12,300.00	8,523.00	12,987.59	8,853.00	55.63	57.13	-116.56	1,192.86	4,188.62	737.96	637.53	100.44	7.348	
12,400.00	8,523.00	13,087.59	8,853.00	56.57	58.07	-116.56	1,193.52	4,288.62	737.96	635.82	102.15	7.225	
12,500.00	8,523.00	13,187.59	8,853.00	57.52	59.01	-116.56	1,194.18	4,388.62	737.96	634.09	103.87	7.105	
12,600.00	8,523.00	13,287.59	8,853.00	58.47	59.95	-116.56	1,194.84	4,488.62	737.96	632.36	105.60	6.988	
12,700.00	8,523.00	13,387.59	8,853.00	59.43	60.90	-116.56	1,195.51	4,588.62	737.96	630.61	107.34	6.875	
12,800.00	8,523.00	13,487.59	8,853.00	60.39	61.86	-116.56	1,196.17	4,688.61	737.95	628.86	109.10	6.764	
12,900.00	8,523.00	13,587.59	8,853.00	61.36	62.83	-116.56	1,196.83	4,788.61	737.95	627.09	110.86	6.657	
13,000.00	8,523.00	13,687.59	8,853.00	62.34	63.79	-116.56	1,197.49	4,888.61	737.95	625.32	112.63	6.552	
13,100.00	8,523.00	13,787.59	8,853.00	63.32	64.77	-116.56	1,198.16	4,988.61	737.95	623.54	114.41	6.450	
13,200.00	8,523.00	13,887.59	8,853.00	64.30	65.75	-116.56	1,198.82	5,088.60	737.95	621.75	116.20	6.351	
13,300.00	8,523.00	13,987.59	8,853.00	65.29	66.73	-116.56	1,199.48	5,188.60	737.95	619.95	118.00	6.254	
13,400.00	8,523.00	14,087.59	8,853.00	66.29	67.71	-116.56	1,200.14	5,288.60	737.95	618.14	119.81	6.160	
13,500.00	8,523.00	14,187.59	8,853.00	67.28	68.71	-116.56	1,200.80	5,388.60	737.94	616.33	121.62	6.068	
13,600.00	8,523.00	14,287.59	8,853.00	68.28	69.70	-116.56	1,201.47	5,488.60	737.94	614.50	123.44	5.978	
13,700.00	8,523.00	14,387.59	8,853.00	69.29	70.70	-116.56	1,202.13	5,588.59	737.94	612.68	125.27	5.891	
13,800.00	8,523.00	14,487.59	8,853.00	70.30	71.70	-116.56	1,202.79	5,688.59	737.94	610.84	127.10	5.806	
13,900.00	8,523.00	14,587.59	8,853.00	71.31	72.71	-116.56	1,203.45	5,788.59	737.94	609.00	128.94	5.723	
14,000.00	8,523.00	14,687.59	8,853.00	72.32	73.72	-116.56	1,204.12	5,888.59	737.94	607.15	130.78	5.642	
14,100.00	8,523.00	14,787.59	8,853.00	73.34	74.73	-116.56	1,204.78	5,988.58	737.94	605.30	132.63	5.564	
14,200.00	8,523.00	14,887.59	8,853.00	74.36	75.75	-116.56	1,205.44	6,088.58	737.93	603.44	134.49	5.487	
14,300.00	8,523.00	14,987.59	8,853.00	75.39	76.76	-116.56	1,206.10	6,188.58	737.93	601.58	136.35	5.412	
14,400.00	8,523.00	15,087.59	8,853.00	76.41	77.79	-116.56	1,206.76	6,288.58	737.93	599.71	138.22	5.339	
14,500.00	8,523.00	15,187.59	8,853.00	77.44	78.81	-116.56	1,207.43	6,388.58	737.93	597.84	140.09	5.268	
14,600.00	8,523.00	15,287.59	8,853.00	78.47	79.84	-116.56	1,208.09	6,488.57	737.93	595.96	141.97	5.198	
14,700.00	8,523.00	15,387.59	8,853.00	79.51	80.87	-116.56	1,208.75	6,588.57	737.93	594.08	143.85	5.130	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B01) Koala 9 Fed Com 203H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Rule Assigned:

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,800.00	8,523.00	15,487.59	8,853.00	80.55	81.90	-116.56	1,209.41	6,688.57	737.93	592.19	145.73	5.064	
14,900.00	8,523.00	15,587.59	8,853.00	81.58	82.93	-116.56	1,210.08	6,788.57	737.92	590.30	147.62	4.999	
15,000.00	8,523.00	15,687.59	8,853.00	82.63	83.97	-116.56	1,210.74	6,888.56	737.92	588.41	149.51	4.935	
15,100.00	8,523.00	15,787.59	8,853.00	83.67	85.01	-116.56	1,211.40	6,988.56	737.92	586.51	151.41	4.874	
15,200.00	8,523.00	15,887.59	8,853.00	84.71	86.05	-116.56	1,212.06	7,088.56	737.92	584.61	153.31	4.813	
15,300.00	8,523.00	15,987.59	8,853.00	85.76	87.09	-116.56	1,212.73	7,188.56	737.92	582.70	155.21	4.754	
15,400.00	8,523.00	16,087.59	8,853.00	86.81	88.13	-116.56	1,213.39	7,288.56	737.92	580.80	157.12	4.696	
15,500.00	8,523.00	16,187.59	8,853.00	87.86	89.18	-116.56	1,214.05	7,388.55	737.92	578.88	159.03	4.640	
15,600.00	8,523.00	16,287.59	8,853.00	88.91	90.23	-116.56	1,214.71	7,488.55	737.91	576.97	160.94	4.585	
15,700.00	8,523.00	16,387.59	8,853.00	89.97	91.28	-116.56	1,215.37	7,588.55	737.91	575.05	162.86	4.531	
15,800.00	8,523.00	16,487.59	8,853.00	91.02	92.33	-116.56	1,216.04	7,688.55	737.91	573.13	164.78	4.478	
15,900.00	8,523.00	16,587.59	8,853.00	92.08	93.38	-116.56	1,216.70	7,788.55	737.91	571.21	166.70	4.426	
16,000.00	8,523.00	16,687.59	8,853.00	93.14	94.44	-116.56	1,217.36	7,888.54	737.91	569.28	168.63	4.376	
16,100.00	8,523.00	16,787.59	8,853.00	94.20	95.50	-116.56	1,218.02	7,988.54	737.91	567.35	170.56	4.326	
16,200.00	8,523.00	16,887.59	8,853.00	95.26	96.55	-116.56	1,218.69	8,088.54	737.90	565.42	172.49	4.278	
16,300.00	8,523.00	16,987.59	8,853.00	96.32	97.61	-116.56	1,219.35	8,188.54	737.90	563.48	174.42	4.231	
16,400.00	8,523.00	17,087.59	8,853.00	97.39	98.67	-116.57	1,220.01	8,288.53	737.90	561.55	176.35	4.184	
16,500.00	8,523.00	17,187.59	8,853.00	98.45	99.74	-116.57	1,220.67	8,388.53	737.90	559.61	178.29	4.139	
16,600.00	8,523.00	17,287.59	8,853.00	99.52	100.80	-116.57	1,221.33	8,488.53	737.90	557.67	180.23	4.094	
16,700.00	8,523.00	17,387.59	8,853.00	100.59	101.86	-116.57	1,222.00	8,588.53	737.90	555.72	182.17	4.051	
16,800.00	8,523.00	17,487.59	8,853.00	101.66	102.93	-116.57	1,222.66	8,688.53	737.90	553.78	184.12	4.008	
16,900.00	8,523.00	17,587.59	8,853.00	102.73	104.00	-116.57	1,223.32	8,788.52	737.89	551.83	186.06	3.966	
17,000.00	8,523.00	17,687.59	8,853.00	103.80	105.07	-116.57	1,223.98	8,888.52	737.89	549.88	188.01	3.925	
17,100.00	8,523.00	17,787.59	8,853.00	104.87	106.13	-116.57	1,224.65	8,988.52	737.89	547.93	189.96	3.884	
17,200.00	8,523.00	17,887.59	8,853.00	105.95	107.21	-116.57	1,225.31	9,088.52	737.89	545.98	191.91	3.845	
17,300.00	8,523.00	17,987.59	8,853.00	107.02	108.28	-116.57	1,225.97	9,188.51	737.89	544.02	193.87	3.806	
17,400.00	8,523.00	18,087.59	8,853.00	108.10	109.35	-116.57	1,226.63	9,288.51	737.89	542.07	195.82	3.768	
17,500.00	8,523.00	18,187.59	8,853.00	109.17	110.42	-116.57	1,227.29	9,388.51	737.89	540.11	197.78	3.731	
17,600.00	8,523.00	18,287.59	8,853.00	110.25	111.50	-116.57	1,227.96	9,488.51	737.88	538.15	199.74	3.694	
17,700.00	8,523.00	18,387.59	8,853.00	111.33	112.57	-116.57	1,228.62	9,588.51	737.88	536.19	201.70	3.658	
17,800.00	8,523.00	18,487.59	8,853.00	112.41	113.65	-116.57	1,229.28	9,688.50	737.88	534.22	203.66	3.623	
17,900.00	8,523.00	18,587.59	8,853.00	113.49	114.73	-116.57	1,229.94	9,788.50	737.88	532.26	205.62	3.589	
18,000.00	8,523.00	18,687.59	8,853.00	114.57	115.80	-116.57	1,230.61	9,888.50	737.88	530.29	207.58	3.555	
18,100.00	8,523.00	18,787.59	8,853.00	115.65	116.88	-116.57	1,231.27	9,988.50	737.88	528.33	209.55	3.521	
18,200.00	8,523.00	18,887.59	8,853.00	116.73	117.96	-116.57	1,231.93	10,088.49	737.88	526.36	211.52	3.488	
18,300.00	8,523.00	18,987.59	8,853.00	117.82	119.04	-116.57	1,232.59	10,188.49	737.87	524.39	213.49	3.456	
18,400.00	8,523.00	19,087.59	8,853.00	118.90	120.12	-116.57	1,233.25	10,288.49	737.87	522.42	215.46	3.425	
18,500.00	8,523.00	19,187.59	8,853.00	119.98	121.20	-116.57	1,233.92	10,388.49	737.87	520.44	217.43	3.394	
18,600.00	8,523.00	19,287.59	8,853.00	121.07	122.29	-116.57	1,234.58	10,488.49	737.87	518.47	219.40	3.363	
18,700.00	8,523.00	19,387.59	8,853.00	122.16	123.37	-116.57	1,235.24	10,588.48	737.87	516.49	221.37	3.333	
18,800.00	8,523.00	19,487.59	8,853.00	123.24	124.45	-116.57	1,235.90	10,688.48	737.87	514.52	223.35	3.304	
18,900.00	8,523.00	19,587.59	8,853.00	124.33	125.54	-116.57	1,236.57	10,788.48	737.87	512.54	225.33	3.275	
19,009.61	8,523.00	19,697.20	8,853.00	125.52	126.73	-116.57	1,237.29	10,898.09	737.86	510.37	227.49	3.243	SF

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B02) Koala 9 Fed Com 204H - Permit - APD-Revv00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
300.00	300.00	300.00	300.00	0.84	0.84	-90.23	-0.12	-30.01	30.01	28.33	1.68	17.812	
400.00	400.00	400.00	400.00	1.20	1.20	-90.23	-0.12	-30.01	30.01	27.61	2.40	12.495	
500.00	500.00	500.00	500.00	1.56	1.56	-90.23	-0.12	-30.01	30.01	26.89	3.12	9.623	
600.00	600.00	600.00	600.00	1.92	1.92	-90.23	-0.12	-30.01	30.01	26.17	3.84	7.824	
700.00	700.00	700.00	700.00	2.28	2.28	-90.23	-0.12	-30.01	30.01	25.46	4.55	6.592	
800.00	800.00	800.00	800.00	2.63	2.63	-90.23	-0.12	-30.01	30.01	24.74	5.27	5.695	
900.00	900.00	900.00	900.00	2.99	2.99	-90.23	-0.12	-30.01	30.01	24.02	5.99	5.013	
1,000.00	1,000.00	1,000.00	1,000.00	3.35	3.35	-90.23	-0.12	-30.01	30.01	23.31	6.70	4.477	
1,100.00	1,100.00	1,100.00	1,100.00	3.71	3.71	-90.23	-0.12	-30.01	30.01	22.59	7.42	4.044	
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	-90.23	-0.12	-30.01	30.01	21.87	8.14	3.688	CC
1,300.00	1,299.99	1,299.72	1,299.71	4.43	4.41	-90.11	-1.34	-30.42	30.42	21.59	8.83	3.444	ES
1,400.00	1,399.91	1,399.53	1,399.49	4.79	4.73	-101.01	-3.54	-31.15	31.93	22.42	9.52	3.355	
1,500.00	1,499.69	1,499.14	1,499.08	5.14	5.06	-114.51	-5.74	-31.88	35.49	25.28	10.20	3.478	
1,600.00	1,599.27	1,598.50	1,598.41	5.50	5.40	-127.92	-7.94	-32.61	42.19	31.30	10.90	3.873	
1,663.83	1,662.69	1,661.75	1,661.64	5.73	5.61	-135.42	-9.33	-33.07	48.36	37.02	11.34	4.265	
1,700.00	1,698.59	1,697.55	1,697.43	5.86	5.73	-139.10	-10.12	-33.34	52.38	40.79	11.59	4.520	
1,800.00	1,797.86	1,796.53	1,796.38	6.22	6.07	-146.78	-12.31	-34.06	64.36	52.08	12.28	5.240	
1,900.00	1,897.12	1,895.51	1,895.33	6.57	6.41	-152.00	-14.49	-34.79	77.11	64.14	12.97	5.943	
2,000.00	1,996.39	1,994.48	1,994.28	6.93	6.75	-155.72	-16.68	-35.51	90.32	76.65	13.67	6.607	
2,100.00	2,095.65	2,093.46	2,093.24	7.28	7.09	-158.49	-18.86	-36.24	103.81	89.44	14.37	7.225	
2,200.00	2,194.91	2,192.44	2,192.19	7.64	7.43	-160.62	-21.05	-36.97	117.48	102.41	15.07	7.798	
2,300.00	2,294.18	2,291.42	2,291.14	8.00	7.78	-162.30	-23.23	-37.69	131.27	115.51	15.76	8.327	
2,400.00	2,393.44	2,390.40	2,390.09	8.36	8.13	-163.66	-25.42	-38.42	145.16	128.69	16.47	8.816	
2,500.00	2,492.70	2,489.37	2,489.04	8.72	8.47	-164.79	-27.60	-39.15	159.11	141.94	17.17	9.269	
2,600.00	2,591.97	2,588.35	2,587.99	9.08	8.82	-165.73	-29.79	-39.87	173.11	155.24	17.87	9.688	
2,700.00	2,691.23	2,687.33	2,686.94	9.44	9.17	-166.53	-31.97	-40.60	187.15	168.58	18.57	10.077	
2,800.00	2,790.49	2,786.31	2,785.89	9.81	9.52	-167.22	-34.16	-41.33	201.22	181.95	19.28	10.439	
2,900.00	2,889.76	2,885.28	2,884.84	10.17	9.86	-167.82	-36.34	-42.05	215.32	195.34	19.98	10.777	
3,000.00	2,989.02	2,984.26	2,983.80	10.53	10.21	-168.34	-38.53	-42.78	229.44	208.75	20.68	11.092	
3,100.00	3,088.29	3,083.24	3,082.75	10.89	10.56	-168.81	-40.71	-43.50	243.57	222.18	21.39	11.387	
3,200.00	3,187.55	3,182.22	3,181.70	11.25	10.91	-169.22	-42.89	-44.23	257.72	235.63	22.10	11.664	
3,300.00	3,286.81	3,281.20	3,280.65	11.61	11.26	-169.59	-45.08	-44.96	271.88	249.08	22.80	11.924	
3,400.00	3,386.08	3,380.17	3,379.60	11.98	11.62	-169.93	-47.26	-45.68	286.05	262.54	23.51	12.168	
3,500.00	3,485.34	3,479.15	3,478.55	12.34	11.97	-170.23	-49.45	-46.41	300.23	276.01	24.22	12.398	
3,600.00	3,584.60	3,578.13	3,577.50	12.70	12.32	-170.50	-51.63	-47.14	314.42	289.49	24.92	12.616	
3,700.00	3,683.87	3,677.11	3,676.45	13.06	12.67	-170.76	-53.82	-47.86	328.61	302.98	25.63	12.821	
3,800.00	3,783.13	3,776.09	3,775.40	13.43	13.02	-170.99	-56.00	-48.59	342.81	316.47	26.34	13.016	
3,900.00	3,882.39	3,875.06	3,874.36	13.79	13.37	-171.20	-58.19	-49.32	357.01	329.96	27.05	13.200	
4,000.00	3,981.66	3,974.04	3,973.31	14.15	13.73	-171.40	-60.37	-50.04	371.22	343.46	27.75	13.375	
4,100.00	4,080.92	4,073.02	4,072.26	14.51	14.08	-171.58	-62.56	-50.77	385.43	356.97	28.46	13.541	
4,200.00	4,180.19	4,172.00	4,171.21	14.88	14.43	-171.75	-64.74	-51.50	399.64	370.47	29.17	13.700	
4,300.00	4,279.45	4,270.98	4,270.16	15.24	14.79	-171.90	-66.93	-52.22	413.86	383.98	29.88	13.851	
4,400.00	4,378.71	4,369.95	4,369.11	15.60	15.14	-172.05	-69.11	-52.95	428.08	397.49	30.59	13.994	
4,500.00	4,477.98	4,468.93	4,468.06	15.97	15.49	-172.19	-71.30	-53.67	442.31	411.01	31.30	14.132	
4,600.00	4,577.24	4,567.91	4,567.01	16.33	15.84	-172.31	-73.48	-54.40	456.53	424.53	32.01	14.263	
4,700.00	4,676.50	4,666.89	4,665.96	16.69	16.20	-172.44	-75.67	-55.13	470.76	438.04	32.72	14.388	
4,800.00	4,775.77	4,765.86	4,764.92	17.05	16.55	-172.55	-77.85	-55.85	484.99	451.56	33.43	14.509	
4,900.00	4,875.03	4,864.84	4,863.87	17.42	16.91	-172.66	-80.04	-56.58	499.22	465.09	34.14	14.624	
5,000.00	4,974.29	4,963.82	4,962.82	17.78	17.26	-172.76	-82.22	-57.31	513.46	478.61	34.85	14.734	
5,100.00	5,073.56	5,062.80	5,061.77	18.14	17.61	-172.85	-84.41	-58.03	527.69	492.13	35.56	14.840	
5,200.00	5,172.82	5,161.78	5,160.72	18.51	17.97	-172.94	-86.59	-58.76	541.93	505.66	36.27	14.942	
5,300.00	5,272.09	5,260.75	5,259.67	18.87	18.32	-173.03	-88.78	-59.49	556.17	519.19	36.98	15.040	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B02) Koala 9 Fed Com 204H - Permit - APD-Revv00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,400.00	5,371.35	5,359.73	5,358.62	19.23	18.67	-173.11	-90.96	-60.21	570.41	532.72	37.69	15.135	
5,500.00	5,470.61	5,458.71	5,457.57	19.60	19.03	-173.19	-93.15	-60.94	584.64	546.25	38.40	15.225	
5,600.00	5,569.88	5,557.69	5,556.52	19.96	19.38	-173.26	-95.33	-61.66	598.89	559.78	39.11	15.313	
5,700.00	5,669.14	5,656.67	5,655.48	20.32	19.74	-173.34	-97.52	-62.39	613.13	573.31	39.82	15.397	
5,800.00	5,768.40	5,755.64	5,754.43	20.69	20.09	-173.40	-99.70	-63.12	627.37	586.84	40.53	15.479	
5,900.00	5,867.67	5,854.62	5,853.38	21.05	20.45	-173.47	-101.89	-63.84	641.61	600.37	41.24	15.557	
6,000.00	5,966.93	5,953.60	5,952.33	21.42	20.80	-173.53	-104.07	-64.57	655.86	613.90	41.95	15.633	
6,070.90	6,037.31	6,023.77	6,022.49	21.67	21.05	-173.57	-105.62	-65.09	665.96	623.50	42.46	15.685	
6,100.00	6,066.21	6,052.59	6,051.30	21.78	21.15	-173.59	-106.26	-65.30	669.99	627.33	42.66	15.704	
6,200.00	6,165.70	6,151.84	6,150.52	22.14	21.51	-173.65	-108.45	-66.03	682.20	638.82	43.38	15.727	
6,300.00	6,265.42	6,251.37	6,250.02	22.50	21.87	-173.68	-110.64	-66.76	691.82	647.73	44.09	15.691	
6,400.00	6,365.30	6,351.12	6,349.75	22.86	22.22	-173.68	-112.85	-67.49	698.85	654.04	44.80	15.598	
6,500.00	6,465.27	6,451.02	6,449.62	23.21	22.58	-173.65	-115.05	-68.22	703.27	657.76	45.52	15.451	
6,534.73	6,500.00	6,485.74	6,484.32	23.33	22.71	-178.50	-115.82	-68.48	704.20	658.44	45.76	15.388	
6,600.00	6,565.27	6,550.99	6,549.56	23.56	22.94	-178.46	-117.26	-68.95	705.66	659.43	46.23	15.264	
6,700.00	6,665.27	6,650.96	6,649.51	23.91	23.30	-178.41	-119.46	-69.69	707.88	660.94	46.94	15.080	
6,800.00	6,765.27	6,750.94	6,749.45	24.27	23.66	-178.35	-121.67	-70.42	710.11	662.46	47.66	14.901	
6,900.00	6,865.27	6,850.91	6,849.40	24.62	24.02	-178.30	-123.88	-71.16	712.34	663.97	48.37	14.727	
7,000.00	6,965.27	6,950.88	6,949.34	24.97	24.37	-178.24	-126.08	-71.89	714.57	665.49	49.08	14.559	
7,100.00	7,065.27	7,050.86	7,049.29	25.32	24.73	-178.19	-128.29	-72.62	716.80	667.00	49.80	14.395	
7,200.00	7,165.27	7,150.83	7,149.23	25.68	25.09	-178.14	-130.50	-73.36	719.03	668.52	50.51	14.236	
7,300.00	7,265.27	7,250.80	7,249.18	26.03	25.45	-178.09	-132.70	-74.09	721.26	670.03	51.22	14.081	
7,400.00	7,365.27	7,350.77	7,349.13	26.38	25.81	-178.03	-134.91	-74.82	723.49	671.55	51.94	13.930	
7,500.00	7,465.27	7,450.75	7,449.07	26.74	26.17	-177.98	-137.12	-75.56	725.72	673.07	52.65	13.784	
7,600.00	7,565.27	7,550.72	7,549.02	27.09	26.52	-177.93	-139.33	-76.29	727.95	674.59	53.36	13.641	
7,672.73	7,638.00	7,623.43	7,621.71	27.35	26.79	-177.89	-140.93	-76.83	729.58	675.69	53.88	13.540	
7,700.00	7,665.26	7,650.68	7,648.95	27.44	26.88	87.51	-141.53	-77.03	730.16	676.08	54.08	13.503	
7,750.00	7,715.04	7,700.42	7,698.67	27.61	27.06	87.80	-142.63	-77.39	731.09	676.67	54.42	13.434	
7,800.00	7,764.23	7,749.54	7,747.79	27.77	27.24	88.42	-143.71	-77.75	731.93	677.17	54.76	13.365	
7,850.00	7,812.46	7,797.69	7,795.92	27.93	27.41	89.34	-144.78	-78.10	732.84	677.73	55.10	13.299	
7,900.00	7,859.36	7,844.48	7,842.70	28.08	27.58	90.51	-145.81	-78.45	734.02	678.59	55.43	13.241	
7,950.00	7,904.57	7,889.57	7,887.77	28.22	27.74	91.84	-146.81	-78.78	735.77	680.01	55.76	13.196	
8,000.00	7,947.76	7,932.61	7,930.80	28.35	27.89	93.28	-147.76	-79.09	738.40	682.34	56.07	13.170	
8,050.00	7,988.59	7,973.26	7,971.45	28.47	28.04	94.71	-148.65	-79.39	742.28	685.92	56.36	13.170	
8,100.00	8,026.76	8,011.24	8,009.41	28.58	28.18	96.05	-149.49	-79.67	747.77	691.13	56.64	13.202	
8,150.00	8,061.96	8,054.43	8,052.59	28.70	28.33	97.67	-150.23	-79.92	755.03	698.08	56.95	13.258	
8,200.00	8,093.94	8,094.26	8,092.42	28.84	28.46	99.07	-150.50	-80.01	764.24	707.00	57.23	13.353	
8,250.00	8,122.44	8,124.28	8,122.44	28.98	28.56	99.75	-150.51	-80.01	775.82	718.37	57.46	13.503	
8,272.73	8,134.20	8,136.03	8,134.20	29.04	28.60	99.88	-150.51	-80.01	782.00	724.46	57.55	13.589	
8,300.00	8,147.72	8,149.56	8,147.72	29.12	28.65	100.65	-150.51	-80.01	790.13	732.48	57.65	13.706	
8,400.00	8,195.40	8,197.23	8,195.40	29.40	28.81	103.24	-150.51	-80.01	825.88	767.87	58.01	14.237	
8,500.00	8,240.02	8,241.86	8,240.02	29.71	28.95	105.42	-150.51	-80.01	870.43	812.09	58.34	14.920	
8,600.00	8,281.54	9,220.42	8,853.00	30.04	31.54	126.05	-151.35	531.49	900.65	848.63	52.02	17.312	
8,700.00	8,319.91	9,312.58	8,853.00	30.40	31.75	124.89	-150.74	623.65	872.24	818.94	53.30	16.366	
8,800.00	8,355.06	9,406.05	8,853.00	30.78	31.99	123.73	-150.12	717.11	846.93	792.34	54.59	15.515	
8,900.00	8,386.98	9,500.69	8,853.00	31.18	32.28	122.59	-149.50	811.76	824.61	768.72	55.89	14.754	
9,000.00	8,415.60	9,596.40	8,853.00	31.60	32.60	121.48	-148.86	907.47	805.16	747.96	57.19	14.078	
9,100.00	8,440.91	9,693.07	8,853.00	32.05	32.95	120.43	-148.22	1,004.13	788.45	729.96	58.49	13.480	
9,200.00	8,462.86	9,790.57	8,853.00	32.52	33.34	119.47	-147.58	1,101.63	774.35	714.57	59.78	12.954	
9,300.00	8,481.43	9,888.78	8,853.00	33.01	33.76	118.62	-146.93	1,199.84	762.72	701.67	61.05	12.494	
9,400.00	8,496.61	9,987.59	8,853.00	33.52	34.22	117.89	-146.27	1,298.65	753.43	691.15	62.29	12.096	
9,500.00	8,508.36	10,086.88	8,853.00	34.04	34.71	117.31	-145.61	1,397.93	746.38	682.88	63.50	11.754	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B02) Koala 9 Fed Com 204H - Permit - APD-Revv00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,600.00	8,516.68	10,186.52	8,853.00	34.59	35.23	116.89	-144.95	1,497.57	741.46	676.78	64.67	11.465	
9,700.00	8,521.56	10,286.39	8,853.00	35.14	35.78	116.64	-144.29	1,597.44	738.60	672.80	65.81	11.224	
9,791.31	8,523.00	10,377.69	8,853.00	35.66	36.30	116.57	-143.69	1,688.73	737.77	670.97	66.80	11.045	
9,791.36	8,523.00	10,377.74	8,853.00	35.66	36.30	116.57	-143.68	1,688.78	737.77	670.97	66.80	11.045	
9,800.00	8,523.00	10,386.38	8,853.00	35.71	36.35	116.57	-143.63	1,697.42	737.77	670.88	66.89	11.030	
9,900.00	8,523.00	10,486.38	8,853.00	36.30	36.95	116.57	-142.96	1,797.42	737.77	669.79	67.98	10.853	
10,000.00	8,523.00	10,586.38	8,853.00	36.92	37.58	116.57	-142.30	1,897.42	737.77	668.66	69.11	10.676	
10,100.00	8,523.00	10,686.38	8,853.00	37.56	38.22	116.57	-141.64	1,997.42	737.77	667.49	70.28	10.498	
10,200.00	8,523.00	10,786.38	8,853.00	38.22	38.89	116.57	-140.98	2,097.41	737.77	666.28	71.49	10.320	
10,300.00	8,523.00	10,886.38	8,853.00	38.90	39.58	116.57	-140.31	2,197.41	737.77	665.03	72.74	10.142	
10,400.00	8,523.00	10,986.38	8,853.00	39.61	40.29	116.57	-139.65	2,297.41	737.77	663.74	74.03	9.966	
10,500.00	8,523.00	11,086.38	8,853.00	40.33	41.01	116.57	-138.99	2,397.41	737.77	662.42	75.35	9.791	
10,600.00	8,523.00	11,186.38	8,853.00	41.07	41.76	116.57	-138.33	2,497.41	737.77	661.07	76.70	9.618	
10,700.00	8,523.00	11,286.38	8,853.00	41.82	42.52	116.57	-137.66	2,597.40	737.78	659.69	78.09	9.448	
10,800.00	8,523.00	11,386.38	8,853.00	42.60	43.30	116.57	-137.00	2,697.40	737.78	658.27	79.50	9.280	
10,900.00	8,523.00	11,486.38	8,853.00	43.38	44.09	116.57	-136.34	2,797.40	737.78	656.84	80.94	9.115	
11,000.00	8,523.00	11,586.38	8,853.00	44.19	44.89	116.57	-135.67	2,897.40	737.78	655.37	82.41	8.953	
11,100.00	8,523.00	11,686.38	8,853.00	45.00	45.71	116.57	-135.01	2,997.39	737.78	653.88	83.90	8.793	
11,200.00	8,523.00	11,786.38	8,853.00	45.83	46.54	116.57	-134.35	3,097.39	737.78	652.36	85.42	8.637	
11,300.00	8,523.00	11,886.38	8,853.00	46.67	47.39	116.57	-133.69	3,197.39	737.78	650.83	86.95	8.485	
11,400.00	8,523.00	11,986.38	8,853.00	47.53	48.24	116.57	-133.02	3,297.39	737.78	649.27	88.51	8.335	
11,500.00	8,523.00	12,086.38	8,853.00	48.39	49.11	116.57	-132.36	3,397.39	737.78	647.69	90.09	8.189	
11,600.00	8,523.00	12,186.38	8,853.00	49.26	49.98	116.57	-131.70	3,497.38	737.78	646.10	91.69	8.047	
11,700.00	8,523.00	12,286.38	8,853.00	50.15	50.87	116.57	-131.04	3,597.38	737.79	644.48	93.30	7.907	
11,800.00	8,523.00	12,386.38	8,853.00	51.04	51.76	116.57	-130.37	3,697.38	737.79	642.85	94.94	7.771	
11,900.00	8,523.00	12,486.38	8,853.00	51.94	52.66	116.57	-129.71	3,797.38	737.79	641.20	96.58	7.639	
12,000.00	8,523.00	12,586.38	8,853.00	52.85	53.58	116.57	-129.05	3,897.38	737.79	639.54	98.25	7.509	
12,100.00	8,523.00	12,686.38	8,853.00	53.77	54.50	116.57	-128.38	3,997.37	737.79	637.86	99.93	7.383	
12,200.00	8,523.00	12,786.38	8,853.00	54.70	55.42	116.57	-127.72	4,097.37	737.79	636.17	101.62	7.260	
12,300.00	8,523.00	12,886.38	8,853.00	55.63	56.36	116.57	-127.06	4,197.37	737.79	634.47	103.33	7.140	
12,400.00	8,523.00	12,986.38	8,853.00	56.57	57.30	116.57	-126.40	4,297.37	737.79	632.75	105.04	7.024	
12,500.00	8,523.00	13,086.38	8,853.00	57.52	58.24	116.57	-125.73	4,397.36	737.79	631.02	106.78	6.910	
12,600.00	8,523.00	13,186.38	8,853.00	58.47	59.20	116.57	-125.07	4,497.36	737.80	629.28	108.52	6.799	
12,700.00	8,523.00	13,286.38	8,853.00	59.43	60.16	116.57	-124.41	4,597.36	737.80	627.53	110.27	6.691	
12,800.00	8,523.00	13,386.38	8,853.00	60.39	61.12	116.57	-123.75	4,697.36	737.80	625.76	112.03	6.586	
12,900.00	8,523.00	13,486.38	8,853.00	61.36	62.09	116.57	-123.08	4,797.36	737.80	623.99	113.81	6.483	
13,000.00	8,523.00	13,586.38	8,853.00	62.34	63.07	116.57	-122.42	4,897.35	737.80	622.21	115.59	6.383	
13,100.00	8,523.00	13,686.38	8,853.00	63.32	64.05	116.57	-121.76	4,997.35	737.80	620.42	117.38	6.286	
13,200.00	8,523.00	13,786.38	8,853.00	64.30	65.03	116.57	-121.09	5,097.35	737.80	618.62	119.18	6.191	
13,300.00	8,523.00	13,886.38	8,853.00	65.29	66.02	116.57	-120.43	5,197.35	737.80	616.82	120.99	6.098	
13,400.00	8,523.00	13,986.38	8,853.00	66.29	67.01	116.57	-119.77	5,297.34	737.80	615.00	122.80	6.008	
13,500.00	8,523.00	14,086.38	8,853.00	67.28	68.01	116.57	-119.11	5,397.34	737.80	613.18	124.63	5.920	
13,600.00	8,523.00	14,186.38	8,853.00	68.28	69.01	116.57	-118.44	5,497.34	737.81	611.35	126.46	5.834	
13,700.00	8,523.00	14,286.38	8,853.00	69.29	70.01	116.57	-117.78	5,597.34	737.81	609.51	128.29	5.751	
13,800.00	8,523.00	14,386.38	8,853.00	70.30	71.02	116.57	-117.12	5,697.34	737.81	607.67	130.14	5.669	
13,900.00	8,523.00	14,486.38	8,853.00	71.31	72.03	116.57	-116.46	5,797.33	737.81	605.82	131.99	5.590	
14,000.00	8,523.00	14,586.38	8,853.00	72.32	73.05	116.57	-115.79	5,897.33	737.81	603.97	133.84	5.512	
14,100.00	8,523.00	14,686.38	8,853.00	73.34	74.07	116.57	-115.13	5,997.33	737.81	602.10	135.71	5.437	
14,200.00	8,523.00	14,786.38	8,853.00	74.36	75.09	116.57	-114.47	6,097.33	737.81	600.24	137.57	5.363	
14,300.00	8,523.00	14,886.38	8,853.00	75.39	76.11	116.57	-113.80	6,197.32	737.81	598.37	139.45	5.291	
14,400.00	8,523.00	14,986.38	8,853.00	76.41	77.14	116.57	-113.14	6,297.32	737.81	596.49	141.32	5.221	
14,500.00	8,523.00	15,086.38	8,853.00	77.44	78.16	116.57	-112.48	6,397.32	737.82	594.61	143.21	5.152	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B02) Koala 9 Fed Com 204H - Permit - APD-Revv00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,600.00	8,523.00	15,186.38	8,853.00	78.47	79.20	116.57	-111.82	6,497.32	737.82	592.72	145.10	5.085	
14,700.00	8,523.00	15,286.38	8,853.00	79.51	80.23	116.57	-111.15	6,597.32	737.82	590.83	146.99	5.020	
14,800.00	8,523.00	15,386.38	8,853.00	80.55	81.27	116.57	-110.49	6,697.31	737.82	588.93	148.88	4.956	
14,900.00	8,523.00	15,486.38	8,853.00	81.58	82.30	116.57	-109.83	6,797.31	737.82	587.04	150.78	4.893	
15,000.00	8,523.00	15,586.38	8,853.00	82.63	83.35	116.57	-109.17	6,897.31	737.82	585.13	152.69	4.832	
15,100.00	8,523.00	15,686.38	8,853.00	83.67	84.39	116.57	-108.50	6,997.31	737.82	583.22	154.60	4.773	
15,200.00	8,523.00	15,786.38	8,853.00	84.71	85.43	116.57	-107.84	7,097.30	737.82	581.31	156.51	4.714	
15,300.00	8,523.00	15,886.38	8,853.00	85.76	86.48	116.57	-107.18	7,197.30	737.82	579.40	158.43	4.657	
15,400.00	8,523.00	15,986.38	8,853.00	86.81	87.53	116.57	-106.51	7,297.30	737.83	577.48	160.35	4.601	
15,500.00	8,523.00	16,086.38	8,853.00	87.86	88.58	116.57	-105.85	7,397.30	737.83	575.56	162.27	4.547	
15,600.00	8,523.00	16,186.38	8,853.00	88.91	89.63	116.57	-105.19	7,497.30	737.83	573.63	164.20	4.494	
15,700.00	8,523.00	16,286.38	8,853.00	89.97	90.68	116.57	-104.53	7,597.29	737.83	571.70	166.12	4.441	
15,800.00	8,523.00	16,386.38	8,853.00	91.02	91.74	116.57	-103.86	7,697.29	737.83	569.77	168.06	4.390	
15,900.00	8,523.00	16,486.38	8,853.00	92.08	92.80	116.57	-103.20	7,797.29	737.83	567.84	169.99	4.340	
16,000.00	8,523.00	16,586.38	8,853.00	93.14	93.85	116.57	-102.54	7,897.29	737.83	565.90	171.93	4.291	
16,100.00	8,523.00	16,686.38	8,853.00	94.20	94.91	116.57	-101.87	7,997.29	737.83	563.96	173.87	4.244	
16,200.00	8,523.00	16,786.38	8,853.00	95.26	95.98	116.57	-101.21	8,097.28	737.83	562.02	175.81	4.197	
16,300.00	8,523.00	16,886.38	8,853.00	96.32	97.04	116.57	-100.55	8,197.28	737.83	560.07	177.76	4.151	
16,400.00	8,523.00	16,986.38	8,853.00	97.39	98.10	116.57	-99.89	8,297.28	737.84	558.13	179.71	4.106	
16,500.00	8,523.00	17,086.38	8,853.00	98.45	99.17	116.57	-99.22	8,397.28	737.84	556.18	181.66	4.062	
16,600.00	8,523.00	17,186.38	8,853.00	99.52	100.23	116.57	-98.56	8,497.27	737.84	554.23	183.61	4.018	
16,700.00	8,523.00	17,286.38	8,853.00	100.59	101.30	116.57	-97.90	8,597.27	737.84	552.27	185.57	3.976	
16,800.00	8,523.00	17,386.38	8,853.00	101.66	102.37	116.57	-97.24	8,697.27	737.84	550.31	187.53	3.935	
16,900.00	8,523.00	17,486.38	8,853.00	102.73	103.44	116.57	-96.57	8,797.27	737.84	548.36	189.49	3.894	
17,000.00	8,523.00	17,586.38	8,853.00	103.80	104.51	116.57	-95.91	8,897.27	737.84	546.40	191.45	3.854	
17,100.00	8,523.00	17,686.38	8,853.00	104.87	105.58	116.57	-95.25	8,997.26	737.84	544.43	193.41	3.815	
17,200.00	8,523.00	17,786.38	8,853.00	105.95	106.66	116.57	-94.58	9,097.26	737.84	542.47	195.38	3.777	
17,300.00	8,523.00	17,886.38	8,853.00	107.02	107.73	116.57	-93.92	9,197.26	737.85	540.50	197.34	3.739	
17,400.00	8,523.00	17,986.38	8,853.00	108.10	108.81	116.57	-93.26	9,297.26	737.85	538.53	199.31	3.702	
17,500.00	8,523.00	18,086.38	8,853.00	109.17	109.88	116.57	-92.60	9,397.25	737.85	536.56	201.28	3.666	
17,600.00	8,523.00	18,186.38	8,853.00	110.25	110.96	116.57	-91.93	9,497.25	737.85	534.59	203.26	3.630	
17,700.00	8,523.00	18,286.38	8,853.00	111.33	112.04	116.57	-91.27	9,597.25	737.85	532.62	205.23	3.595	
17,800.00	8,523.00	18,386.38	8,853.00	112.41	113.12	116.57	-90.61	9,697.25	737.85	530.64	207.21	3.561	
17,900.00	8,523.00	18,486.38	8,853.00	113.49	114.20	116.57	-89.95	9,797.25	737.85	528.67	209.18	3.527	
18,000.00	8,523.00	18,586.38	8,853.00	114.57	115.28	116.57	-89.28	9,897.24	737.85	526.69	211.16	3.494	
18,100.00	8,523.00	18,686.38	8,853.00	115.65	116.36	116.57	-88.62	9,997.24	737.85	524.71	213.14	3.462	
18,200.00	8,523.00	18,786.38	8,853.00	116.73	117.44	116.57	-87.96	10,097.24	737.85	522.73	215.13	3.430	
18,300.00	8,523.00	18,886.38	8,853.00	117.82	118.52	116.57	-87.29	10,197.24	737.86	520.75	217.11	3.399	
18,400.00	8,523.00	18,986.38	8,853.00	118.90	119.60	116.57	-86.63	10,297.23	737.86	518.76	219.09	3.368	
18,500.00	8,523.00	19,086.38	8,853.00	119.98	120.69	116.57	-85.97	10,397.23	737.86	516.78	221.08	3.338	
18,600.00	8,523.00	19,186.38	8,853.00	121.07	121.77	116.57	-85.31	10,497.23	737.86	514.79	223.07	3.308	
18,700.00	8,523.00	19,286.38	8,853.00	122.16	122.86	116.57	-84.64	10,597.23	737.86	512.80	225.06	3.279	
18,800.00	8,523.00	19,386.38	8,853.00	123.24	123.94	116.57	-83.98	10,697.23	737.86	510.82	227.05	3.250	
18,900.00	8,523.00	19,486.38	8,853.00	124.33	125.03	116.57	-83.32	10,797.22	737.86	508.83	229.04	3.222	
18,907.45	8,523.00	19,493.82	8,853.00	124.41	125.11	116.57	-83.27	10,804.67	737.86	508.68	229.18	3.220	
19,009.61	8,523.00	19,583.50	8,853.00	125.52	126.08	116.57	-82.67	10,894.35	737.97	506.92	231.05	3.194	SF

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B04) Koala 9 Fed Com 134H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
300.00	300.00	300.00	300.00	0.84	0.84	89.96	0.02	29.96	29.96	28.28	1.68	17.782	
400.00	400.00	400.00	400.00	1.20	1.20	89.96	0.02	29.96	29.96	27.56	2.40	12.474	
500.00	500.00	500.00	500.00	1.56	1.56	89.96	0.02	29.96	29.96	26.84	3.12	9.607	
600.00	600.00	600.00	600.00	1.92	1.92	89.96	0.02	29.96	29.96	26.12	3.84	7.811	
700.00	700.00	700.00	700.00	2.28	2.28	89.96	0.02	29.96	29.96	25.41	4.55	6.581	
800.00	800.00	800.00	800.00	2.63	2.63	89.96	0.02	29.96	29.96	24.69	5.27	5.686	
900.00	900.00	900.00	900.00	2.99	2.99	89.96	0.02	29.96	29.96	23.97	5.99	5.005	
1,000.00	1,000.00	1,000.00	1,000.00	3.35	3.35	89.96	0.02	29.96	29.96	23.26	6.70	4.469	
1,100.00	1,100.00	1,100.00	1,100.00	3.71	3.71	89.96	0.02	29.96	29.96	22.54	7.42	4.038	
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	89.96	0.02	29.96	29.96	21.82	8.14	3.682	CC
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	89.96	0.02	29.96	29.96	21.82	8.14	3.682	
1,300.00	1,299.99	1,299.98	1,299.97	4.43	4.41	99.79	-1.29	29.88	30.10	21.27	8.84	3.407	ES
1,400.00	1,399.91	1,399.55	1,399.46	4.79	4.74	113.86	-5.18	29.64	31.84	22.32	9.52	3.345	SF
1,500.00	1,499.69	1,498.32	1,498.01	5.14	5.06	132.27	-11.60	29.25	38.24	28.05	10.20	3.751	
1,600.00	1,599.27	1,595.88	1,595.18	5.50	5.39	148.02	-20.44	28.71	51.49	40.63	10.86	4.740	
1,663.83	1,662.69	1,657.37	1,656.27	5.73	5.60	155.39	-27.28	28.30	63.57	52.29	11.28	5.635	
1,700.00	1,698.59	1,691.93	1,690.57	5.86	5.71	158.72	-31.55	28.04	71.43	59.91	11.52	6.203	
1,800.00	1,797.86	1,788.34	1,786.12	6.22	6.04	165.28	-44.39	27.26	94.85	82.67	12.18	7.789	
1,900.00	1,897.12	1,885.10	1,882.01	6.57	6.37	169.26	-57.33	26.47	119.04	106.19	12.85	9.264	
2,000.00	1,996.39	1,981.87	1,977.90	6.93	6.71	171.89	-70.28	25.68	143.60	130.08	13.53	10.616	
2,100.00	2,095.65	2,078.63	2,073.79	7.28	7.05	173.75	-83.22	24.89	168.36	154.16	14.21	11.852	
2,200.00	2,194.91	2,175.39	2,169.68	7.64	7.39	175.14	-96.16	24.11	193.25	178.36	14.89	12.981	
2,300.00	2,294.18	2,272.15	2,265.57	8.00	7.73	176.20	-109.10	23.32	218.21	202.64	15.57	14.016	
2,400.00	2,393.44	2,368.91	2,361.46	8.36	8.08	177.05	-122.05	22.53	243.23	226.98	16.25	14.965	
2,500.00	2,492.70	2,465.68	2,457.35	8.72	8.42	177.74	-134.99	21.74	268.30	251.36	16.94	15.839	
2,600.00	2,591.97	2,562.44	2,553.24	9.08	8.77	178.32	-147.93	20.95	293.39	275.76	17.63	16.645	
2,700.00	2,691.23	2,659.20	2,649.13	9.44	9.12	178.80	-160.87	20.17	318.51	300.19	18.31	17.391	
2,800.00	2,790.49	2,755.96	2,745.02	9.81	9.47	179.21	-173.82	19.38	343.64	324.64	19.00	18.084	
2,900.00	2,889.76	2,852.73	2,840.91	10.17	9.82	179.57	-186.76	18.59	368.79	349.10	19.69	18.728	
3,000.00	2,989.02	2,949.49	2,936.80	10.53	10.18	179.88	-199.70	17.80	393.95	373.57	20.38	19.328	
3,100.00	3,088.29	3,046.25	3,032.69	10.89	10.53	-179.85	-212.65	17.02	419.12	398.05	21.07	19.888	
3,200.00	3,187.55	3,143.01	3,128.57	11.25	10.88	-179.61	-225.59	16.23	444.30	422.53	21.77	20.413	
3,300.00	3,286.81	3,239.78	3,224.46	11.61	11.24	-179.39	-238.53	15.44	469.48	447.03	22.46	20.905	
3,400.00	3,386.08	3,336.54	3,320.35	11.98	11.59	-179.20	-251.47	14.65	494.67	471.52	23.15	21.368	
3,500.00	3,485.34	3,433.30	3,416.24	12.34	11.95	-179.02	-264.42	13.86	519.87	496.03	23.84	21.804	
3,600.00	3,584.60	3,530.06	3,512.13	12.70	12.30	-178.86	-277.36	13.08	545.07	520.53	24.54	22.214	
3,700.00	3,683.87	3,626.82	3,608.02	13.06	12.66	-178.72	-290.30	12.29	570.27	545.04	25.23	22.602	
3,800.00	3,783.13	3,723.59	3,703.91	13.43	13.01	-178.58	-303.24	11.50	595.48	569.55	25.93	22.969	
3,900.00	3,882.39	3,820.35	3,799.80	13.79	13.37	-178.46	-316.19	10.71	620.69	594.07	26.62	23.317	
4,000.00	3,981.66	3,917.11	3,895.69	14.15	13.73	-178.35	-329.13	9.92	645.90	618.58	27.31	23.646	
4,100.00	4,080.92	4,013.87	3,991.58	14.51	14.09	-178.25	-342.07	9.14	671.11	643.10	28.01	23.959	
4,200.00	4,180.19	4,110.64	4,087.47	14.88	14.44	-178.15	-355.01	8.35	696.33	667.62	28.71	24.257	
4,300.00	4,279.45	4,207.40	4,183.36	15.24	14.80	-178.06	-367.96	7.56	721.54	692.14	29.40	24.541	
4,400.00	4,378.71	4,304.16	4,279.25	15.60	15.16	-177.98	-380.90	6.77	746.76	716.66	30.10	24.811	
8,000.00	7,947.76	8,001.60	7,947.76	28.35	28.79	88.22	-821.41	-20.04	1,403.40	1,347.18	56.21	24.965	
8,050.00	7,988.59	8,051.88	7,997.98	28.47	28.95	89.42	-821.37	-18.03	1,402.50	1,345.97	56.53	24.810	
8,100.00	8,026.76	8,105.74	8,051.36	28.58	29.13	90.69	-821.25	-11.01	1,401.77	1,344.93	56.84	24.660	
8,150.00	8,061.96	8,163.36	8,107.46	28.70	29.31	92.00	-821.03	2.01	1,401.21	1,344.06	57.15	24.517	
8,200.00	8,093.94	8,225.42	8,166.10	28.84	29.50	93.37	-820.67	22.25	1,400.77	1,343.33	57.44	24.386	
8,250.00	8,122.44	8,292.68	8,226.77	28.98	29.69	94.78	-820.17	51.21	1,400.39	1,342.68	57.71	24.267	
8,272.73	8,134.20	8,325.20	8,254.78	29.04	29.77	95.43	-819.88	67.71	1,400.21	1,342.39	57.81	24.219	
8,300.00	8,147.72	8,366.35	8,288.81	29.12	29.87	96.24	-819.47	90.82	1,399.93	1,341.99	57.94	24.163	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B04) Koala 9 Fed Com 134H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Rule Assigned: Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
8,400.00	8,195.40	8,538.04	8,410.11	29.40	30.20	98.55	-817.37	211.40	1,397.16	1,338.82	58.34	23.950	
8,500.00	8,240.02	8,726.14	8,495.65	29.71	30.40	99.04	-814.46	377.95	1,389.82	1,331.00	58.82	23.628	
8,600.00	8,281.54	8,899.94	8,522.98	30.04	30.57	97.61	-811.48	548.89	1,377.75	1,318.18	59.57	23.129	
8,700.00	8,319.91	8,979.09	8,523.00	30.40	30.70	96.74	-810.74	628.03	1,365.58	1,305.27	60.31	22.643	
8,800.00	8,355.06	9,072.55	8,523.00	30.78	30.91	95.70	-810.12	721.49	1,355.55	1,294.45	61.09	22.189	
8,900.00	8,386.98	9,167.19	8,523.00	31.18	31.16	94.71	-809.50	816.13	1,347.19	1,285.29	61.90	21.765	
9,000.00	8,415.60	9,262.91	8,523.00	31.60	31.46	93.78	-808.86	911.85	1,340.31	1,277.58	62.73	21.366	
9,100.00	8,440.91	9,359.57	8,523.00	32.05	31.80	92.93	-808.22	1,008.51	1,334.72	1,271.13	63.60	20.988	
9,200.00	8,462.86	9,457.07	8,523.00	32.52	32.17	92.18	-807.57	1,106.01	1,330.26	1,265.76	64.50	20.625	
9,300.00	8,481.43	9,555.29	8,523.00	33.01	32.59	91.52	-806.92	1,204.22	1,326.76	1,261.32	65.44	20.276	
9,400.00	8,496.61	9,654.10	8,523.00	33.52	33.03	90.97	-806.27	1,303.03	1,324.09	1,257.67	66.42	19.936	
9,500.00	8,508.36	9,753.38	8,523.00	34.04	33.52	90.54	-805.61	1,402.31	1,322.14	1,254.70	67.44	19.606	
9,600.00	8,516.68	9,853.02	8,523.00	34.59	34.03	90.24	-804.95	1,501.95	1,320.82	1,252.32	68.50	19.282	
9,700.00	8,521.56	9,952.90	8,523.00	35.14	34.57	90.05	-804.29	1,601.82	1,320.08	1,250.47	69.61	18.965	
9,791.21	8,523.00	10,044.09	8,523.00	35.66	35.09	90.00	-803.68	1,693.01	1,319.86	1,249.21	70.65	18.683	
9,791.36	8,523.00	10,044.24	8,523.00	35.66	35.09	90.00	-803.68	1,693.16	1,319.86	1,249.21	70.65	18.682	
9,800.00	8,523.00	10,052.88	8,523.00	35.71	35.14	90.00	-803.62	1,701.80	1,319.86	1,249.11	70.75	18.656	
9,900.00	8,523.00	10,152.88	8,523.00	36.30	35.74	90.00	-802.96	1,801.80	1,319.86	1,247.92	71.94	18.347	
10,000.00	8,523.00	10,252.88	8,523.00	36.92	36.36	90.00	-802.30	1,901.80	1,319.86	1,246.68	73.18	18.037	
10,100.00	8,523.00	10,352.88	8,523.00	37.56	37.01	90.00	-801.63	2,001.80	1,319.86	1,245.40	74.46	17.725	
10,200.00	8,523.00	10,452.88	8,523.00	38.22	37.67	90.00	-800.97	2,101.79	1,319.86	1,244.07	75.79	17.414	
10,300.00	8,523.00	10,552.88	8,523.00	38.90	38.36	90.00	-800.31	2,201.79	1,319.86	1,242.70	77.17	17.104	
10,400.00	8,523.00	10,652.88	8,523.00	39.61	39.07	90.00	-799.64	2,301.79	1,319.86	1,241.28	78.58	16.797	
10,500.00	8,523.00	10,752.88	8,523.00	40.33	39.80	90.00	-798.98	2,401.79	1,319.86	1,239.83	80.03	16.492	
10,600.00	8,523.00	10,852.88	8,523.00	41.07	40.55	90.00	-798.32	2,501.78	1,319.87	1,238.35	81.52	16.191	
10,700.00	8,523.00	10,952.88	8,523.00	41.82	41.31	90.00	-797.66	2,601.78	1,319.87	1,236.83	83.04	15.895	
10,800.00	8,523.00	11,052.88	8,523.00	42.60	42.09	90.00	-796.99	2,701.78	1,319.87	1,235.28	84.59	15.603	
10,900.00	8,523.00	11,152.88	8,523.00	43.38	42.88	90.00	-796.33	2,801.78	1,319.87	1,233.69	86.18	15.316	
11,000.00	8,523.00	11,252.88	8,523.00	44.19	43.69	90.00	-795.67	2,901.78	1,319.87	1,232.08	87.79	15.035	
11,100.00	8,523.00	11,352.88	8,523.00	45.00	44.51	90.00	-795.00	3,001.77	1,319.87	1,230.44	89.43	14.759	
11,200.00	8,523.00	11,452.88	8,523.00	45.83	45.35	90.00	-794.34	3,101.77	1,319.87	1,228.78	91.09	14.489	
11,300.00	8,523.00	11,552.88	8,523.00	46.67	46.20	90.00	-793.68	3,201.77	1,319.87	1,227.09	92.78	14.225	
11,400.00	8,523.00	11,652.88	8,523.00	47.53	47.06	90.00	-793.01	3,301.77	1,319.87	1,225.38	94.50	13.968	
11,500.00	8,523.00	11,752.88	8,523.00	48.39	47.93	90.00	-792.35	3,401.77	1,319.87	1,223.64	96.23	13.716	
11,600.00	8,523.00	11,852.88	8,523.00	49.26	48.81	90.00	-791.69	3,501.76	1,319.87	1,221.89	97.99	13.470	
11,700.00	8,523.00	11,952.88	8,523.00	50.15	49.70	90.00	-791.02	3,601.76	1,319.87	1,220.11	99.76	13.230	
11,800.00	8,523.00	12,052.88	8,523.00	51.04	50.59	90.00	-790.36	3,701.76	1,319.87	1,218.32	101.55	12.997	
11,900.00	8,523.00	12,152.88	8,523.00	51.94	51.50	90.00	-789.70	3,801.76	1,319.88	1,216.51	103.37	12.769	
12,000.00	8,523.00	12,252.88	8,523.00	52.85	52.42	90.00	-789.04	3,901.75	1,319.88	1,214.68	105.19	12.547	
12,100.00	8,523.00	12,352.88	8,523.00	53.77	53.34	90.00	-788.37	4,001.75	1,319.88	1,212.84	107.04	12.331	
12,200.00	8,523.00	12,452.88	8,523.00	54.70	54.27	90.00	-787.71	4,101.75	1,319.88	1,210.98	108.90	12.121	
12,300.00	8,523.00	12,552.88	8,523.00	55.63	55.21	90.00	-787.05	4,201.75	1,319.88	1,209.11	110.77	11.916	
12,400.00	8,523.00	12,652.88	8,523.00	56.57	56.16	90.00	-786.38	4,301.75	1,319.88	1,207.22	112.66	11.716	
12,500.00	8,523.00	12,752.88	8,523.00	57.52	57.11	90.00	-785.72	4,401.74	1,319.88	1,205.33	114.55	11.522	
12,600.00	8,523.00	12,852.88	8,523.00	58.47	58.07	90.00	-785.06	4,501.74	1,319.88	1,203.42	116.47	11.333	
12,700.00	8,523.00	12,952.88	8,523.00	59.43	59.03	90.00	-784.39	4,601.74	1,319.88	1,201.49	118.39	11.149	
12,800.00	8,523.00	13,052.88	8,523.00	60.39	60.00	90.00	-783.73	4,701.74	1,319.88	1,199.56	120.32	10.969	
12,900.00	8,523.00	13,152.88	8,523.00	61.36	60.97	90.00	-783.07	4,801.73	1,319.88	1,197.61	122.27	10.795	
13,000.00	8,523.00	13,252.88	8,523.00	62.34	61.95	90.00	-782.40	4,901.73	1,319.88	1,195.66	124.22	10.625	
13,100.00	8,523.00	13,352.88	8,523.00	63.32	62.94	90.00	-781.74	5,001.73	1,319.89	1,193.70	126.19	10.460	
13,200.00	8,523.00	13,452.88	8,523.00	64.30	63.92	90.00	-781.08	5,101.73	1,319.89	1,191.72	128.16	10.299	
13,300.00	8,523.00	13,552.88	8,523.00	65.29	64.92	90.00	-780.41	5,201.73	1,319.89	1,189.74	130.15	10.142	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B04) Koala 9 Fed Com 134H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
13,400.00	8,523.00	13,652.88	8,523.00	66.29	65.91	90.00	-779.75	5,301.72	1,319.89	1,187.75	132.14	9.989	
13,500.00	8,523.00	13,752.88	8,523.00	67.28	66.92	90.00	-779.09	5,401.72	1,319.89	1,185.75	134.14	9.840	
13,600.00	8,523.00	13,852.88	8,523.00	68.28	67.92	90.00	-778.43	5,501.72	1,319.89	1,183.75	136.14	9.695	
13,700.00	8,523.00	13,952.88	8,523.00	69.29	68.93	90.00	-777.76	5,601.72	1,319.89	1,181.73	138.16	9.554	
13,800.00	8,523.00	14,052.88	8,523.00	70.30	69.94	90.00	-777.10	5,701.71	1,319.89	1,179.71	140.18	9.416	
13,900.00	8,523.00	14,152.88	8,523.00	71.31	70.96	90.00	-776.44	5,801.71	1,319.89	1,177.69	142.20	9.282	
14,000.00	8,523.00	14,252.88	8,523.00	72.32	71.97	90.00	-775.77	5,901.71	1,319.89	1,175.65	144.24	9.151	
14,100.00	8,523.00	14,352.88	8,523.00	73.34	73.00	90.00	-775.11	6,001.71	1,319.89	1,173.61	146.28	9.023	
14,200.00	8,523.00	14,452.88	8,523.00	74.36	74.02	90.00	-774.45	6,101.71	1,319.89	1,171.57	148.32	8.899	
14,300.00	8,523.00	14,552.88	8,523.00	75.39	75.05	90.00	-773.78	6,201.70	1,319.89	1,169.52	150.38	8.777	
14,400.00	8,523.00	14,652.88	8,523.00	76.41	76.08	90.00	-773.12	6,301.70	1,319.90	1,167.46	152.43	8.659	
14,500.00	8,523.00	14,752.88	8,523.00	77.44	77.11	90.00	-772.46	6,401.70	1,319.90	1,165.40	154.50	8.543	
14,600.00	8,523.00	14,852.88	8,523.00	78.47	78.14	90.00	-771.79	6,501.70	1,319.90	1,163.33	156.56	8.430	
14,700.00	8,523.00	14,952.88	8,523.00	79.51	79.18	90.00	-771.13	6,601.69	1,319.90	1,161.26	158.64	8.320	
14,800.00	8,523.00	15,052.88	8,523.00	80.55	80.22	90.00	-770.47	6,701.69	1,319.90	1,159.19	160.71	8.213	
14,900.00	8,523.00	15,152.88	8,523.00	81.58	81.26	90.00	-769.80	6,801.69	1,319.90	1,157.11	162.79	8.108	
15,000.00	8,523.00	15,252.88	8,523.00	82.63	82.31	90.00	-769.14	6,901.69	1,319.90	1,155.02	164.88	8.005	
15,100.00	8,523.00	15,352.88	8,523.00	83.67	83.35	90.00	-768.48	7,001.69	1,319.90	1,152.93	166.97	7.905	
15,200.00	8,523.00	15,452.88	8,523.00	84.71	84.40	90.00	-767.82	7,101.68	1,319.90	1,150.84	169.06	7.807	
15,300.00	8,523.00	15,552.88	8,523.00	85.76	85.45	90.00	-767.15	7,201.68	1,319.90	1,148.74	171.16	7.712	
15,400.00	8,523.00	15,652.88	8,523.00	86.81	86.50	90.00	-766.49	7,301.68	1,319.90	1,146.64	173.26	7.618	
15,500.00	8,523.00	15,752.88	8,523.00	87.86	87.55	90.00	-765.83	7,401.68	1,319.90	1,144.54	175.36	7.527	
15,600.00	8,523.00	15,852.88	8,523.00	88.91	88.61	90.00	-765.16	7,501.68	1,319.91	1,142.43	177.47	7.437	
15,700.00	8,523.00	15,952.88	8,523.00	89.97	89.66	90.00	-764.50	7,601.67	1,319.91	1,140.32	179.58	7.350	
15,800.00	8,523.00	16,052.88	8,523.00	91.02	90.72	90.00	-763.84	7,701.67	1,319.91	1,138.21	181.70	7.264	
15,900.00	8,523.00	16,152.88	8,523.00	92.08	91.78	90.00	-763.17	7,801.67	1,319.91	1,136.09	183.82	7.181	
16,000.00	8,523.00	16,252.88	8,523.00	93.14	92.84	90.00	-762.51	7,901.67	1,319.91	1,133.97	185.94	7.099	
16,100.00	8,523.00	16,352.88	8,523.00	94.20	93.91	90.00	-761.85	8,001.66	1,319.91	1,131.85	188.06	7.019	
16,200.00	8,523.00	16,452.88	8,523.00	95.26	94.97	90.00	-761.18	8,101.66	1,319.91	1,129.72	190.19	6.940	
16,300.00	8,523.00	16,552.88	8,523.00	96.32	96.04	90.00	-760.52	8,201.66	1,319.91	1,127.60	192.31	6.863	
16,400.00	8,523.00	16,652.88	8,523.00	97.39	97.10	90.00	-759.86	8,301.66	1,319.91	1,125.47	194.45	6.788	
16,500.00	8,523.00	16,752.88	8,523.00	98.45	98.17	90.00	-759.20	8,401.66	1,319.91	1,123.33	196.58	6.714	
16,600.00	8,523.00	16,852.88	8,523.00	99.52	99.24	90.00	-758.53	8,501.65	1,319.91	1,121.20	198.72	6.642	
16,700.00	8,523.00	16,952.88	8,523.00	100.59	100.31	90.00	-757.87	8,601.65	1,319.91	1,119.06	200.85	6.571	
16,800.00	8,523.00	17,052.88	8,523.00	101.66	101.38	90.00	-757.21	8,701.65	1,319.91	1,116.92	203.00	6.502	
16,900.00	8,523.00	17,152.88	8,523.00	102.73	102.45	90.00	-756.54	8,801.65	1,319.92	1,114.78	205.14	6.434	
17,000.00	8,523.00	17,252.88	8,523.00	103.80	103.53	90.00	-755.88	8,901.64	1,319.92	1,112.63	207.28	6.368	
17,100.00	8,523.00	17,352.88	8,523.00	104.87	104.60	90.00	-755.22	9,001.64	1,319.92	1,110.49	209.43	6.302	
17,200.00	8,523.00	17,452.88	8,523.00	105.95	105.67	90.00	-754.55	9,101.64	1,319.92	1,108.34	211.58	6.238	
17,300.00	8,523.00	17,552.88	8,523.00	107.02	106.75	90.00	-753.89	9,201.64	1,319.92	1,106.19	213.73	6.176	
17,400.00	8,523.00	17,652.88	8,523.00	108.10	107.83	90.00	-753.23	9,301.64	1,319.92	1,104.03	215.89	6.114	
17,500.00	8,523.00	17,752.88	8,523.00	109.17	108.91	90.00	-752.56	9,401.63	1,319.92	1,101.88	218.04	6.054	
17,600.00	8,523.00	17,852.88	8,523.00	110.25	109.99	90.00	-751.90	9,501.63	1,319.92	1,099.72	220.20	5.994	
17,700.00	8,523.00	17,952.88	8,523.00	111.33	111.07	90.00	-751.24	9,601.63	1,319.92	1,097.57	222.36	5.936	
17,800.00	8,523.00	18,052.88	8,523.00	112.41	112.15	90.00	-750.57	9,701.63	1,319.92	1,095.41	224.52	5.879	
17,900.00	8,523.00	18,152.88	8,523.00	113.49	113.23	90.00	-749.91	9,801.62	1,319.92	1,093.25	226.68	5.823	
18,000.00	8,523.00	18,252.88	8,523.00	114.57	114.31	90.00	-749.25	9,901.62	1,319.92	1,091.08	228.84	5.768	
18,100.00	8,523.00	18,352.88	8,523.00	115.65	115.39	90.00	-748.59	10,001.62	1,319.93	1,088.92	231.01	5.714	
18,200.00	8,523.00	18,452.88	8,523.00	116.73	116.48	90.00	-747.92	10,101.62	1,319.93	1,086.75	233.17	5.661	
18,300.00	8,523.00	18,552.88	8,523.00	117.82	117.56	90.00	-747.26	10,201.62	1,319.93	1,084.59	235.34	5.609	
18,400.00	8,523.00	18,652.88	8,523.00	118.90	118.65	90.00	-746.60	10,301.61	1,319.93	1,082.42	237.51	5.557	
18,500.00	8,523.00	18,752.88	8,523.00	119.98	119.73	90.00	-745.93	10,401.61	1,319.93	1,080.25	239.68	5.507	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B04) Koala 9 Fed Com 134H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Rule Assigned:

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
18,600.00	8,523.00	18,852.88	8,523.00	121.07	120.82	90.00	-745.27	10,501.61	1,319.93	1,078.08	241.85	5.458	
18,700.00	8,523.00	18,952.88	8,523.00	122.16	121.91	90.00	-744.61	10,601.61	1,319.93	1,075.90	244.03	5.409	
18,800.00	8,523.00	19,052.88	8,523.00	123.24	122.99	90.00	-743.94	10,701.60	1,319.93	1,073.73	246.20	5.361	
18,900.00	8,523.00	19,152.88	8,523.00	124.33	124.08	90.00	-743.28	10,801.60	1,319.93	1,071.56	248.38	5.314	
18,900.43	8,523.00	19,153.31	8,523.00	124.33	124.09	90.00	-743.28	10,802.03	1,319.93	1,071.55	248.38	5.314	
19,009.61	8,523.00	19,235.87	8,523.00	125.52	124.99	90.00	-742.73	10,884.59	1,320.20	1,069.74	250.46	5.271	

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B05) Koala 9 Fed Com 123H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2) **Rule Assigned:** **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
400.00	400.00	400.00	400.00	1.20	1.20	89.87	0.14	59.96	59.96	57.56	2.40	24.965	
500.00	500.00	500.00	500.00	1.56	1.56	89.87	0.14	59.96	59.96	56.84	3.12	19.226	
600.00	600.00	600.00	600.00	1.92	1.92	89.87	0.14	59.96	59.96	56.12	3.84	15.632	
700.00	700.00	700.00	700.00	2.28	2.28	89.87	0.14	59.96	59.96	55.41	4.55	13.171	
800.00	800.00	800.00	800.00	2.63	2.63	89.87	0.14	59.96	59.96	54.69	5.27	11.379	
900.00	900.00	900.00	900.00	2.99	2.99	89.87	0.14	59.96	59.96	53.97	5.99	10.016	
1,000.00	1,000.00	1,000.00	1,000.00	3.35	3.35	89.87	0.14	59.96	59.96	53.26	6.70	8.945	
1,100.00	1,100.00	1,100.00	1,100.00	3.71	3.71	89.87	0.14	59.96	59.96	52.54	7.42	8.080	
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	89.87	0.14	59.96	59.96	51.82	8.14	7.369 CC	
1,300.00	1,299.99	1,300.11	1,300.10	4.43	4.43	94.72	1.45	59.86	59.97	51.12	8.85	6.774	
1,400.00	1,399.91	1,400.23	1,400.14	4.79	4.79	94.72	5.37	59.57	60.01	50.44	9.57	6.272	
1,500.00	1,499.69	1,500.34	1,500.03	5.14	5.15	94.70	11.91	59.08	60.08	49.80	10.28	5.843	
1,600.00	1,599.27	1,600.45	1,599.72	5.50	5.50	94.69	21.05	58.39	60.17	49.17	10.99	5.473	
1,663.83	1,662.69	1,664.36	1,663.21	5.73	5.73	94.67	28.25	57.85	60.24	48.79	11.45	5.262	
1,700.00	1,698.59	1,700.57	1,699.13	5.86	5.86	94.50	32.80	57.51	60.27	48.56	11.70	5.149	
1,800.00	1,797.86	1,800.60	1,798.16	6.22	6.22	92.56	46.90	56.45	60.28	47.87	12.42	4.855	
1,900.00	1,897.12	1,900.57	1,897.07	6.57	6.57	90.20	61.42	55.36	60.37	47.24	13.13	4.597	
2,000.00	1,996.39	2,000.54	1,995.97	6.93	6.93	87.86	75.95	54.28	60.56	46.71	13.85	4.373	
2,100.00	2,095.65	2,100.51	2,094.87	7.28	7.28	85.54	90.47	53.19	60.85	46.28	14.57	4.177	
2,200.00	2,194.91	2,200.48	2,193.77	7.64	7.64	83.24	104.99	52.10	61.23	45.95	15.28	4.006	
2,300.00	2,294.18	2,300.45	2,292.68	8.00	8.00	80.97	119.51	51.01	61.72	45.71	16.00	3.856	
2,400.00	2,393.44	2,400.42	2,391.58	8.36	8.37	78.74	134.04	49.92	62.30	45.57	16.73	3.725	
2,500.00	2,492.70	2,500.39	2,490.48	8.72	8.73	76.56	148.56	48.83	62.97	45.52	17.45	3.609 ES	
2,600.00	2,591.97	2,600.35	2,589.39	9.08	9.09	74.42	163.08	47.74	63.73	45.56	18.17	3.508	
2,700.00	2,691.23	2,700.32	2,688.29	9.44	9.45	72.34	177.60	46.65	64.58	45.69	18.89	3.419	
2,800.00	2,790.49	2,800.29	2,787.19	9.81	9.81	70.32	192.13	45.56	65.51	45.90	19.61	3.340	
2,900.00	2,889.76	2,900.26	2,886.09	10.17	10.18	68.35	206.65	44.47	66.52	46.18	20.33	3.271	
3,000.00	2,989.02	3,000.23	2,985.00	10.53	10.54	66.45	221.17	43.38	67.60	46.55	21.06	3.210	
3,100.00	3,088.29	3,100.20	3,083.90	10.89	10.90	64.60	235.70	42.30	68.76	46.98	21.78	3.157	
3,200.00	3,187.55	3,200.17	3,182.80	11.25	11.27	62.83	250.22	41.21	69.99	47.49	22.50	3.110	
3,300.00	3,286.81	3,300.14	3,281.70	11.61	11.63	61.11	264.74	40.12	71.28	48.06	23.22	3.069	
3,400.00	3,386.08	3,400.11	3,380.61	11.98	12.00	59.45	279.26	39.03	72.64	48.69	23.95	3.033	
3,500.00	3,485.34	3,500.08	3,479.51	12.34	12.36	57.86	293.79	37.94	74.05	49.38	24.67	3.002	
3,600.00	3,584.60	3,600.05	3,578.41	12.70	12.73	56.33	308.31	36.85	75.52	50.13	25.39	2.974	
3,700.00	3,683.87	3,700.02	3,677.32	13.06	13.09	54.86	322.83	35.76	77.04	50.92	26.11	2.950	
3,800.00	3,783.13	3,799.99	3,776.22	13.43	13.46	53.44	337.35	34.67	78.60	51.77	26.84	2.929	
3,900.00	3,882.39	3,899.95	3,875.12	13.79	13.82	52.08	351.88	33.58	80.22	52.66	27.56	2.911	
4,000.00	3,981.66	3,999.92	3,974.02	14.15	14.19	50.78	366.40	32.49	81.88	53.60	28.28	2.895	
4,100.00	4,080.92	4,099.89	4,072.93	14.51	14.55	49.53	380.92	31.40	83.58	54.58	29.00	2.882	
4,200.00	4,180.19	4,199.86	4,171.83	14.88	14.92	48.33	395.45	30.31	85.31	55.59	29.72	2.870	
4,300.00	4,279.45	4,299.83	4,270.73	15.24	15.28	47.17	409.97	29.23	87.09	56.64	30.44	2.861	
4,400.00	4,378.71	4,399.80	4,369.63	15.60	15.65	46.07	424.49	28.14	88.89	57.73	31.16	2.852	
4,500.00	4,477.98	4,499.77	4,468.54	15.97	16.01	45.00	439.01	27.05	90.73	58.85	31.88	2.846	
4,600.00	4,577.24	4,599.74	4,567.44	16.33	16.38	43.98	453.54	25.96	92.60	59.99	32.61	2.840	
4,700.00	4,676.50	4,699.71	4,666.34	16.69	16.74	43.00	468.06	24.87	94.50	61.17	33.33	2.835	
4,800.00	4,775.77	4,799.68	4,765.25	17.05	17.11	42.06	482.58	23.78	96.42	62.37	34.05	2.832	
4,900.00	4,875.03	4,899.65	4,864.15	17.42	17.48	41.16	497.11	22.69	98.37	63.60	34.77	2.829	
5,000.00	4,974.29	4,999.62	4,963.05	17.78	17.84	40.29	511.63	21.60	100.34	64.85	35.49	2.827	
5,100.00	5,073.56	5,099.59	5,061.95	18.14	18.21	39.46	526.15	20.51	102.33	66.12	36.21	2.826	
5,200.00	5,172.82	5,199.55	5,160.86	18.51	18.57	38.66	540.67	19.42	104.35	67.42	36.93	2.825	
5,300.00	5,272.09	5,299.52	5,259.76	18.87	18.94	37.88	555.20	18.33	106.38	68.73	37.65	2.825	
5,400.00	5,371.35	5,399.49	5,358.66	19.23	19.31	37.14	569.72	17.25	108.43	70.06	38.37	2.826	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B05) Koala 9 Fed Com 123H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,500.00	5,470.61	5,499.46	5,457.56	19.60	19.67	36.43	584.24	16.16	110.50	71.41	39.09	2.827	
5,600.00	5,569.88	5,599.43	5,556.47	19.96	20.04	35.74	598.76	15.07	112.59	72.78	39.81	2.828	
5,700.00	5,669.14	5,699.40	5,655.37	20.32	20.40	35.07	613.29	13.98	114.69	74.16	40.53	2.830	
5,800.00	5,768.40	5,799.65	5,754.55	20.69	20.77	34.44	627.84	12.89	116.80	75.54	41.26	2.831	
5,900.00	5,867.67	5,902.27	5,856.30	21.05	21.15	34.25	641.09	11.89	117.57	75.56	42.01	2.799	
6,000.00	5,966.93	6,004.86	5,958.35	21.42	21.52	34.82	651.60	11.10	116.10	73.36	42.75	2.716	
6,070.90	6,037.31	6,077.50	6,030.75	21.67	21.78	35.71	657.40	10.67	113.74	70.48	43.26	2.629	
6,100.00	6,066.21	6,107.28	6,060.47	21.78	21.88	36.16	659.37	10.52	112.55	69.08	43.47	2.589	
6,200.00	6,165.70	6,209.53	6,162.59	22.14	22.25	37.78	664.40	10.14	108.48	64.30	44.17	2.456	
6,300.00	6,265.42	6,311.63	6,264.67	22.50	22.61	39.54	666.71	9.97	104.44	59.57	44.86	2.328	
6,400.00	6,365.30	6,412.27	6,365.30	22.86	22.96	41.21	666.87	9.96	100.87	55.30	45.57	2.214	
6,479.16	6,444.43	6,490.32	6,443.35	23.14	23.23	42.01	666.85	10.11	99.48	53.32	46.16	2.155	
6,500.00	6,465.27	6,509.56	6,462.57	23.21	23.30	42.49	666.72	10.87	99.69	53.35	46.33	2.151	SF
6,534.73	6,500.00	6,541.43	6,494.33	23.33	23.40	39.04	666.30	13.52	101.01	54.40	46.60	2.167	
6,600.00	6,565.27	6,600.00	6,552.09	23.56	23.59	43.51	664.79	22.92	106.74	59.75	46.99	2.272	
6,700.00	6,665.27	6,684.89	6,633.40	23.91	23.85	52.96	660.98	46.76	125.33	78.42	46.91	2.672	
6,800.00	6,765.27	6,761.16	6,702.70	24.27	24.07	62.04	655.96	78.07	157.93	112.20	45.73	3.454	
6,900.00	6,865.27	6,827.87	6,759.40	24.62	24.23	69.00	650.41	112.70	203.91	160.10	43.81	4.654	
7,000.00	6,965.27	6,885.23	6,804.62	24.97	24.36	73.94	644.84	147.52	260.88	219.18	41.69	6.257	
7,100.00	7,065.27	6,934.16	6,840.24	25.32	24.45	77.40	639.54	180.62	326.32	286.64	39.67	8.225	
7,200.00	7,165.27	6,975.81	6,868.22	25.68	24.52	79.86	634.66	211.07	398.22	360.35	37.87	10.515	
7,300.00	7,265.27	7,011.35	6,890.26	26.03	24.57	81.66	630.25	238.58	475.08	438.76	36.32	13.081	
7,400.00	7,365.27	7,050.00	6,912.23	26.38	24.67	83.36	625.22	269.98	555.89	520.49	35.41	15.700	
7,500.00	7,465.27	7,068.04	6,921.74	26.74	24.72	84.07	622.80	285.11	639.48	605.57	33.91	18.859	
7,600.00	7,565.27	7,100.00	6,937.71	27.09	24.80	85.19	618.45	312.46	725.35	692.00	33.35	21.748	
7,672.73	7,638.00	7,130.12	6,952.44	27.35	24.89	86.10	614.42	338.41	788.39	755.08	33.31	23.668	
7,700.00	7,665.26	7,140.91	6,957.65	27.44	24.93	-7.58	612.99	347.75	811.81	778.54	33.27	24.402	
12,600.00	8,523.00	11,353.49	7,328.00	58.47	55.75	0.00	534.83	4,492.99	1,195.00	1,146.85	48.15	24.820	
12,700.00	8,523.00	11,453.49	7,328.00	59.43	56.74	0.00	535.50	4,592.99	1,195.00	1,146.09	48.91	24.433	
12,800.00	8,523.00	11,553.49	7,328.00	60.39	57.74	0.00	536.16	4,692.98	1,195.00	1,145.32	49.68	24.056	
12,900.00	8,523.00	11,653.49	7,328.00	61.36	58.74	0.00	536.82	4,792.98	1,195.00	1,144.55	50.45	23.688	
13,000.00	8,523.00	11,753.49	7,328.00	62.34	59.74	0.00	537.49	4,892.98	1,195.00	1,143.77	51.22	23.328	
13,100.00	8,523.00	11,853.49	7,328.00	63.32	60.75	0.00	538.15	4,992.98	1,195.00	1,142.99	52.01	22.978	
13,200.00	8,523.00	11,953.49	7,328.00	64.30	61.76	0.00	538.81	5,092.97	1,195.00	1,142.21	52.79	22.637	
13,300.00	8,523.00	12,053.49	7,328.00	65.29	62.78	0.00	539.48	5,192.97	1,195.00	1,141.42	53.58	22.303	
13,400.00	8,523.00	12,153.49	7,328.00	66.29	63.80	0.00	540.14	5,292.97	1,195.00	1,140.63	54.37	21.978	
13,500.00	8,523.00	12,253.49	7,328.00	67.28	64.82	0.00	540.80	5,392.97	1,195.00	1,139.83	55.17	21.661	
13,600.00	8,523.00	12,353.49	7,328.00	68.28	65.85	0.00	541.47	5,492.97	1,195.00	1,139.03	55.97	21.352	
13,700.00	8,523.00	12,453.49	7,328.00	69.29	66.88	0.00	542.13	5,592.96	1,195.00	1,138.23	56.77	21.050	
13,800.00	8,523.00	12,553.49	7,328.00	70.30	67.91	0.00	542.79	5,692.96	1,195.00	1,137.42	57.58	20.755	
13,900.00	8,523.00	12,653.49	7,328.00	71.31	68.95	0.00	543.46	5,792.96	1,195.00	1,136.61	58.39	20.468	
14,000.00	8,523.00	12,753.49	7,328.00	72.32	69.99	0.00	544.12	5,892.96	1,195.00	1,135.80	59.20	20.187	
14,100.00	8,523.00	12,853.49	7,328.00	73.34	71.03	0.00	544.78	5,992.96	1,195.00	1,134.99	60.01	19.913	
14,200.00	8,523.00	12,953.49	7,328.00	74.36	72.07	0.00	545.45	6,092.95	1,195.00	1,134.17	60.83	19.645	
14,300.00	8,523.00	13,053.49	7,328.00	75.39	73.11	0.00	546.11	6,192.95	1,195.00	1,133.35	61.65	19.384	
14,400.00	8,523.00	13,153.49	7,328.00	76.41	74.16	0.00	546.77	6,292.95	1,195.00	1,132.53	62.47	19.129	
14,500.00	8,523.00	13,253.49	7,328.00	77.44	75.21	0.00	547.44	6,392.95	1,195.00	1,131.70	63.30	18.880	
14,600.00	8,523.00	13,353.49	7,328.00	78.47	76.26	0.00	548.10	6,492.94	1,195.00	1,130.88	64.12	18.636	
14,700.00	8,523.00	13,453.49	7,328.00	79.51	77.32	0.00	548.76	6,592.94	1,195.00	1,130.05	64.95	18.398	
14,800.00	8,523.00	13,553.49	7,328.00	80.55	78.37	0.00	549.43	6,692.94	1,195.00	1,129.22	65.78	18.166	
14,900.00	8,523.00	13,653.49	7,328.00	81.58	79.43	0.00	550.09	6,792.94	1,195.00	1,128.38	66.62	17.939	
15,000.00	8,523.00	13,753.49	7,328.00	82.63	80.49	0.00	550.75	6,892.94	1,195.00	1,127.55	67.45	17.717	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B05) Koala 9 Fed Com 123H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2) **Rule Assigned:** **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,100.00	8,523.00	13,853.49	7,328.00	83.67	81.55	0.00	551.42	6,992.93	1,195.00	1,126.71	68.29	17.500	
15,200.00	8,523.00	13,953.49	7,328.00	84.71	82.61	0.00	552.08	7,092.93	1,195.00	1,125.87	69.13	17.287	
15,300.00	8,523.00	14,053.49	7,328.00	85.76	83.68	0.00	552.74	7,192.93	1,195.00	1,125.03	69.97	17.080	
15,400.00	8,523.00	14,153.49	7,328.00	86.81	84.74	0.00	553.41	7,292.93	1,195.00	1,124.19	70.81	16.876	
15,500.00	8,523.00	14,253.49	7,328.00	87.86	85.81	0.00	554.07	7,392.92	1,195.00	1,123.35	71.65	16.678	
15,600.00	8,523.00	14,353.49	7,328.00	88.91	86.88	0.00	554.73	7,492.92	1,195.00	1,122.50	72.50	16.483	
15,700.00	8,523.00	14,453.49	7,328.00	89.97	87.95	0.00	555.40	7,592.92	1,195.00	1,121.65	73.35	16.293	
15,800.00	8,523.00	14,553.49	7,328.00	91.02	89.02	0.00	556.06	7,692.92	1,195.00	1,120.81	74.19	16.107	
15,900.00	8,523.00	14,653.49	7,328.00	92.08	90.09	0.00	556.72	7,792.92	1,195.00	1,119.96	75.04	15.924	
16,000.00	8,523.00	14,753.49	7,328.00	93.14	91.16	0.00	557.39	7,892.91	1,195.00	1,119.11	75.89	15.746	
16,100.00	8,523.00	14,853.49	7,328.00	94.20	92.24	0.00	558.05	7,992.91	1,195.00	1,118.25	76.75	15.571	
16,200.00	8,523.00	14,953.49	7,328.00	95.26	93.32	0.00	558.71	8,092.91	1,195.00	1,117.40	77.60	15.399	
16,300.00	8,523.00	15,053.49	7,328.00	96.32	94.39	0.00	559.38	8,192.91	1,195.00	1,116.54	78.46	15.232	
16,400.00	8,523.00	15,153.49	7,328.00	97.39	95.47	0.00	560.04	8,292.90	1,195.00	1,115.69	79.31	15.067	
16,500.00	8,523.00	15,253.49	7,328.00	98.45	96.55	0.00	560.70	8,392.90	1,195.00	1,114.83	80.17	14.906	
16,600.00	8,523.00	15,353.49	7,328.00	99.52	97.63	0.00	561.37	8,492.90	1,195.00	1,113.97	81.03	14.748	
16,700.00	8,523.00	15,453.49	7,328.00	100.59	98.71	0.00	562.03	8,592.90	1,195.00	1,113.11	81.89	14.593	
16,800.00	8,523.00	15,553.49	7,328.00	101.66	99.79	0.00	562.69	8,692.90	1,195.00	1,112.25	82.75	14.442	
16,900.00	8,523.00	15,653.49	7,328.00	102.73	100.87	0.00	563.36	8,792.89	1,195.00	1,111.39	83.61	14.293	
17,000.00	8,523.00	15,753.49	7,328.00	103.80	101.96	0.00	564.02	8,892.89	1,195.00	1,110.53	84.47	14.147	
17,100.00	8,523.00	15,853.49	7,328.00	104.87	103.04	0.00	564.68	8,992.89	1,195.00	1,109.66	85.33	14.004	
17,200.00	8,523.00	15,953.49	7,328.00	105.95	104.13	0.00	565.35	9,092.89	1,195.00	1,108.80	86.20	13.863	
17,300.00	8,523.00	16,053.49	7,328.00	107.02	105.21	0.00	566.01	9,192.88	1,195.00	1,107.93	87.06	13.725	
17,400.00	8,523.00	16,153.49	7,328.00	108.10	106.30	0.00	566.67	9,292.88	1,195.00	1,107.07	87.93	13.590	
17,500.00	8,523.00	16,253.49	7,328.00	109.17	107.39	0.00	567.34	9,392.88	1,195.00	1,106.20	88.80	13.458	
17,600.00	8,523.00	16,353.49	7,328.00	110.25	108.47	0.00	568.00	9,492.88	1,195.00	1,105.33	89.67	13.327	
17,700.00	8,523.00	16,453.49	7,328.00	111.33	109.56	0.00	568.66	9,592.88	1,195.00	1,104.47	90.53	13.199	
17,800.00	8,523.00	16,553.49	7,328.00	112.41	110.65	0.00	569.33	9,692.87	1,195.00	1,103.60	91.40	13.074	
17,900.00	8,523.00	16,653.49	7,328.00	113.49	111.74	0.00	569.99	9,792.87	1,195.00	1,102.73	92.27	12.951	
18,000.00	8,523.00	16,753.49	7,328.00	114.57	112.83	0.00	570.65	9,892.87	1,195.00	1,101.85	93.15	12.829	
18,100.00	8,523.00	16,853.49	7,328.00	115.65	113.92	0.00	571.32	9,992.87	1,195.00	1,100.98	94.02	12.710	
18,200.00	8,523.00	16,953.49	7,328.00	116.73	115.02	0.00	571.98	10,092.86	1,195.00	1,100.11	94.89	12.594	
18,300.00	8,523.00	17,053.49	7,328.00	117.82	116.11	0.00	572.64	10,192.86	1,195.00	1,099.24	95.76	12.479	
18,400.00	8,523.00	17,153.49	7,328.00	118.90	117.20	0.00	573.31	10,292.86	1,195.00	1,098.36	96.64	12.366	
18,500.00	8,523.00	17,253.49	7,328.00	119.98	118.29	0.00	573.97	10,392.86	1,195.00	1,097.49	97.51	12.255	
18,600.00	8,523.00	17,353.49	7,328.00	121.07	119.39	0.00	574.63	10,492.86	1,195.00	1,096.61	98.39	12.146	
18,700.00	8,523.00	17,453.49	7,328.00	122.16	120.48	0.00	575.30	10,592.85	1,195.00	1,095.74	99.26	12.039	
18,800.00	8,523.00	17,553.49	7,328.00	123.24	121.58	0.00	575.96	10,692.85	1,195.00	1,094.86	100.14	11.934	
18,900.00	8,523.00	17,653.49	7,328.00	124.33	122.67	0.00	576.62	10,792.85	1,195.00	1,093.99	101.01	11.830	
19,009.61	8,523.00	17,763.11	7,328.00	125.52	123.87	0.00	577.35	10,902.46	1,195.00	1,093.02	101.98	11.719	

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B06) Koala 9 Fed Com 124H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
600.00	600.00	600.00	600.00	1.92	1.92	89.83	0.26	89.97	89.97	86.13	3.84	23.456	
700.00	700.00	700.00	700.00	2.28	2.28	89.83	0.26	89.97	89.97	85.42	4.55	19.762	
800.00	800.00	800.00	800.00	2.63	2.63	89.83	0.26	89.97	89.97	84.70	5.27	17.074	
900.00	900.00	900.00	900.00	2.99	2.99	89.83	0.26	89.97	89.97	83.98	5.99	15.029	
1,000.00	1,000.00	1,000.00	1,000.00	3.35	3.35	89.83	0.26	89.97	89.97	83.27	6.70	13.422	
1,100.00	1,100.00	1,100.00	1,100.00	3.71	3.71	89.83	0.26	89.97	89.97	82.55	7.42	12.125	
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	89.83	0.26	89.97	89.97	81.83	8.14	11.057	CC
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	89.83	0.26	89.97	89.97	81.83	8.14	11.056	
1,300.00	1,299.99	1,300.08	1,300.07	4.43	4.41	96.36	-1.05	89.89	90.03	81.20	8.84	10.189	
1,400.00	1,399.91	1,399.76	1,399.67	4.79	4.74	101.28	-4.95	89.65	90.67	81.15	9.52	9.526	ES
1,500.00	1,499.69	1,498.62	1,498.32	5.14	5.06	109.11	-11.39	89.25	93.18	82.98	10.20	9.135	
1,600.00	1,599.27	1,596.29	1,595.58	5.50	5.39	118.96	-20.24	88.71	99.44	88.57	10.88	9.142	
1,663.83	1,662.69	1,657.83	1,656.74	5.73	5.60	125.64	-27.09	88.29	106.28	94.97	11.31	9.400	
1,700.00	1,698.59	1,692.43	1,691.07	5.86	5.71	129.37	-31.38	88.02	111.19	99.65	11.55	9.631	
1,800.00	1,797.86	1,787.24	1,784.93	6.22	6.03	138.61	-44.71	87.20	128.05	115.85	12.19	10.500	
1,900.00	1,897.12	1,881.69	1,878.11	6.57	6.36	146.20	-60.16	86.25	149.23	136.39	12.84	11.624	
2,000.00	1,996.39	1,977.50	1,972.54	6.93	6.69	152.08	-76.32	85.26	172.83	159.33	13.50	12.802	
2,100.00	2,095.65	2,073.31	2,066.97	7.28	7.03	156.54	-92.49	84.27	197.76	183.60	14.17	13.961	
2,200.00	2,194.91	2,169.12	2,161.40	7.64	7.37	160.01	-108.65	83.27	223.59	208.75	14.83	15.072	
2,300.00	2,294.18	2,264.93	2,255.83	8.00	7.72	162.76	-124.81	82.28	250.03	234.52	15.51	16.123	
2,400.00	2,393.44	2,360.74	2,350.26	8.36	8.06	164.99	-140.98	81.28	276.91	260.73	16.18	17.112	
2,500.00	2,492.70	2,456.55	2,444.69	8.72	8.41	166.82	-157.14	80.29	304.11	287.25	16.86	18.039	
2,600.00	2,591.97	2,552.36	2,539.12	9.08	8.76	168.36	-173.31	79.30	331.55	314.02	17.54	18.906	
2,700.00	2,691.23	2,648.17	2,633.55	9.44	9.11	169.66	-189.47	78.30	359.19	340.97	18.22	19.718	
2,800.00	2,790.49	2,743.98	2,727.98	9.81	9.46	170.77	-205.64	77.31	386.97	368.07	18.90	20.477	
2,900.00	2,889.76	2,839.79	2,822.41	10.17	9.81	171.74	-221.80	76.31	414.87	395.29	19.58	21.189	
3,000.00	2,989.02	2,935.60	2,916.84	10.53	10.17	172.58	-237.97	75.32	442.86	422.60	20.26	21.856	
3,100.00	3,088.29	3,031.41	3,011.27	10.89	10.52	173.33	-254.13	74.33	470.93	449.98	20.95	22.482	
3,200.00	3,187.55	3,127.22	3,105.70	11.25	10.88	173.99	-270.30	73.33	499.07	477.44	21.63	23.071	
3,300.00	3,286.81	3,223.03	3,200.14	11.61	11.23	174.58	-286.46	72.34	527.26	504.94	22.32	23.626	
3,400.00	3,386.08	3,318.84	3,294.57	11.98	11.59	175.11	-302.63	71.34	555.50	532.49	23.00	24.149	
3,500.00	3,485.34	3,414.65	3,389.00	12.34	11.95	175.59	-318.79	70.35	583.77	560.08	23.69	24.642	
11,300.00	8,523.00	10,310.16	7,328.00	46.67	43.03	47.84	-793.65	3,201.77	1,780.46	1,708.97	71.48	24.907	
11,400.00	8,523.00	10,410.16	7,328.00	47.53	43.93	47.84	-792.99	3,301.76	1,780.46	1,707.61	72.85	24.441	
11,500.00	8,523.00	10,510.16	7,328.00	48.39	44.85	47.84	-792.33	3,401.76	1,780.46	1,706.23	74.23	23.987	
11,600.00	8,523.00	10,610.16	7,328.00	49.26	45.77	47.84	-791.67	3,501.76	1,780.46	1,704.84	75.62	23.544	
11,700.00	8,523.00	10,710.16	7,328.00	50.15	46.70	47.84	-791.00	3,601.76	1,780.46	1,703.43	77.03	23.113	
11,800.00	8,523.00	10,810.16	7,328.00	51.04	47.64	47.84	-790.34	3,701.75	1,780.46	1,702.01	78.46	22.694	
11,900.00	8,523.00	10,910.16	7,328.00	51.94	48.59	47.84	-789.68	3,801.75	1,780.46	1,700.57	79.89	22.286	
12,000.00	8,523.00	11,010.16	7,328.00	52.85	49.54	47.84	-789.01	3,901.75	1,780.46	1,699.12	81.34	21.889	
12,100.00	8,523.00	11,110.16	7,328.00	53.77	50.50	47.84	-788.35	4,001.75	1,780.46	1,697.66	82.80	21.502	
12,200.00	8,523.00	11,210.16	7,328.00	54.70	51.47	47.84	-787.69	4,101.75	1,780.47	1,696.19	84.28	21.126	
12,300.00	8,523.00	11,310.16	7,328.00	55.63	52.45	47.84	-787.03	4,201.74	1,780.47	1,694.70	85.76	20.761	
12,400.00	8,523.00	11,410.16	7,328.00	56.57	53.43	47.84	-786.36	4,301.74	1,780.47	1,693.21	87.26	20.405	
12,500.00	8,523.00	11,510.16	7,328.00	57.52	54.41	47.84	-785.70	4,401.74	1,780.47	1,691.71	88.76	20.059	
12,600.00	8,523.00	11,610.16	7,328.00	58.47	55.40	47.84	-785.04	4,501.74	1,780.47	1,690.20	90.27	19.723	
12,700.00	8,523.00	11,710.16	7,328.00	59.43	56.40	47.84	-784.37	4,601.74	1,780.47	1,688.67	91.79	19.396	
12,800.00	8,523.00	11,810.16	7,328.00	60.39	57.40	47.84	-783.71	4,701.73	1,780.47	1,687.15	93.32	19.078	
12,900.00	8,523.00	11,910.16	7,328.00	61.36	58.40	47.84	-783.05	4,801.73	1,780.47	1,685.61	94.86	18.769	
13,000.00	8,523.00	12,010.16	7,328.00	62.34	59.41	47.84	-782.39	4,901.73	1,780.47	1,684.06	96.41	18.468	
13,100.00	8,523.00	12,110.16	7,328.00	63.32	60.43	47.84	-781.72	5,001.73	1,780.47	1,682.51	97.96	18.175	
13,200.00	8,523.00	12,210.16	7,328.00	64.30	61.44	47.84	-781.06	5,101.72	1,780.47	1,680.95	99.52	17.890	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B06) Koala 9 Fed Com 124H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Rule Assigned: Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
13,300.00	8,523.00	12,310.16	7,328.00	65.29	62.46	47.84	-780.40	5,201.72	1,780.47	1,679.39	101.09	17.613	
13,400.00	8,523.00	12,410.16	7,328.00	66.29	63.49	47.84	-779.74	5,301.72	1,780.47	1,677.81	102.66	17.343	
13,500.00	8,523.00	12,510.16	7,328.00	67.28	64.51	47.84	-779.07	5,401.72	1,780.48	1,676.24	104.24	17.081	
13,600.00	8,523.00	12,610.16	7,328.00	68.28	65.54	47.84	-778.41	5,501.72	1,780.48	1,674.65	105.82	16.825	
13,700.00	8,523.00	12,710.16	7,328.00	69.29	66.58	47.84	-777.75	5,601.71	1,780.48	1,673.07	107.41	16.576	
13,800.00	8,523.00	12,810.16	7,328.00	70.30	67.61	47.84	-777.08	5,701.71	1,780.48	1,671.47	109.01	16.334	
13,900.00	8,523.00	12,910.16	7,328.00	71.31	68.65	47.84	-776.42	5,801.71	1,780.48	1,669.87	110.61	16.097	
14,000.00	8,523.00	13,010.16	7,328.00	72.32	69.69	47.84	-775.76	5,901.71	1,780.48	1,668.27	112.21	15.867	
14,100.00	8,523.00	13,110.16	7,328.00	73.34	70.74	47.84	-775.10	6,001.70	1,780.48	1,666.66	113.82	15.643	
14,200.00	8,523.00	13,210.16	7,328.00	74.36	71.78	47.84	-774.43	6,101.70	1,780.48	1,665.05	115.43	15.424	
14,300.00	8,523.00	13,310.16	7,328.00	75.39	72.83	47.84	-773.77	6,201.70	1,780.48	1,663.43	117.05	15.211	
14,400.00	8,523.00	13,410.16	7,328.00	76.41	73.88	47.84	-773.11	6,301.70	1,780.48	1,661.81	118.67	15.003	
14,500.00	8,523.00	13,510.16	7,328.00	77.44	74.93	47.84	-772.44	6,401.70	1,780.48	1,660.19	120.30	14.801	
14,600.00	8,523.00	13,610.16	7,328.00	78.47	75.99	47.84	-771.78	6,501.69	1,780.48	1,658.56	121.93	14.603	
14,700.00	8,523.00	13,710.16	7,328.00	79.51	77.04	47.84	-771.12	6,601.69	1,780.48	1,656.92	123.56	14.410	
14,800.00	8,523.00	13,810.16	7,328.00	80.55	78.10	47.84	-770.46	6,701.69	1,780.49	1,655.29	125.20	14.222	
14,900.00	8,523.00	13,910.16	7,328.00	81.58	79.16	47.84	-769.79	6,801.69	1,780.49	1,653.65	126.84	14.038	
15,000.00	8,523.00	14,010.16	7,328.00	82.63	80.22	47.84	-769.13	6,901.68	1,780.49	1,652.01	128.48	13.858	
15,100.00	8,523.00	14,110.16	7,328.00	83.67	81.29	47.84	-768.47	7,001.68	1,780.49	1,650.36	130.12	13.683	
15,200.00	8,523.00	14,210.16	7,328.00	84.71	82.35	47.84	-767.80	7,101.68	1,780.49	1,648.72	131.77	13.512	
15,300.00	8,523.00	14,310.16	7,328.00	85.76	83.42	47.84	-767.14	7,201.68	1,780.49	1,647.07	133.42	13.345	
15,400.00	8,523.00	14,410.16	7,328.00	86.81	84.49	47.84	-766.48	7,301.68	1,780.49	1,645.41	135.08	13.181	
15,500.00	8,523.00	14,510.16	7,328.00	87.86	85.56	47.84	-765.82	7,401.67	1,780.49	1,643.76	136.73	13.021	
15,600.00	8,523.00	14,610.16	7,328.00	88.91	86.63	47.84	-765.15	7,501.67	1,780.49	1,642.10	138.39	12.865	
15,700.00	8,523.00	14,710.16	7,328.00	89.97	87.70	47.84	-764.49	7,601.67	1,780.49	1,640.44	140.06	12.713	
15,800.00	8,523.00	14,810.16	7,328.00	91.02	88.77	47.84	-763.83	7,701.67	1,780.49	1,638.77	141.72	12.563	
15,900.00	8,523.00	14,910.16	7,328.00	92.08	89.85	47.84	-763.16	7,801.66	1,780.49	1,637.11	143.39	12.417	
16,000.00	8,523.00	15,010.16	7,328.00	93.14	90.92	47.84	-762.50	7,901.66	1,780.50	1,635.44	145.05	12.275	
16,100.00	8,523.00	15,110.16	7,328.00	94.20	92.00	47.84	-761.84	8,001.66	1,780.50	1,633.77	146.73	12.135	
16,200.00	8,523.00	15,210.16	7,328.00	95.26	93.07	47.84	-761.18	8,101.66	1,780.50	1,632.10	148.40	11.998	
16,300.00	8,523.00	15,310.16	7,328.00	96.32	94.15	47.84	-760.51	8,201.66	1,780.50	1,630.42	150.07	11.864	
16,400.00	8,523.00	15,410.16	7,328.00	97.39	95.23	47.84	-759.85	8,301.65	1,780.50	1,628.75	151.75	11.733	
16,500.00	8,523.00	15,510.16	7,328.00	98.45	96.31	47.84	-759.19	8,401.65	1,780.50	1,627.07	153.43	11.605	
16,600.00	8,523.00	15,610.16	7,328.00	99.52	97.40	47.84	-758.52	8,501.65	1,780.50	1,625.39	155.11	11.479	
16,700.00	8,523.00	15,710.16	7,328.00	100.59	98.48	47.84	-757.86	8,601.65	1,780.50	1,623.71	156.79	11.356	
16,800.00	8,523.00	15,810.16	7,328.00	101.66	99.56	47.84	-757.20	8,701.65	1,780.50	1,622.03	158.47	11.235	
16,900.00	8,523.00	15,910.16	7,328.00	102.73	100.65	47.84	-756.54	8,801.64	1,780.50	1,620.34	160.16	11.117	
17,000.00	8,523.00	16,010.16	7,328.00	103.80	101.73	47.84	-755.87	8,901.64	1,780.50	1,618.66	161.84	11.001	
17,100.00	8,523.00	16,110.16	7,328.00	104.87	102.82	47.84	-755.21	9,001.64	1,780.50	1,616.97	163.53	10.888	
17,200.00	8,523.00	16,210.16	7,328.00	105.95	103.90	47.84	-754.55	9,101.64	1,780.50	1,615.28	165.22	10.776	
17,300.00	8,523.00	16,310.16	7,328.00	107.02	104.99	47.84	-753.89	9,201.63	1,780.51	1,613.59	166.91	10.667	
17,400.00	8,523.00	16,410.16	7,328.00	108.10	106.08	47.84	-753.22	9,301.63	1,780.51	1,611.90	168.61	10.560	
17,500.00	8,523.00	16,510.16	7,328.00	109.17	107.17	47.84	-752.56	9,401.63	1,780.51	1,610.21	170.30	10.455	
17,600.00	8,523.00	16,610.16	7,328.00	110.25	108.26	47.84	-751.90	9,501.63	1,780.51	1,608.51	172.00	10.352	
17,700.00	8,523.00	16,710.16	7,328.00	111.33	109.35	47.84	-751.23	9,601.63	1,780.51	1,606.82	173.69	10.251	
17,800.00	8,523.00	16,810.16	7,328.00	112.41	110.44	47.84	-750.57	9,701.62	1,780.51	1,605.12	175.39	10.152	
17,900.00	8,523.00	16,910.16	7,328.00	113.49	111.53	47.84	-749.91	9,801.62	1,780.51	1,603.42	177.09	10.054	
18,000.00	8,523.00	17,010.16	7,328.00	114.57	112.62	47.84	-749.25	9,901.62	1,780.51	1,601.72	178.79	9.959	
18,100.00	8,523.00	17,110.16	7,328.00	115.65	113.71	47.84	-748.58	10,001.62	1,780.51	1,600.02	180.49	9.865	
18,200.00	8,523.00	17,210.16	7,328.00	116.73	114.81	47.84	-747.92	10,101.61	1,780.51	1,598.32	182.19	9.773	
18,300.00	8,523.00	17,310.16	7,328.00	117.82	115.90	47.84	-747.26	10,201.61	1,780.51	1,596.62	183.90	9.682	
18,400.00	8,523.00	17,410.16	7,328.00	118.90	116.99	47.84	-746.59	10,301.61	1,780.51	1,594.91	185.60	9.593	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B06) Koala 9 Fed Com 124H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Rule Assigned:

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
18,500.00	8,523.00	17,510.16	7,328.00	119.98	118.09	47.84	-745.93	10,401.61	1,780.51	1,593.21	187.31	9.506	
18,600.00	8,523.00	17,610.16	7,328.00	121.07	119.18	47.84	-745.27	10,501.61	1,780.52	1,591.50	189.01	9.420	
18,700.00	8,523.00	17,710.16	7,328.00	122.16	120.28	47.84	-744.61	10,601.60	1,780.52	1,589.80	190.72	9.336	
18,800.00	8,523.00	17,810.16	7,328.00	123.24	121.37	47.84	-743.94	10,701.60	1,780.52	1,588.09	192.43	9.253	
18,900.00	8,523.00	17,910.16	7,328.00	124.33	122.47	47.84	-743.28	10,801.60	1,780.52	1,586.38	194.14	9.171	
18,900.42	8,523.00	17,910.58	7,328.00	124.33	122.48	47.84	-743.28	10,802.02	1,780.52	1,586.37	194.14	9.171	
19,009.61	8,523.00	17,993.15	7,328.00	125.52	123.38	47.84	-742.73	10,884.59	1,780.72	1,584.91	195.81	9.094	SF

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B07) Koala 9 Fed Com 113H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
800.00	800.00	800.00	800.00	2.63	2.63	89.82	0.38	119.98	119.98	114.71	5.27	22.769	
900.00	900.00	900.00	900.00	2.99	2.99	89.82	0.38	119.98	119.98	113.99	5.99	20.042	
1,000.00	1,000.00	1,000.00	1,000.00	3.35	3.35	89.82	0.38	119.98	119.98	113.28	6.70	17.898	
1,100.00	1,100.00	1,100.00	1,100.00	3.71	3.71	89.82	0.38	119.98	119.98	112.56	7.42	16.169	
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	89.82	0.38	119.98	119.98	111.84	8.14	14.745	
1,300.00	1,299.99	1,300.30	1,300.29	4.43	4.43	94.68	1.69	119.85	119.96	111.11	8.85	13.549	
1,400.00	1,399.91	1,400.60	1,400.50	4.79	4.79	94.68	5.62	119.47	119.91	110.34	9.57	12.531	
1,500.00	1,499.69	1,500.89	1,500.58	5.14	5.15	94.67	12.17	118.82	119.82	109.54	10.28	11.653	
1,600.00	1,599.27	1,601.19	1,600.45	5.50	5.51	94.67	21.33	117.92	119.70	108.71	11.00	10.886	
1,663.83	1,662.69	1,665.21	1,664.06	5.73	5.74	94.66	28.54	117.21	119.61	108.16	11.45	10.446	
1,700.00	1,698.59	1,701.47	1,700.04	5.86	5.87	94.58	33.09	116.77	119.53	107.82	11.71	10.210	
1,800.00	1,797.86	1,801.47	1,799.18	6.22	6.22	94.16	46.02	115.50	119.29	106.87	12.42	9.605	
1,900.00	1,897.12	1,901.47	1,898.33	6.57	6.58	93.74	58.95	114.22	119.06	105.93	13.13	9.065	
2,000.00	1,996.39	2,001.46	1,997.48	6.93	6.93	93.32	71.89	112.95	118.84	104.99	13.85	8.580	
2,100.00	2,095.65	2,101.46	2,096.63	7.28	7.29	92.89	84.82	111.68	118.62	104.05	14.57	8.142	
2,200.00	2,194.91	2,201.45	2,195.78	7.64	7.65	92.47	97.75	110.41	118.41	103.12	15.29	7.746	
2,300.00	2,294.18	2,301.45	2,294.92	8.00	8.01	92.04	110.68	109.14	118.20	102.20	16.01	7.385	
2,400.00	2,393.44	2,401.45	2,394.07	8.36	8.37	91.62	123.61	107.87	118.00	101.28	16.73	7.055	
2,500.00	2,492.70	2,501.44	2,493.22	8.72	8.73	91.19	136.54	106.60	117.81	100.36	17.45	6.752	
2,600.00	2,591.97	2,601.44	2,592.37	9.08	9.09	90.76	149.47	105.33	117.63	99.46	18.17	6.474	
2,700.00	2,691.23	2,701.43	2,691.52	9.44	9.45	90.32	162.41	104.06	117.45	98.56	18.89	6.217	
2,800.00	2,790.49	2,801.43	2,790.66	9.81	9.81	89.89	175.34	102.79	117.28	97.66	19.62	5.979	
2,900.00	2,889.76	2,901.43	2,889.81	10.17	10.18	89.46	188.27	101.52	117.11	96.77	20.34	5.758	
3,000.00	2,989.02	3,001.42	2,988.96	10.53	10.54	89.02	201.20	100.25	116.95	95.89	21.06	5.552	
3,100.00	3,088.29	3,101.42	3,088.11	10.89	10.90	88.59	214.13	98.98	116.80	95.01	21.79	5.361	
3,200.00	3,187.55	3,201.41	3,187.26	11.25	11.26	88.15	227.06	97.71	116.66	94.14	22.51	5.182	
3,300.00	3,286.81	3,301.41	3,286.40	11.61	11.63	87.71	239.99	96.44	116.52	93.28	23.24	5.014	
3,400.00	3,386.08	3,401.40	3,385.55	11.98	11.99	87.27	252.93	95.17	116.39	92.42	23.96	4.857	
3,500.00	3,485.34	3,501.40	3,484.70	12.34	12.35	86.83	265.86	93.89	116.26	91.57	24.69	4.709	
3,600.00	3,584.60	3,601.40	3,583.85	12.70	12.71	86.39	278.79	92.62	116.14	90.73	25.41	4.570	
3,700.00	3,683.87	3,701.39	3,683.00	13.06	13.08	85.95	291.72	91.35	116.03	89.89	26.14	4.439	
3,800.00	3,783.13	3,801.39	3,782.15	13.43	13.44	85.50	304.65	90.08	115.93	89.06	26.87	4.315	
3,900.00	3,882.39	3,901.38	3,881.29	13.79	13.80	85.06	317.58	88.81	115.83	88.24	27.59	4.198	
4,000.00	3,981.66	4,001.38	3,980.44	14.15	14.17	84.61	330.51	87.54	115.74	87.42	28.32	4.087	
4,100.00	4,080.92	4,101.38	4,079.59	14.51	14.53	84.17	343.45	86.27	115.66	86.61	29.05	3.982	
4,200.00	4,180.19	4,201.37	4,178.74	14.88	14.90	83.72	356.38	85.00	115.58	85.81	29.77	3.882	
4,300.00	4,279.45	4,301.37	4,277.89	15.24	15.26	83.28	369.31	83.73	115.52	85.02	30.50	3.787	
4,400.00	4,378.71	4,401.36	4,377.03	15.60	15.62	82.83	382.24	82.46	115.45	84.23	31.23	3.697	
4,500.00	4,477.98	4,501.36	4,476.18	15.97	15.99	82.38	395.17	81.19	115.40	83.44	31.95	3.611	
4,600.00	4,577.24	4,601.36	4,575.33	16.33	16.35	81.93	408.10	79.92	115.35	82.67	32.68	3.530	
4,700.00	4,676.50	4,701.35	4,674.48	16.69	16.72	81.49	421.03	78.65	115.31	81.90	33.41	3.452	
4,800.00	4,775.77	4,801.35	4,773.63	17.05	17.08	81.04	433.97	77.38	115.28	81.14	34.14	3.377	
4,900.00	4,875.03	4,901.34	4,872.77	17.42	17.44	80.59	446.90	76.11	115.25	80.39	34.86	3.306	
5,000.00	4,974.29	5,001.34	4,971.92	17.78	17.81	80.14	459.83	74.84	115.23	79.64	35.59	3.238	
5,100.00	5,073.56	5,101.34	5,071.07	18.14	18.17	79.69	472.76	73.56	115.22	78.90	36.32	3.172	
5,200.00	5,172.82	5,201.68	5,170.64	18.51	18.54	79.53	485.15	72.35	115.11	78.06	37.05	3.107	
5,300.00	5,272.09	5,302.14	5,270.60	18.87	18.90	80.60	495.08	71.37	114.60	76.83	37.77	3.034	
5,400.00	5,371.35	5,402.42	5,370.60	19.23	19.26	83.00	502.38	70.65	113.82	75.32	38.50	2.957	
5,500.00	5,470.61	5,502.37	5,470.44	19.60	19.62	86.73	507.05	70.19	113.09	73.88	39.21	2.884	
5,569.43	5,539.53	5,571.51	5,539.56	19.85	19.86	90.11	508.76	70.03	112.88	73.18	39.71	2.843	CC
5,600.00	5,569.88	5,601.87	5,569.92	19.96	19.97	91.80	509.12	69.99	112.94	73.01	39.92	2.829	ES
5,700.00	5,669.14	5,701.09	5,669.14	20.32	20.32	97.79	509.24	69.98	113.94	73.32	40.62	2.805	SF

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B07) Koala 9 Fed Com 113H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Rule Assigned:

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,800.00	5,768.40	5,793.92	5,761.95	20.69	20.64	103.24	509.24	70.87	117.28	76.08	41.19	2.847	
5,900.00	5,867.67	5,874.98	5,842.30	21.05	20.91	106.77	509.24	81.09	132.91	91.82	41.08	3.235	
6,000.00	5,966.93	5,950.00	5,914.69	21.42	21.15	108.43	509.24	100.55	162.00	121.71	40.29	4.020	
6,070.90	6,037.31	6,000.00	5,961.26	21.67	21.31	108.79	509.24	118.71	189.78	150.25	39.54	4.800	
6,100.00	6,066.21	6,021.47	5,980.74	21.78	21.37	108.99	509.24	127.74	202.69	163.34	39.35	5.151	
6,200.00	6,165.70	6,084.03	6,035.39	22.14	21.54	109.15	509.24	158.13	252.77	214.73	38.04	6.645	
6,300.00	6,265.42	6,139.14	6,080.54	22.50	21.67	109.02	509.24	189.69	310.58	273.97	36.61	8.484	
6,400.00	6,365.30	6,187.21	6,117.28	22.86	21.78	108.93	509.24	220.66	374.82	339.63	35.18	10.653	
6,500.00	6,465.27	6,228.96	6,147.00	23.21	21.87	109.03	509.24	249.97	444.35	410.52	33.83	13.135	
6,534.73	6,500.00	6,250.00	6,161.15	23.33	21.94	104.01	509.24	265.54	469.67	435.85	33.82	13.887	
6,600.00	6,565.27	6,265.19	6,171.00	23.56	21.98	103.53	509.24	277.10	518.31	485.71	32.60	15.900	
6,700.00	6,665.27	6,300.00	6,192.40	23.91	22.09	102.52	509.24	304.55	596.25	564.58	31.67	18.825	
6,800.00	6,765.27	6,324.02	6,206.18	24.27	22.16	101.88	509.24	324.23	677.37	646.79	30.58	22.149	
17,600.00	8,523.00	15,512.13	6,303.00	110.25	107.26	0.00	567.98	9,492.88	2,220.00	2,131.09	88.91	24.968	
17,700.00	8,523.00	15,612.13	6,303.00	111.33	108.36	0.00	568.65	9,592.88	2,220.00	2,130.21	89.79	24.725	
17,800.00	8,523.00	15,712.13	6,303.00	112.41	109.46	0.00	569.31	9,692.87	2,220.00	2,129.34	90.66	24.487	
17,900.00	8,523.00	15,812.13	6,303.00	113.49	110.55	0.00	569.98	9,792.87	2,220.00	2,128.46	91.54	24.253	
18,000.00	8,523.00	15,912.13	6,303.00	114.57	111.65	0.00	570.64	9,892.87	2,220.00	2,127.59	92.41	24.023	
18,100.00	8,523.00	16,012.13	6,303.00	115.65	112.75	0.00	571.31	9,992.87	2,220.00	2,126.71	93.29	23.797	
18,200.00	8,523.00	16,112.13	6,303.00	116.73	113.85	0.00	571.97	10,092.87	2,220.00	2,125.83	94.17	23.575	
18,300.00	8,523.00	16,212.13	6,303.00	117.82	114.95	0.00	572.63	10,192.86	2,220.00	2,124.96	95.04	23.358	
18,400.00	8,523.00	16,312.13	6,303.00	118.90	116.05	0.00	573.30	10,292.86	2,220.00	2,124.08	95.92	23.144	
18,500.00	8,523.00	16,412.13	6,303.00	119.98	117.15	0.00	573.96	10,392.86	2,220.00	2,123.20	96.80	22.934	
18,600.00	8,523.00	16,512.13	6,303.00	121.07	118.25	0.00	574.63	10,492.86	2,220.00	2,122.32	97.68	22.727	
18,700.00	8,523.00	16,612.13	6,303.00	122.16	119.36	0.00	575.29	10,592.85	2,220.00	2,121.44	98.56	22.524	
18,800.00	8,523.00	16,712.13	6,303.00	123.24	120.46	0.00	575.96	10,692.85	2,220.00	2,120.56	99.44	22.325	
18,900.00	8,523.00	16,812.13	6,303.00	124.33	121.56	0.00	576.62	10,792.85	2,220.00	2,119.68	100.32	22.129	
19,009.61	8,523.00	16,921.74	6,303.00	125.52	122.77	0.00	577.35	10,902.46	2,220.00	2,118.71	101.29	21.917	

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B08) Koala 9 Fed Com 114H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
1,000.00	1,000.00	1,000.22	1,000.13	3.35	3.31	91.81	-4.74	149.73	149.80	143.15	6.66	22.507	
1,042.13	1,042.13	1,042.29	1,042.13	3.50	3.45	92.74	-7.17	149.61	149.78	142.84	6.95	21.560	CC
1,100.00	1,100.00	1,100.00	1,099.69	3.71	3.64	94.31	-11.26	149.42	149.84	142.49	7.35	20.393	
1,200.00	1,200.00	1,199.34	1,198.62	4.07	3.98	97.77	-20.33	148.98	150.37	142.33	8.04	18.696	ES
1,300.00	1,299.99	1,297.99	1,296.58	4.43	4.32	107.42	-31.88	148.43	152.24	143.50	8.74	17.421	
1,400.00	1,399.91	1,395.43	1,393.02	4.79	4.65	113.69	-45.76	147.76	156.88	147.45	9.43	16.633	
1,500.00	1,499.69	1,491.77	1,488.01	5.14	4.99	120.93	-61.81	146.99	165.67	155.55	10.12	16.375	SF
1,600.00	1,599.27	1,588.27	1,583.05	5.50	5.34	128.16	-78.52	146.19	178.97	168.17	10.80	16.567	
1,663.83	1,662.69	1,649.49	1,643.35	5.73	5.56	132.47	-89.11	145.68	189.79	178.55	11.24	16.888	
1,700.00	1,698.59	1,684.10	1,677.43	5.86	5.69	134.83	-95.11	145.40	196.60	185.12	11.48	17.120	
1,800.00	1,797.86	1,779.78	1,771.66	6.22	6.03	140.57	-111.67	144.60	216.98	204.82	12.16	17.843	
1,900.00	1,897.12	1,875.46	1,865.90	6.57	6.38	145.33	-128.23	143.81	239.16	226.33	12.84	18.631	
2,000.00	1,996.39	1,971.14	1,960.13	6.93	6.74	149.28	-144.80	143.01	262.70	249.18	13.51	19.439	
2,100.00	2,095.65	2,066.82	2,054.36	7.28	7.09	152.59	-161.36	142.22	287.24	273.05	14.19	20.240	
2,200.00	2,194.91	2,162.50	2,148.59	7.64	7.45	155.38	-177.93	141.43	312.57	297.70	14.87	21.019	
2,300.00	2,294.18	2,258.18	2,242.83	8.00	7.80	157.76	-194.49	140.63	338.50	322.95	15.55	21.767	
2,400.00	2,393.44	2,353.86	2,337.06	8.36	8.16	159.80	-211.05	139.84	364.90	348.67	16.23	22.479	
2,500.00	2,492.70	2,449.55	2,431.29	8.72	8.52	161.57	-227.62	139.04	391.68	374.77	16.91	23.156	
2,600.00	2,591.97	2,545.23	2,525.52	9.08	8.88	163.11	-244.18	138.25	418.77	401.17	17.60	23.796	
2,700.00	2,691.23	2,640.91	2,619.76	9.44	9.24	164.47	-260.75	137.45	446.11	427.82	18.28	24.401	
2,800.00	2,790.49	2,736.59	2,713.99	9.81	9.60	165.67	-277.31	136.66	473.65	454.68	18.97	24.972	
15,300.00	8,523.00	13,207.03	6,303.00	85.76	81.67	30.73	-767.10	7,201.66	2,582.71	2,479.22	103.50	24.955	
15,400.00	8,523.00	13,307.03	6,303.00	86.81	82.75	30.73	-766.44	7,301.66	2,582.71	2,477.92	104.79	24.646	
15,500.00	8,523.00	13,407.03	6,303.00	87.86	83.83	30.73	-765.78	7,401.66	2,582.72	2,476.63	106.09	24.345	
15,600.00	8,523.00	13,507.03	6,303.00	88.91	84.91	30.73	-765.12	7,501.66	2,582.72	2,475.33	107.39	24.051	
15,700.00	8,523.00	13,607.03	6,303.00	89.97	85.99	30.73	-764.46	7,601.65	2,582.72	2,474.03	108.69	23.763	
15,800.00	8,523.00	13,707.03	6,303.00	91.02	87.07	30.73	-763.79	7,701.65	2,582.72	2,472.73	109.99	23.481	
15,900.00	8,523.00	13,807.03	6,303.00	92.08	88.16	30.73	-763.13	7,801.65	2,582.72	2,471.43	111.30	23.206	
16,000.00	8,523.00	13,907.03	6,303.00	93.14	89.25	30.73	-762.47	7,901.65	2,582.72	2,470.12	112.60	22.937	
16,100.00	8,523.00	14,007.03	6,303.00	94.20	90.33	30.73	-761.81	8,001.65	2,582.72	2,468.81	113.91	22.674	
16,200.00	8,523.00	14,107.03	6,303.00	95.26	91.42	30.73	-761.15	8,101.64	2,582.72	2,467.51	115.22	22.416	
16,300.00	8,523.00	14,207.03	6,303.00	96.32	92.51	30.73	-760.49	8,201.64	2,582.72	2,466.20	116.53	22.164	
16,400.00	8,523.00	14,307.03	6,303.00	97.39	93.60	30.73	-759.82	8,301.64	2,582.73	2,464.88	117.84	21.917	
16,500.00	8,523.00	14,407.03	6,303.00	98.45	94.69	30.73	-759.16	8,401.64	2,582.73	2,463.57	119.15	21.675	
16,600.00	8,523.00	14,507.03	6,303.00	99.52	95.78	30.73	-758.50	8,501.63	2,582.73	2,462.26	120.47	21.439	
16,700.00	8,523.00	14,607.03	6,303.00	100.59	96.87	30.73	-757.84	8,601.63	2,582.73	2,460.94	121.79	21.207	
16,800.00	8,523.00	14,707.03	6,303.00	101.66	97.96	30.73	-757.18	8,701.63	2,582.73	2,459.63	123.10	20.980	
16,900.00	8,523.00	14,807.03	6,303.00	102.73	99.05	30.73	-756.51	8,801.63	2,582.73	2,458.31	124.42	20.758	
17,000.00	8,523.00	14,907.03	6,303.00	103.80	100.15	30.73	-755.85	8,901.63	2,582.73	2,456.99	125.74	20.540	
17,100.00	8,523.00	15,007.03	6,303.00	104.87	101.24	30.73	-755.19	9,001.62	2,582.73	2,455.67	127.06	20.327	
17,200.00	8,523.00	15,107.04	6,303.00	105.95	102.34	30.73	-754.53	9,101.62	2,582.73	2,454.35	128.38	20.117	
17,300.00	8,523.00	15,207.04	6,303.00	107.02	103.43	30.73	-753.87	9,201.62	2,582.74	2,453.03	129.71	19.912	
17,400.00	8,523.00	15,307.04	6,303.00	108.10	104.53	30.73	-753.21	9,301.62	2,582.74	2,451.71	131.03	19.711	
17,500.00	8,523.00	15,407.04	6,303.00	109.17	105.62	30.73	-752.54	9,401.61	2,582.74	2,450.38	132.36	19.514	
17,600.00	8,523.00	15,507.04	6,303.00	110.25	106.72	30.73	-751.88	9,501.61	2,582.74	2,449.06	133.68	19.320	
17,700.00	8,523.00	15,607.04	6,303.00	111.33	107.82	30.73	-751.22	9,601.61	2,582.74	2,447.73	135.01	19.130	
17,800.00	8,523.00	15,707.04	6,303.00	112.41	108.91	30.73	-750.56	9,701.61	2,582.74	2,446.41	136.34	18.944	
17,900.00	8,523.00	15,807.04	6,303.00	113.49	110.01	30.73	-749.90	9,801.61	2,582.74	2,445.08	137.66	18.761	
18,000.00	8,523.00	15,907.04	6,303.00	114.57	111.11	30.73	-749.24	9,901.60	2,582.74	2,443.75	138.99	18.582	
18,100.00	8,523.00	16,007.04	6,303.00	115.65	112.21	30.73	-748.57	10,001.60	2,582.74	2,442.42	140.32	18.405	
18,200.00	8,523.00	16,107.04	6,303.00	116.73	113.31	30.73	-747.91	10,101.60	2,582.75	2,441.09	141.66	18.233	
18,300.00	8,523.00	16,207.04	6,303.00	117.82	114.41	30.73	-747.25	10,201.60	2,582.75	2,439.76	142.99	18.063	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: (Permit) Koala 9 Fed Com - (B08) Koala 9 Fed Com 114H - Permit - APD-Rev00

Offset Site Error: 0.00 usft

Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)

Rule Assigned:

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
18,400.00	8,523.00	16,307.04	6,303.00	118.90	115.51	30.73	-746.59	10,301.60	2,582.75	2,438.43	144.32	17.896	
18,500.00	8,523.00	16,407.04	6,303.00	119.98	116.61	30.73	-745.93	10,401.59	2,582.75	2,437.09	145.65	17.732	
18,600.00	8,523.00	16,507.04	6,303.00	121.07	117.71	30.73	-745.26	10,501.59	2,582.75	2,435.76	146.99	17.571	
18,700.00	8,523.00	16,607.04	6,303.00	122.16	118.82	30.73	-744.60	10,601.59	2,582.75	2,434.43	148.32	17.413	
18,800.00	8,523.00	16,707.04	6,303.00	123.24	119.92	30.73	-743.94	10,701.59	2,582.75	2,433.09	149.66	17.258	
18,900.00	8,523.00	16,807.04	6,303.00	124.33	121.02	30.73	-743.28	10,801.58	2,582.75	2,431.76	151.00	17.105	
18,900.38	8,523.00	16,807.42	6,303.00	124.33	121.02	30.73	-743.28	10,801.97	2,582.75	2,431.75	151.00	17.104	
19,009.61	8,523.00	16,890.04	6,303.00	125.52	121.94	30.73	-742.73	10,884.59	2,582.89	2,430.58	152.32	16.958	

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W02_GOVERNMENT AO COM #001_1524032 - Inc Only - Inc Only

Offset Site Error: 0.00 usft

Survey Program: 121-INC-ONLY

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Rule Assigned: Warning
5,500.00	5,470.61	5,442.23	5,441.47	19.60	111.03	-102.83	-492.52	-3,105.19	3,217.47	3,086.84	130.63	24.631	CC
5,600.00	5,569.88	5,551.81	5,550.88	19.96	115.15	-103.07	-493.28	-3,105.19	3,220.43	3,085.32	135.10	23.837	
5,700.00	5,669.14	5,650.72	5,649.74	20.32	119.27	-103.24	-491.21	-3,105.19	3,222.56	3,082.97	139.59	23.086	
5,800.00	5,768.40	5,735.83	5,734.81	20.69	122.82	-103.43	-491.84	-3,105.19	3,225.60	3,082.10	143.50	22.478	
5,900.00	5,867.67	5,840.69	5,838.94	21.05	127.60	-103.66	-492.73	-3,105.19	3,228.73	3,080.09	148.64	21.722	
6,000.00	5,966.93	5,950.21	5,947.93	21.42	134.04	-103.90	-493.28	-3,105.19	3,231.80	3,076.36	155.45	20.791	
6,070.90	6,037.31	6,021.02	6,018.31	21.67	138.42	-104.05	-493.28	-3,105.19	3,233.89	3,073.81	160.08	20.201	
6,100.00	6,066.21	6,049.92	6,047.21	21.78	140.25	-104.12	-493.28	-3,105.19	3,234.73	3,072.70	162.03	19.964	
6,200.00	6,165.70	6,124.83	6,121.93	22.14	145.01	-104.26	-491.35	-3,105.19	3,236.67	3,069.53	167.14	19.365	
6,300.00	6,265.42	6,229.24	6,225.34	22.50	151.85	-104.44	-492.32	-3,105.19	3,238.82	3,064.48	174.34	18.577	
6,400.00	6,365.30	6,351.23	6,346.30	22.86	160.42	-104.58	-493.28	-3,105.19	3,240.28	3,057.01	183.27	17.680	
6,500.00	6,465.27	6,423.59	6,418.50	23.21	165.78	-104.60	-491.87	-3,105.19	3,240.49	3,051.51	188.98	17.148	
6,534.73	6,500.00	6,480.42	6,474.60	23.33	169.99	-109.48	-492.64	-3,105.19	3,240.67	3,047.36	193.32	16.764	
6,585.44	6,550.71	6,537.77	6,531.61	23.51	174.16	-109.47	-492.17	-3,105.19	3,240.51	3,042.84	197.67	16.393	
6,600.00	6,565.27	6,543.22	6,537.05	23.56	174.56	-109.47	-492.20	-3,105.19	3,240.53	3,042.42	198.11	16.357	
6,700.00	6,665.27	6,653.30	6,646.27	23.91	182.27	-109.49	-493.28	-3,105.19	3,240.88	3,034.71	206.18	15.719	
6,770.37	6,735.64	6,723.68	6,716.54	24.16	186.61	-109.46	-491.36	-3,105.19	3,240.24	3,029.47	210.77	15.373	
6,800.00	6,765.27	6,740.52	6,733.36	24.27	187.66	-109.46	-491.46	-3,105.19	3,240.30	3,028.38	211.91	15.291	
6,900.00	6,865.27	6,853.96	6,846.27	24.62	194.16	-109.49	-493.28	-3,105.19	3,240.88	3,022.11	218.77	14.814	
7,000.00	6,965.27	6,954.31	6,946.27	24.97	199.14	-109.49	-493.28	-3,105.19	3,240.88	3,016.77	224.11	14.461	
7,100.00	7,065.27	7,054.54	7,046.27	25.32	203.54	-109.49	-493.28	-3,105.19	3,240.88	3,012.02	228.86	14.161	
7,200.00	7,165.27	7,154.67	7,146.27	25.68	207.46	-109.49	-493.28	-3,105.19	3,240.88	3,007.75	233.14	13.901	
7,300.00	7,265.27	7,254.67	7,246.27	26.03	211.19	-109.49	-493.28	-3,105.19	3,240.88	3,003.67	237.22	13.662	
7,328.37	7,293.64	7,278.86	7,270.41	26.13	212.09	-109.46	-491.69	-3,105.19	3,240.35	3,002.14	238.22	13.603	
7,400.00	7,365.27	7,337.33	7,328.85	26.38	214.27	-109.47	-492.28	-3,105.19	3,240.59	2,999.95	240.64	13.466	
7,500.00	7,465.27	7,454.96	7,446.27	26.74	218.31	-109.49	-493.28	-3,105.19	3,240.88	2,995.84	245.05	13.226	
7,600.00	7,565.27	7,555.08	7,546.27	27.09	221.50	-109.49	-493.28	-3,105.19	3,240.88	2,992.30	248.59	13.037	
7,672.73	7,638.00	7,627.81	7,619.00	27.35	223.59	-109.49	-493.28	-3,105.19	3,240.88	2,989.95	250.93	12.915	
7,700.00	7,665.26	7,655.07	7,646.26	27.44	224.37	155.89	-493.28	-3,105.19	3,241.47	2,989.66	251.81	12.873	ES
7,750.00	7,715.04	7,704.84	7,696.04	27.61	225.80	155.75	-493.28	-3,105.19	3,245.63	2,992.22	253.41	12.808	
7,800.00	7,764.23	7,752.92	7,744.08	27.77	227.18	155.51	-491.53	-3,105.19	3,253.16	2,998.20	254.95	12.760	
7,850.00	7,812.46	7,797.07	7,788.22	27.93	228.45	155.07	-491.66	-3,105.19	3,265.20	3,008.83	256.38	12.736	
7,900.00	7,859.36	7,840.02	7,831.16	28.08	229.69	154.47	-491.95	-3,105.19	3,281.12	3,023.35	257.76	12.729	SF
7,950.00	7,904.57	7,881.44	7,872.58	28.22	230.88	153.67	-492.38	-3,105.19	3,300.78	3,041.69	259.09	12.740	
8,000.00	7,947.76	7,921.03	7,912.15	28.35	232.02	152.65	-492.92	-3,105.19	3,324.05	3,063.68	260.36	12.767	
8,050.00	7,988.59	7,978.62	7,969.59	28.47	233.50	151.49	-493.28	-3,105.19	3,350.59	3,088.62	261.97	12.790	
8,100.00	8,026.76	8,016.78	8,007.76	28.58	234.41	149.93	-493.28	-3,105.19	3,380.27	3,117.29	262.99	12.853	
8,150.00	8,061.96	8,051.98	8,042.96	28.70	235.25	147.99	-493.28	-3,105.19	3,412.96	3,149.04	263.92	12.932	
8,200.00	8,093.94	8,080.38	8,071.34	28.84	235.92	145.53	-492.47	-3,105.19	3,448.15	3,183.47	264.68	13.028	
8,250.00	8,122.44	8,105.33	8,096.28	28.98	236.52	142.39	-492.59	-3,105.19	3,486.15	3,220.81	265.34	13.138	
8,272.73	8,134.20	8,115.62	8,106.57	29.04	236.76	140.70	-492.67	-3,105.19	3,504.19	3,238.58	265.61	13.193	
8,300.00	8,147.72	8,127.47	8,118.42	29.12	237.05	140.56	-492.78	-3,105.19	3,526.17	3,260.25	265.92	13.260	
8,400.00	8,195.40	8,185.49	8,176.40	29.40	238.33	140.22	-493.28	-3,105.19	3,608.11	3,340.81	267.30	13.498	
8,500.00	8,240.02	8,230.12	8,221.02	29.71	239.12	139.57	-493.28	-3,105.19	3,691.88	3,423.69	268.18	13.766	
8,600.00	8,281.54	8,271.63	8,262.54	30.04	239.86	138.72	-493.28	-3,105.19	3,777.50	3,508.49	269.01	14.042	
8,700.00	8,319.91	8,310.00	8,300.91	30.40	240.54	137.65	-493.28	-3,105.19	3,864.85	3,595.08	269.77	14.326	
8,800.00	8,355.06	8,344.53	8,335.43	30.78	241.16	136.32	-492.57	-3,105.19	3,953.62	3,683.16	270.46	14.618	
8,900.00	8,386.98	8,374.81	8,365.71	31.18	241.70	134.64	-492.61	-3,105.19	4,044.07	3,773.01	271.06	14.919	
9,000.00	8,415.60	8,401.98	8,392.88	31.60	242.18	132.58	-492.69	-3,105.19	4,135.88	3,864.27	271.61	15.227	
9,100.00	8,440.91	8,426.01	8,416.91	32.05	242.61	130.05	-492.79	-3,105.19	4,228.92	3,956.82	272.09	15.542	
9,200.00	8,462.86	8,446.86	8,437.76	32.52	242.98	126.96	-492.91	-3,105.19	4,323.04	4,050.53	272.52	15.863	
9,300.00	8,481.43	8,464.51	8,455.41	33.01	243.30	123.18	-493.02	-3,105.19	4,418.13	4,145.25	272.88	16.191	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W02_GOVERNMENT AO COM #001_1524032 - Inc Only - Inc Only

Offset Site Error: 0.00 usft

Survey Program: 121-INC-ONLY

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Rule Assigned: Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,400.00	8,496.61	8,478.93	8,469.83	33.52	243.55	118.55	-493.13	-3,105.19	4,514.04	4,240.87	273.18	16.524	
9,500.00	8,508.36	8,498.48	8,489.36	34.04	243.90	113.27	-493.28	-3,105.19	4,610.65	4,337.09	273.56	16.854	
9,600.00	8,516.68	8,506.80	8,497.68	34.59	244.04	106.49	-493.28	-3,105.19	4,707.81	4,434.07	273.74	17.198	
9,700.00	8,521.56	8,511.68	8,502.56	35.14	244.12	98.43	-493.28	-3,105.19	4,805.39	4,531.54	273.85	17.547	
9,791.36	8,523.00	8,513.12	8,504.00	35.66	244.15	90.00	-493.28	-3,105.19	4,894.82	4,620.92	273.90	17.871	
9,800.00	8,523.00	8,513.12	8,504.00	35.71	244.15	90.00	-493.28	-3,105.19	4,903.29	4,629.38	273.91	17.901	
9,900.00	8,523.00	8,513.12	8,504.00	36.30	244.15	90.00	-493.28	-3,105.19	5,001.32	4,727.38	273.94	18.257	
10,000.00	8,523.00	8,513.12	8,504.00	36.92	244.15	90.00	-493.28	-3,105.19	5,099.43	4,825.46	273.97	18.613	
10,100.00	8,523.00	8,513.12	8,504.00	37.56	244.15	90.00	-493.28	-3,105.19	5,197.61	4,923.61	274.00	18.969	
10,200.00	8,523.00	8,513.12	8,504.00	38.22	244.15	90.00	-493.28	-3,105.19	5,295.85	5,021.82	274.03	19.326	
10,300.00	8,523.00	8,513.12	8,504.00	38.90	244.15	90.00	-493.28	-3,105.19	5,394.17	5,120.10	274.07	19.682	
10,400.00	8,523.00	8,513.12	8,504.00	39.61	244.15	90.00	-493.28	-3,105.19	5,492.54	5,218.44	274.10	20.038	
10,500.00	8,523.00	8,513.12	8,504.00	40.33	244.15	90.00	-493.28	-3,105.19	5,590.97	5,316.83	274.14	20.395	
10,600.00	8,523.00	8,513.12	8,504.00	41.07	244.15	90.00	-493.28	-3,105.19	5,689.46	5,415.28	274.18	20.751	
10,700.00	8,523.00	8,513.12	8,504.00	41.82	244.15	90.00	-493.28	-3,105.19	5,788.00	5,513.78	274.21	21.108	
10,800.00	8,523.00	8,513.12	8,504.00	42.60	244.15	90.00	-493.28	-3,105.19	5,886.59	5,612.33	274.25	21.464	
10,900.00	8,523.00	8,513.12	8,504.00	43.38	244.15	90.00	-493.28	-3,105.19	5,985.22	5,710.93	274.29	21.820	
11,000.00	8,523.00	8,513.12	8,504.00	44.19	244.15	90.00	-493.28	-3,105.19	6,083.90	5,809.56	274.34	22.177	
11,100.00	8,523.00	8,513.12	8,504.00	45.00	244.15	90.00	-493.28	-3,105.19	6,182.62	5,908.24	274.38	22.533	
11,200.00	8,523.00	8,513.12	8,504.00	45.83	244.15	90.00	-493.28	-3,105.19	6,281.38	6,006.96	274.42	22.890	
11,300.00	8,523.00	8,513.12	8,504.00	46.67	244.15	90.00	-493.28	-3,105.19	6,380.18	6,105.72	274.47	23.246	
11,400.00	8,523.00	8,513.12	8,504.00	47.53	244.15	90.00	-493.28	-3,105.19	6,479.02	6,204.51	274.51	23.602	
11,500.00	8,523.00	8,513.12	8,504.00	48.39	244.15	90.00	-493.28	-3,105.19	6,577.89	6,303.34	274.56	23.958	
11,600.00	8,523.00	8,513.12	8,504.00	49.26	244.15	90.00	-493.28	-3,105.19	6,676.80	6,402.20	274.60	24.314	
11,700.00	8,523.00	8,513.12	8,504.00	50.15	244.15	90.00	-493.28	-3,105.19	6,775.74	6,501.09	274.65	24.670	

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W03_PRE-ONGARD WELL #001_1525793 - Inc Only - Inc Only

Offset Site Error: 0.00 usft

Survey Program: 192-INC-ONLY

Offset Well Error: 0.00 usft

Rule Assigned:

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
3,000.00	2,989.02	2,961.44	2,960.89	10.53	64.48	-106.46	-488.52	-1,742.21	1,854.43	1,779.42	75.01	24.723	CC, ES
3,100.00	3,088.29	3,061.86	3,061.29	10.89	66.36	-106.83	-488.77	-1,742.21	1,858.02	1,780.77	77.25	24.053	
3,200.00	3,187.55	3,161.12	3,160.55	11.25	68.29	-107.18	-488.77	-1,742.21	1,861.58	1,782.04	79.54	23.403	
3,300.00	3,286.81	3,257.19	3,256.61	11.61	70.17	-107.52	-488.55	-1,742.21	1,865.14	1,783.36	81.78	22.808	
3,400.00	3,386.08	3,359.67	3,359.08	11.98	72.27	-107.89	-488.77	-1,742.21	1,868.93	1,784.68	84.25	22.183	
3,500.00	3,485.34	3,458.93	3,458.34	12.34	74.39	-108.24	-488.77	-1,742.21	1,872.71	1,785.99	86.72	21.594	
3,600.00	3,584.60	3,556.78	3,556.18	12.70	76.47	-108.56	-488.17	-1,742.21	1,876.32	1,787.15	89.17	21.043	
3,700.00	3,683.87	3,653.64	3,653.04	13.06	78.53	-108.91	-488.50	-1,742.21	1,880.38	1,788.79	91.59	20.530	
3,800.00	3,783.13	3,756.79	3,756.13	13.43	80.68	-109.28	-488.77	-1,742.21	1,884.47	1,790.38	94.10	20.027	
3,900.00	3,882.39	3,855.28	3,854.62	13.79	82.68	-109.60	-488.00	-1,742.21	1,888.21	1,791.74	96.47	19.573	
4,000.00	3,981.66	3,948.85	3,948.18	14.15	84.59	-109.93	-488.43	-1,742.21	1,892.53	1,793.79	98.74	19.167	
4,100.00	4,080.92	4,054.61	4,053.92	14.51	86.63	-110.31	-488.77	-1,742.21	1,896.86	1,795.72	101.14	18.755	
4,200.00	4,180.19	4,153.88	4,153.19	14.88	88.48	-110.65	-488.77	-1,742.21	1,901.12	1,797.77	103.35	18.395	
4,300.00	4,279.45	4,251.20	4,250.50	15.24	90.30	-110.97	-488.50	-1,742.21	1,905.34	1,799.81	105.53	18.055	
4,400.00	4,378.71	4,352.42	4,351.71	15.60	92.19	-111.32	-488.77	-1,742.21	1,909.86	1,802.07	107.78	17.719	
4,500.00	4,477.98	4,451.69	4,450.98	15.97	94.05	-111.66	-488.77	-1,742.21	1,914.32	1,804.32	110.00	17.402	
4,600.00	4,577.24	4,547.99	4,547.27	16.33	95.85	-111.97	-488.43	-1,742.21	1,918.70	1,806.54	112.17	17.106	
4,700.00	4,676.50	4,650.23	4,649.50	16.69	97.79	-112.33	-488.77	-1,742.21	1,923.45	1,808.98	114.47	16.803	
4,800.00	4,775.77	4,711.00	4,710.26	17.05	98.98	-112.53	-488.77	-1,742.21	1,928.50	1,812.51	115.99	16.626	SF
4,900.00	4,875.03	4,711.00	4,710.26	17.42	98.98	-112.53	-488.77	-1,742.21	1,937.75	1,821.68	116.07	16.695	
5,000.00	4,974.29	4,711.00	4,710.26	17.78	98.98	-112.53	-488.77	-1,742.21	1,952.08	1,836.22	115.86	16.848	
5,100.00	5,073.56	4,711.00	4,710.26	18.14	98.98	-112.53	-488.77	-1,742.21	1,971.39	1,856.01	115.38	17.086	
5,200.00	5,172.82	4,711.00	4,710.26	18.51	98.98	-112.53	-488.77	-1,742.21	1,995.53	1,880.87	114.65	17.405	
5,300.00	5,272.09	4,711.00	4,710.26	18.87	98.98	-112.53	-488.77	-1,742.21	2,024.32	1,910.63	113.69	17.805	
5,400.00	5,371.35	4,711.00	4,710.26	19.23	98.98	-112.53	-488.77	-1,742.21	2,057.58	1,945.04	112.54	18.283	
5,500.00	5,470.61	4,711.00	4,710.26	19.60	98.98	-112.53	-488.77	-1,742.21	2,095.08	1,983.87	111.21	18.839	
5,600.00	5,569.88	4,711.00	4,710.26	19.96	98.98	-112.53	-488.77	-1,742.21	2,136.62	2,026.87	109.74	19.469	
5,700.00	5,669.14	4,711.00	4,710.26	20.32	98.98	-112.53	-488.77	-1,742.21	2,181.94	2,073.78	108.16	20.173	
5,800.00	5,768.40	4,711.00	4,710.26	20.69	98.98	-112.53	-488.77	-1,742.21	2,230.84	2,124.34	106.49	20.948	
5,900.00	5,867.67	4,711.00	4,710.26	21.05	98.98	-112.53	-488.77	-1,742.21	2,283.06	2,178.30	104.76	21.793	
6,000.00	5,966.93	4,711.00	4,710.26	21.42	98.98	-112.53	-488.77	-1,742.21	2,338.40	2,235.41	102.99	22.705	
6,070.90	6,037.31	4,711.00	4,710.26	21.67	98.98	-112.53	-488.77	-1,742.21	2,379.41	2,277.69	101.72	23.391	
6,100.00	6,066.21	4,711.00	4,710.26	21.78	98.98	-112.82	-488.77	-1,742.21	2,396.61	2,295.41	101.20	23.683	
6,200.00	6,165.70	4,711.00	4,710.26	22.14	98.98	-113.86	-488.77	-1,742.21	2,456.90	2,357.52	99.38	24.722	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W04_FEDERAL V #001_1526451 - Inc Only - Inc Only

Offset Site Error: 0.00 usft

Survey Program: 456-INC-ONLY

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,200.00	4,180.19	4,168.89	4,168.19	14.88	91.41	-41.31	2,163.05	-1,919.48	2,630.80	2,524.58	106.22	24.768	
4,300.00	4,279.45	4,268.39	4,267.67	15.24	93.90	-41.46	2,164.67	-1,919.48	2,622.80	2,513.74	109.06	24.049	
4,400.00	4,378.71	4,378.21	4,377.47	15.60	96.64	-41.65	2,164.33	-1,919.48	2,613.49	2,501.34	112.16	23.302	
4,500.00	4,477.98	4,487.89	4,487.14	15.97	99.38	-41.87	2,163.36	-1,919.48	2,603.82	2,488.57	115.25	22.592	
4,600.00	4,577.24	4,566.11	4,565.24	16.33	101.53	-42.01	2,163.05	-1,919.48	2,594.48	2,476.70	117.78	22.028	
4,700.00	4,676.50	4,688.45	4,687.56	16.69	105.06	-42.23	2,163.06	-1,919.48	2,585.57	2,463.91	121.65	21.254	
4,800.00	4,775.77	4,764.75	4,763.77	17.05	107.49	-42.37	2,163.05	-1,919.48	2,576.47	2,452.01	124.45	20.702	
4,900.00	4,875.03	4,894.83	4,893.79	17.42	111.63	-42.60	2,163.49	-1,919.48	2,567.98	2,439.04	128.94	19.916	
5,000.00	4,974.29	4,963.47	4,962.29	17.78	113.69	-42.73	2,163.05	-1,919.48	2,558.56	2,427.18	131.38	19.474	
5,100.00	5,073.56	5,062.74	5,061.56	18.14	116.59	-42.92	2,163.05	-1,919.48	2,549.65	2,415.01	134.64	18.937	
5,200.00	5,172.82	5,162.00	5,160.82	18.51	119.48	-43.10	2,163.05	-1,919.48	2,540.76	2,402.87	137.89	18.426	
5,300.00	5,272.09	5,276.47	5,275.21	18.87	122.82	-43.29	2,164.98	-1,919.48	2,533.24	2,391.66	141.58	17.893	
5,400.00	5,371.35	5,391.10	5,389.80	19.23	126.16	-43.53	2,163.44	-1,919.48	2,523.51	2,378.24	145.27	17.371	
5,500.00	5,470.61	5,460.10	5,458.61	19.60	127.98	-43.67	2,163.05	-1,919.48	2,514.26	2,366.78	147.47	17.049	
5,600.00	5,569.88	5,559.36	5,557.88	19.96	130.48	-43.86	2,163.05	-1,919.48	2,505.48	2,355.14	150.33	16.666	
5,700.00	5,669.14	5,658.62	5,657.14	20.32	132.98	-44.05	2,163.05	-1,919.48	2,496.73	2,343.53	153.20	16.298	
5,800.00	5,768.40	5,768.85	5,767.33	20.69	135.76	-44.24	2,164.59	-1,919.48	2,489.04	2,332.71	156.33	15.922	
5,900.00	5,867.67	5,879.13	5,877.58	21.05	138.54	-44.47	2,163.48	-1,919.48	2,479.68	2,320.23	159.46	15.551	
6,000.00	5,966.93	5,956.59	5,954.93	21.42	140.35	-44.63	2,163.05	-1,919.48	2,470.64	2,309.00	161.64	15.285	
6,070.90	6,037.31	6,026.96	6,025.31	21.67	141.90	-44.77	2,163.05	-1,919.48	2,464.52	2,301.06	163.45	15.078	
6,100.00	6,066.21	6,055.86	6,054.21	21.78	142.54	-44.80	2,163.05	-1,919.48	2,462.08	2,297.88	164.20	14.994	
6,200.00	6,165.70	6,155.35	6,153.70	22.14	144.75	-44.89	2,163.05	-1,919.48	2,454.94	2,288.17	166.76	14.721	
6,300.00	6,265.42	6,262.50	6,260.82	22.50	147.12	-44.95	2,164.15	-1,919.48	2,450.38	2,280.89	169.49	14.457	
6,400.00	6,365.30	6,369.87	6,368.18	22.86	149.50	-45.01	2,163.40	-1,919.48	2,446.50	2,274.29	172.22	14.206	
6,500.00	6,465.27	6,455.02	6,453.27	23.21	151.43	-45.02	2,163.05	-1,919.48	2,444.67	2,270.15	174.52	14.008	
6,534.73	6,500.00	6,489.75	6,488.00	23.33	152.24	-49.89	2,163.05	-1,919.48	2,444.56	2,269.11	175.45	13.933	
6,600.00	6,565.27	6,555.02	6,553.27	23.56	153.75	-49.89	2,163.05	-1,919.48	2,444.56	2,267.37	177.19	13.796	
6,700.00	6,665.27	6,655.35	6,653.59	23.91	156.07	-49.87	2,164.12	-1,919.48	2,445.24	2,265.38	179.87	13.595	
6,800.00	6,765.27	6,761.31	6,759.54	24.27	158.53	-49.87	2,163.90	-1,919.48	2,445.11	2,262.44	182.67	13.385	
6,900.00	6,865.27	6,867.27	6,865.50	24.62	160.98	-49.88	2,163.28	-1,919.48	2,444.73	2,259.26	185.47	13.181	
7,000.00	6,965.27	6,955.14	6,953.27	24.97	163.20	-49.89	2,163.05	-1,919.48	2,444.56	2,256.50	188.05	12.999	
7,100.00	7,065.27	7,055.14	7,053.27	25.32	165.82	-49.89	2,163.05	-1,919.48	2,444.56	2,253.52	191.03	12.797	
7,200.00	7,165.27	7,156.30	7,154.41	25.68	168.47	-49.86	2,164.67	-1,919.48	2,445.60	2,251.56	194.04	12.604	
7,300.00	7,265.27	7,265.45	7,263.54	26.03	171.33	-49.86	2,164.27	-1,919.48	2,445.36	2,248.12	197.25	12.397	
7,400.00	7,365.27	7,374.61	7,372.69	26.38	174.20	-49.88	2,163.25	-1,919.48	2,444.76	2,244.30	200.45	12.196	
7,432.73	7,398.00	7,410.34	7,408.41	26.50	175.13	-49.89	2,162.77	-1,919.48	2,444.48	2,242.97	201.50	12.131 CC	
7,500.00	7,465.27	7,455.34	7,453.27	26.74	176.45	-49.89	2,163.05	-1,919.48	2,444.56	2,241.48	203.08	12.038	
7,600.00	7,565.27	7,555.42	7,553.27	27.09	179.29	-49.89	2,163.05	-1,919.48	2,444.56	2,238.28	206.27	11.851	
7,672.73	7,638.00	7,628.15	7,626.00	27.35	181.43	-49.89	2,163.05	-1,919.48	2,444.56	2,235.89	208.67	11.715	
7,700.00	7,665.26	7,655.41	7,653.26	27.44	182.23	-144.46	2,163.05	-1,919.48	2,445.08	2,235.52	209.56	11.668 ES	
7,750.00	7,715.04	7,705.19	7,703.04	27.61	183.69	-144.31	2,163.05	-1,919.48	2,448.79	2,237.60	211.19	11.595	
7,800.00	7,764.23	7,754.38	7,752.23	27.77	185.14	-144.00	2,163.05	-1,919.48	2,456.03	2,243.22	212.81	11.541	
7,850.00	7,812.46	7,803.98	7,801.79	27.93	186.59	-143.50	2,165.18	-1,919.48	2,468.11	2,253.69	214.43	11.510	
7,900.00	7,859.36	7,856.87	7,854.67	28.08	188.15	-142.89	2,165.04	-1,919.48	2,482.18	2,266.04	216.14	11.484	
7,950.00	7,904.57	7,907.89	7,905.67	28.22	189.65	-142.09	2,164.71	-1,919.48	2,499.48	2,281.69	217.79	11.477 SF	
8,000.00	7,947.76	7,956.64	7,954.41	28.35	191.08	-141.09	2,164.22	-1,919.48	2,519.95	2,300.59	219.36	11.488	
8,050.00	7,988.59	8,002.76	8,000.52	28.47	192.43	-139.84	2,163.60	-1,919.48	2,543.47	2,322.62	220.85	11.517	
8,100.00	8,026.76	8,045.89	8,043.63	28.58	193.70	-138.29	2,162.89	-1,919.48	2,569.91	2,347.68	222.24	11.564	
8,150.00	8,061.96	8,052.41	8,049.96	28.70	193.88	-135.88	2,163.05	-1,919.48	2,599.50	2,376.94	222.55	11.680	
8,200.00	8,093.94	8,084.39	8,081.94	28.84	194.79	-133.38	2,163.05	-1,919.48	2,631.76	2,408.19	223.57	11.772	
8,250.00	8,122.44	8,112.89	8,110.44	28.98	195.60	-130.32	2,163.05	-1,919.48	2,666.42	2,441.95	224.47	11.879	
8,272.73	8,134.20	8,124.65	8,122.20	29.04	195.93	-128.71	2,163.05	-1,919.48	2,682.91	2,458.06	224.85	11.932	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W04_FEDERAL V #001_1526451 - Inc Only - Inc Only — **Offset Site Error:** 0.00 usft

Survey Program: 456-INC-ONLY — **Rule Assigned:** — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
8,300.00	8,147.72	8,138.17	8,135.72	29.12	196.31	-128.42	2,163.05	-1,919.48	2,703.01	2,477.73	225.28	11.999	
8,400.00	8,195.40	8,185.85	8,183.40	29.40	197.67	-127.29	2,163.05	-1,919.48	2,777.95	2,551.16	226.79	12.249	
8,500.00	8,240.02	8,230.48	8,228.02	29.71	198.94	-126.01	2,163.05	-1,919.48	2,854.70	2,626.49	228.21	12.509	
8,600.00	8,281.54	8,271.99	8,269.54	30.04	200.12	-124.56	2,163.05	-1,919.48	2,933.17	2,703.63	229.55	12.778	
8,700.00	8,319.91	8,314.64	8,312.14	30.40	201.33	-123.01	2,165.11	-1,919.48	3,014.39	2,783.49	230.90	13.055	
8,800.00	8,355.06	8,354.53	8,352.03	30.78	202.46	-121.33	2,164.95	-1,919.48	3,095.92	2,863.74	232.18	13.334	
8,900.00	8,386.98	8,390.78	8,388.27	31.18	203.49	-119.43	2,164.70	-1,919.48	3,178.83	2,945.48	233.34	13.623	
9,000.00	8,415.60	8,423.31	8,420.80	31.60	204.41	-117.30	2,164.40	-1,919.48	3,263.03	3,028.63	234.40	13.921	
9,100.00	8,440.91	8,452.09	8,449.57	32.05	205.23	-114.93	2,164.07	-1,919.48	3,348.42	3,113.08	235.34	14.228	
9,200.00	8,462.86	8,477.07	8,474.54	32.52	205.94	-112.28	2,163.73	-1,919.48	3,434.89	3,198.73	236.17	14.544	
9,300.00	8,481.43	8,498.21	8,495.67	33.01	206.54	-109.36	2,163.41	-1,919.48	3,522.35	3,285.46	236.88	14.869	
9,400.00	8,496.61	8,515.49	8,512.94	33.52	207.03	-106.16	2,163.13	-1,919.48	3,610.66	3,373.17	237.49	15.204	
9,500.00	8,508.36	8,528.87	8,526.32	34.04	207.41	-102.67	2,162.89	-1,919.48	3,699.72	3,461.75	237.97	15.547	
9,600.00	8,516.68	8,538.34	8,535.79	34.59	207.68	-98.92	2,162.72	-1,919.48	3,789.40	3,551.05	238.35	15.899	
9,700.00	8,521.56	8,543.89	8,541.33	35.14	207.84	-94.92	2,162.61	-1,919.48	3,879.58	3,640.98	238.60	16.260	
9,791.36	8,523.00	8,545.52	8,542.96	35.66	207.88	-91.10	2,162.58	-1,919.48	3,962.30	3,723.56	238.74	16.597	
9,800.00	8,523.00	8,545.52	8,542.96	35.71	207.88	-91.10	2,162.58	-1,919.48	3,970.13	3,731.39	238.74	16.629	
9,900.00	8,523.00	8,545.50	8,542.94	36.30	207.88	-91.10	2,162.58	-1,919.48	4,061.07	3,822.23	238.84	17.003	
10,000.00	8,523.00	8,545.49	8,542.93	36.92	207.88	-91.10	2,162.58	-1,919.48	4,152.42	3,913.48	238.93	17.379	
10,100.00	8,523.00	8,545.47	8,542.92	37.56	207.88	-91.09	2,162.58	-1,919.48	4,244.16	4,005.13	239.03	17.756	
10,200.00	8,523.00	8,545.46	8,542.90	38.22	207.88	-91.09	2,162.58	-1,919.48	4,336.26	4,097.14	239.12	18.134	
10,300.00	8,523.00	8,545.45	8,542.89	38.90	207.88	-91.09	2,162.58	-1,919.48	4,428.71	4,189.50	239.21	18.514	
10,400.00	8,523.00	8,545.43	8,542.87	39.61	207.88	-91.09	2,162.58	-1,919.48	4,521.48	4,282.17	239.31	18.894	
10,500.00	8,523.00	8,545.42	8,542.86	40.33	207.88	-91.09	2,162.58	-1,919.48	4,614.55	4,375.15	239.40	19.276	
10,600.00	8,523.00	8,545.40	8,542.84	41.07	207.88	-91.09	2,162.58	-1,919.48	4,707.91	4,468.42	239.49	19.658	
10,700.00	8,523.00	8,545.39	8,542.83	41.82	207.88	-91.09	2,162.58	-1,919.48	4,801.53	4,561.95	239.58	20.041	
10,800.00	8,523.00	8,545.37	8,542.81	42.60	207.88	-91.09	2,162.58	-1,919.48	4,895.41	4,655.74	239.67	20.426	
10,900.00	8,523.00	8,545.36	8,542.80	43.38	207.88	-91.09	2,162.58	-1,919.48	4,989.52	4,749.76	239.76	20.810	
11,000.00	8,523.00	8,545.34	8,542.78	44.19	207.88	-91.09	2,162.58	-1,919.48	5,083.86	4,844.01	239.85	21.196	
11,100.00	8,523.00	8,545.33	8,542.77	45.00	207.88	-91.09	2,162.58	-1,919.48	5,178.41	4,938.47	239.94	21.582	
11,200.00	8,523.00	8,545.31	8,542.76	45.83	207.88	-91.09	2,162.58	-1,919.48	5,273.16	5,033.14	240.02	21.969	
11,300.00	8,523.00	8,545.30	8,542.74	46.67	207.88	-91.09	2,162.58	-1,919.48	5,368.10	5,127.99	240.11	22.357	
11,400.00	8,523.00	8,545.29	8,542.73	47.53	207.88	-91.09	2,162.58	-1,919.48	5,463.23	5,223.03	240.20	22.745	
11,500.00	8,523.00	8,545.27	8,542.71	48.39	207.88	-91.09	2,162.59	-1,919.48	5,558.52	5,318.24	240.28	23.133	
11,600.00	8,523.00	8,545.26	8,542.70	49.26	207.88	-91.09	2,162.59	-1,919.48	5,653.98	5,413.61	240.37	23.522	
11,700.00	8,523.00	8,545.24	8,542.68	50.15	207.88	-91.09	2,162.59	-1,919.48	5,749.59	5,509.13	240.45	23.911	
11,800.00	8,523.00	8,545.23	8,542.67	51.04	207.88	-91.09	2,162.59	-1,919.48	5,845.34	5,604.81	240.54	24.301	
11,900.00	8,523.00	8,545.21	8,542.65	51.94	207.88	-91.09	2,162.59	-1,919.48	5,941.24	5,700.62	240.62	24.691	

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W05_FEDERAL V #002_1526702 - Inc Only - Inc Only

Offset Site Error: 0.00 usft

Survey Program: 400-INC-ONLY **Rule Assigned:** **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,700.00	5,669.14	5,659.03	5,658.14	20.32	120.25	-27.43	3,482.87	-1,907.05	3,504.13	3,363.71	140.41	24.956	
5,800.00	5,768.40	5,764.19	5,763.29	20.69	122.48	-27.52	3,483.93	-1,907.05	3,494.26	3,351.25	143.01	24.434	
5,900.00	5,867.67	5,874.58	5,873.67	21.05	124.83	-27.63	3,483.50	-1,907.05	3,483.18	3,337.47	145.71	23.905	
6,000.00	5,966.93	5,984.87	5,983.96	21.42	127.18	-27.74	3,482.65	-1,907.05	3,471.79	3,323.38	148.41	23.393	
6,070.90	6,037.31	6,027.28	6,026.31	21.67	128.20	-27.78	3,482.87	-1,907.05	3,464.25	3,314.55	149.70	23.142	
6,100.00	6,066.21	6,056.17	6,055.21	21.78	128.86	-27.78	3,482.87	-1,907.05	3,461.22	3,310.76	150.47	23.003	
6,200.00	6,165.70	6,155.67	6,154.70	22.14	131.16	-27.80	3,482.87	-1,907.05	3,452.32	3,299.20	153.12	22.547	
6,300.00	6,265.42	6,255.38	6,254.42	22.50	133.45	-27.81	3,482.87	-1,907.05	3,445.73	3,289.95	155.77	22.120	
6,400.00	6,365.30	6,330.00	6,328.94	22.86	135.17	-27.81	3,482.87	-1,907.05	3,441.54	3,283.69	157.85	21.802	
6,445.65	6,410.92	6,330.00	6,328.94	23.02	135.17	-27.80	3,482.87	-1,907.05	3,441.00	3,282.99	158.01	21.777	CC, ES
6,500.00	6,465.27	6,330.00	6,328.94	23.21	135.17	-27.81	3,482.87	-1,907.05	3,441.77	3,283.61	158.16	21.761	
6,534.73	6,500.00	6,330.00	6,328.94	23.33	135.17	-32.68	3,482.87	-1,907.05	3,443.07	3,284.84	158.23	21.759	SF
6,600.00	6,565.27	6,330.00	6,328.94	23.56	135.17	-32.68	3,482.87	-1,907.05	3,446.72	3,288.39	158.33	21.769	
6,700.00	6,665.27	6,330.00	6,328.94	23.91	135.17	-32.68	3,482.87	-1,907.05	3,454.70	3,296.32	158.38	21.812	
6,800.00	6,765.27	6,330.00	6,328.94	24.27	135.17	-32.68	3,482.87	-1,907.05	3,465.55	3,307.24	158.31	21.891	
6,900.00	6,865.27	6,330.00	6,328.94	24.62	135.17	-32.68	3,482.87	-1,907.05	3,479.24	3,321.13	158.11	22.005	
7,000.00	6,965.27	6,330.00	6,328.94	24.97	135.17	-32.68	3,482.87	-1,907.05	3,495.73	3,337.94	157.80	22.154	
7,100.00	7,065.27	6,330.00	6,328.94	25.32	135.17	-32.68	3,482.87	-1,907.05	3,515.00	3,357.63	157.37	22.336	
7,200.00	7,165.27	6,330.00	6,328.94	25.68	135.17	-32.68	3,482.87	-1,907.05	3,536.99	3,380.16	156.83	22.553	
7,300.00	7,265.27	6,330.00	6,328.94	26.03	135.17	-32.68	3,482.87	-1,907.05	3,561.65	3,405.46	156.19	22.803	
7,400.00	7,365.27	6,330.00	6,328.94	26.38	135.17	-32.68	3,482.87	-1,907.05	3,588.93	3,433.47	155.46	23.087	
7,500.00	7,465.27	6,330.00	6,328.94	26.74	135.17	-32.68	3,482.87	-1,907.05	3,618.77	3,464.14	154.63	23.403	
7,600.00	7,565.27	6,330.00	6,328.94	27.09	135.17	-32.68	3,482.87	-1,907.05	3,651.10	3,497.38	153.72	23.751	
7,672.73	7,638.00	6,330.00	6,328.94	27.35	135.17	-32.68	3,482.87	-1,907.05	3,676.15	3,523.13	153.01	24.025	
7,700.00	7,665.26	6,330.00	6,328.94	27.44	135.17	-126.41	3,482.87	-1,907.05	3,686.23	3,533.49	152.74	24.134	
7,750.00	7,715.04	6,330.00	6,328.94	27.61	135.17	-124.55	3,482.87	-1,907.05	3,706.98	3,554.75	152.23	24.351	
7,800.00	7,764.23	6,330.00	6,328.94	27.77	135.17	-122.33	3,482.87	-1,907.05	3,730.49	3,578.76	151.73	24.586	
7,850.00	7,812.46	6,330.00	6,328.94	27.93	135.17	-119.71	3,482.87	-1,907.05	3,756.53	3,605.28	151.25	24.837	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W06_FEDERAL V #003_1526867 - Depth Only - Depth Only

Offset Site Error: 0.00 usft

Survey Program: 6300-INC-ONLY

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,900.00	2,889.76	2,880.76	2,880.76	10.17	181.96	-60.94	2,153.11	-4,374.96	4,786.73	4,594.62	192.11	24.916	
3,000.00	2,989.02	2,980.02	2,980.02	10.53	188.23	-61.07	2,153.11	-4,374.96	4,780.83	4,582.08	198.74	24.055	
3,100.00	3,088.29	3,079.29	3,079.29	10.89	194.50	-61.19	2,153.11	-4,374.96	4,774.94	4,569.57	205.37	23.250	
3,200.00	3,187.55	3,178.55	3,178.55	11.25	200.77	-61.32	2,153.11	-4,374.96	4,769.09	4,557.08	212.01	22.495	
3,300.00	3,286.81	3,277.81	3,277.81	11.61	207.04	-61.45	2,153.11	-4,374.96	4,763.25	4,544.62	218.64	21.786	
3,400.00	3,386.08	3,377.08	3,377.08	11.98	213.31	-61.57	2,153.11	-4,374.96	4,757.44	4,532.17	225.27	21.119	
3,500.00	3,485.34	3,476.34	3,476.34	12.34	219.58	-61.70	2,153.11	-4,374.96	4,751.65	4,519.76	231.90	20.490	
3,600.00	3,584.60	3,575.60	3,575.60	12.70	225.85	-61.83	2,153.11	-4,374.96	4,745.89	4,507.36	238.53	19.897	
3,700.00	3,683.87	3,674.87	3,674.87	13.06	232.12	-61.96	2,153.11	-4,374.96	4,740.15	4,494.99	245.16	19.335	
3,800.00	3,783.13	3,774.13	3,774.13	13.43	238.39	-62.09	2,153.11	-4,374.96	4,734.43	4,482.64	251.79	18.803	
3,900.00	3,882.39	3,873.39	3,873.39	13.79	244.66	-62.22	2,153.11	-4,374.96	4,728.74	4,470.32	258.42	18.299	
4,000.00	3,981.66	3,972.66	3,972.66	14.15	250.93	-62.34	2,153.11	-4,374.96	4,723.08	4,458.02	265.05	17.819	
4,100.00	4,080.92	4,071.92	4,071.92	14.51	257.20	-62.47	2,153.11	-4,374.96	4,717.43	4,445.75	271.68	17.364	
4,200.00	4,180.19	4,171.19	4,171.19	14.88	263.47	-62.60	2,153.11	-4,374.96	4,711.81	4,433.50	278.32	16.930	
4,300.00	4,279.45	4,270.45	4,270.45	15.24	269.74	-62.73	2,153.11	-4,374.96	4,706.22	4,421.27	284.95	16.516	
4,400.00	4,378.71	4,369.71	4,369.71	15.60	276.01	-62.86	2,153.11	-4,374.96	4,700.65	4,409.07	291.58	16.121	
4,500.00	4,477.98	4,468.98	4,468.98	15.97	282.28	-63.00	2,153.11	-4,374.96	4,695.11	4,396.89	298.21	15.744	
4,600.00	4,577.24	4,568.24	4,568.24	16.33	288.55	-63.13	2,153.11	-4,374.96	4,689.59	4,384.74	304.84	15.384	
4,700.00	4,676.50	4,667.50	4,667.50	16.69	294.82	-63.26	2,153.11	-4,374.96	4,684.09	4,372.61	311.48	15.038	
4,800.00	4,775.77	4,766.77	4,766.77	17.05	301.09	-63.39	2,153.11	-4,374.96	4,678.62	4,360.51	318.11	14.708	
4,900.00	4,875.03	4,866.03	4,866.03	17.42	307.36	-63.52	2,153.11	-4,374.96	4,673.17	4,348.44	324.74	14.391	
5,000.00	4,974.29	4,965.29	4,965.29	17.78	313.63	-63.65	2,153.11	-4,374.96	4,667.75	4,336.38	331.37	14.086	
5,100.00	5,073.56	5,064.56	5,064.56	18.14	319.90	-63.79	2,153.11	-4,374.96	4,662.36	4,324.36	338.00	13.794	
5,200.00	5,172.82	5,163.82	5,163.82	18.51	326.17	-63.92	2,153.11	-4,374.96	4,656.99	4,312.35	344.64	13.513	
5,300.00	5,272.09	5,263.09	5,263.09	18.87	332.44	-64.05	2,153.11	-4,374.96	4,651.64	4,300.38	351.27	13.242	
5,400.00	5,371.35	5,362.35	5,362.35	19.23	338.71	-64.19	2,153.11	-4,374.96	4,646.33	4,288.43	357.90	12.982	
5,500.00	5,470.61	5,461.61	5,461.61	19.60	344.98	-64.32	2,153.11	-4,374.96	4,641.03	4,276.50	364.53	12.731	
5,600.00	5,569.88	5,560.88	5,560.88	19.96	351.25	-64.45	2,153.11	-4,374.96	4,635.76	4,264.60	371.17	12.490	
5,700.00	5,669.14	5,660.14	5,660.14	20.32	357.52	-64.59	2,153.11	-4,374.96	4,630.52	4,252.72	377.80	12.257	
5,800.00	5,768.40	5,759.40	5,759.40	20.69	363.79	-64.72	2,153.11	-4,374.96	4,625.31	4,240.88	384.43	12.032	
5,900.00	5,867.67	5,858.67	5,858.67	21.05	370.06	-64.86	2,153.11	-4,374.96	4,620.12	4,229.05	391.06	11.814	
6,000.00	5,966.93	5,957.93	5,957.93	21.42	376.33	-64.99	2,153.11	-4,374.96	4,614.95	4,217.25	397.70	11.604	
6,070.90	6,037.31	6,028.31	6,028.31	21.67	380.78	-65.09	2,153.11	-4,374.96	4,611.30	4,208.91	402.40	11.460	
6,100.00	6,066.21	6,057.21	6,057.21	21.78	382.60	-65.11	2,153.11	-4,374.96	4,609.86	4,205.53	404.33	11.401	
6,200.00	6,165.70	6,156.70	6,156.70	22.14	388.89	-65.16	2,153.11	-4,374.96	4,605.61	4,194.64	410.97	11.207	
6,300.00	6,265.42	6,256.42	6,256.42	22.50	395.19	-65.20	2,153.11	-4,374.96	4,602.48	4,184.85	417.63	11.020	
6,400.00	6,365.30	6,300.00	6,292.04	22.86	397.94	-65.21	2,153.11	-4,374.96	4,600.90	4,180.19	420.71	10.936	
6,402.51	6,367.81	6,300.00	6,292.04	22.87	397.94	-65.21	2,153.11	-4,374.96	4,600.90	4,180.18	420.72	10.936	CC, ES, SF
6,500.00	6,465.27	6,300.00	6,292.04	23.21	397.94	-65.23	2,153.11	-4,374.96	4,602.45	4,181.60	420.86	10.936	
6,534.73	6,500.00	6,300.00	6,292.04	23.33	397.94	-70.11	2,153.11	-4,374.96	4,603.76	4,182.90	420.86	10.939	
6,600.00	6,565.27	6,300.00	6,292.04	23.56	397.94	-70.11	2,153.11	-4,374.96	4,607.04	4,186.23	420.81	10.948	
6,700.00	6,665.27	6,300.00	6,292.04	23.91	397.94	-70.11	2,153.11	-4,374.96	4,613.85	4,193.30	420.56	10.971	
6,800.00	6,765.27	6,300.00	6,292.04	24.27	397.94	-70.11	2,153.11	-4,374.96	4,622.82	4,202.70	420.12	11.004	
6,900.00	6,865.27	6,300.00	6,292.04	24.62	397.94	-70.11	2,153.11	-4,374.96	4,633.93	4,214.44	419.49	11.047	
7,000.00	6,965.27	6,300.00	6,292.04	24.97	397.94	-70.11	2,153.11	-4,374.96	4,647.17	4,228.49	418.68	11.100	
7,100.00	7,065.27	6,300.00	6,292.04	25.32	397.94	-70.11	2,153.11	-4,374.96	4,662.51	4,244.83	417.69	11.163	
7,200.00	7,165.27	6,300.00	6,292.04	25.68	397.94	-70.11	2,153.11	-4,374.96	4,679.95	4,263.43	416.52	11.236	
7,300.00	7,265.27	6,300.00	6,292.04	26.03	397.94	-70.11	2,153.11	-4,374.96	4,699.44	4,284.26	415.18	11.319	
7,400.00	7,365.27	6,300.00	6,292.04	26.38	397.94	-70.11	2,153.11	-4,374.96	4,720.97	4,307.29	413.68	11.412	
7,500.00	7,465.27	6,300.00	6,292.04	26.74	397.94	-70.11	2,153.11	-4,374.96	4,744.52	4,332.49	412.02	11.515	
7,600.00	7,565.27	6,300.00	6,292.04	27.09	397.94	-70.11	2,153.11	-4,374.96	4,770.04	4,359.83	410.21	11.628	
7,672.73	7,638.00	6,300.00	6,292.04	27.35	397.94	-70.11	2,153.11	-4,374.96	4,789.83	4,381.02	408.81	11.717	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W06_FEDERAL V #003_1526867 - Depth Only - Depth Only

Offset Site Error: 0.00 usft

Survey Program: 6300-INC-ONLY

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,700.00	7,665.26	6,300.00	6,292.04	27.44	397.94	-164.47	2,153.11	-4,374.96	4,798.11	4,389.84	408.27	11.752	
7,750.00	7,715.04	6,300.00	6,292.04	27.61	397.94	-163.93	2,153.11	-4,374.96	4,816.70	4,409.43	407.27	11.827	
7,800.00	7,764.23	6,300.00	6,292.04	27.77	397.94	-163.20	2,153.11	-4,374.96	4,839.53	4,433.24	406.29	11.911	
7,850.00	7,812.46	6,300.00	6,292.04	27.93	397.94	-162.26	2,153.11	-4,374.96	4,866.36	4,461.03	405.34	12.006	
7,900.00	7,859.36	6,300.00	6,292.04	28.08	397.94	-161.04	2,153.11	-4,374.96	4,896.94	4,492.52	404.43	12.108	
7,950.00	7,904.57	6,300.00	6,292.04	28.22	397.94	-159.47	2,153.11	-4,374.96	4,930.96	4,527.39	403.57	12.218	
8,000.00	7,947.76	6,300.00	6,292.04	28.35	397.94	-157.43	2,153.11	-4,374.96	4,968.10	4,565.31	402.79	12.334	
8,050.00	7,988.59	6,300.00	6,292.04	28.47	397.94	-154.74	2,153.11	-4,374.96	5,008.00	4,605.92	402.08	12.455	
8,100.00	8,026.76	6,300.00	6,292.04	28.58	397.94	-151.12	2,153.11	-4,374.96	5,050.30	4,648.84	401.46	12.580	
8,150.00	8,061.96	6,300.00	6,292.04	28.70	397.94	-146.13	2,153.11	-4,374.96	5,094.62	4,693.68	400.94	12.707	
8,200.00	8,093.94	6,300.00	6,292.04	28.84	397.94	-139.03	2,153.11	-4,374.96	5,140.58	4,740.05	400.53	12.834	
8,250.00	8,122.44	6,300.00	6,292.04	28.98	397.94	-128.69	2,153.11	-4,374.96	5,187.79	4,787.56	400.23	12.962	
8,272.73	8,134.20	6,300.00	6,292.04	29.04	397.94	-122.53	2,153.11	-4,374.96	5,209.56	4,809.43	400.13	13.020	
8,300.00	8,147.72	6,300.00	6,292.04	29.12	397.94	-120.70	2,153.11	-4,374.96	5,235.78	4,835.76	400.02	13.089	
8,400.00	8,195.40	6,300.00	6,292.04	29.40	397.94	-113.54	2,153.11	-4,374.96	5,332.25	4,932.54	399.71	13.340	
8,500.00	8,240.02	6,300.00	6,292.04	29.71	397.94	-105.78	2,153.11	-4,374.96	5,429.04	5,029.55	399.49	13.590	
8,600.00	8,281.54	6,300.00	6,292.04	30.04	397.94	-97.66	2,153.11	-4,374.96	5,526.05	5,126.68	399.37	13.837	
8,700.00	8,319.91	6,300.00	6,292.04	30.40	397.94	-89.47	2,153.11	-4,374.96	5,623.14	5,223.79	399.35	14.081	
8,800.00	8,355.06	6,300.00	6,292.04	30.78	397.94	-81.54	2,153.11	-4,374.96	5,720.18	5,320.77	399.42	14.321	
8,900.00	8,386.98	6,300.00	6,292.04	31.18	397.94	-74.13	2,153.11	-4,374.96	5,817.08	5,417.51	399.57	14.558	
9,000.00	8,415.60	6,300.00	6,292.04	31.60	397.94	-67.41	2,153.11	-4,374.96	5,913.71	5,513.90	399.81	14.791	
9,100.00	8,440.91	6,300.00	6,292.04	32.05	397.94	-61.46	2,153.11	-4,374.96	6,009.99	5,609.86	400.13	15.020	
9,200.00	8,462.86	6,300.00	6,292.04	32.52	397.94	-56.26	2,153.11	-4,374.96	6,105.80	5,705.29	400.52	15.245	
9,300.00	8,481.43	6,300.00	6,292.04	33.01	397.94	-51.75	2,153.11	-4,374.96	6,201.06	5,800.09	400.98	15.465	
9,400.00	8,496.61	6,300.00	6,292.04	33.52	397.94	-47.86	2,153.11	-4,374.96	6,295.68	5,894.19	401.50	15.680	
9,500.00	8,508.36	6,300.00	6,292.04	34.04	397.94	-44.50	2,153.11	-4,374.96	6,389.58	5,987.50	402.08	15.891	
9,600.00	8,516.68	6,300.00	6,292.04	34.59	397.94	-41.59	2,153.11	-4,374.96	6,482.67	6,079.95	402.72	16.097	
9,700.00	8,521.56	6,300.00	6,292.04	35.14	397.94	-39.06	2,153.11	-4,374.96	6,574.88	6,171.47	403.41	16.298	
9,791.36	8,523.00	6,300.00	6,292.04	35.66	397.94	-37.05	2,153.11	-4,374.96	6,658.29	6,254.20	404.09	16.477	
9,800.00	8,523.00	6,300.00	6,292.04	35.71	397.94	-37.05	2,153.11	-4,374.96	6,666.14	6,261.99	404.15	16.494	
9,900.00	8,523.00	6,300.00	6,292.04	36.30	397.94	-37.05	2,153.11	-4,374.96	6,757.13	6,352.23	404.90	16.689	
10,000.00	8,523.00	6,300.00	6,292.04	36.92	397.94	-37.05	2,153.11	-4,374.96	6,848.37	6,442.76	405.61	16.884	
10,100.00	8,523.00	6,300.00	6,292.04	37.56	397.94	-37.05	2,153.11	-4,374.96	6,939.86	6,533.54	406.31	17.080	
10,200.00	8,523.00	6,300.00	6,292.04	38.22	397.94	-37.05	2,153.11	-4,374.96	7,031.57	6,624.59	406.98	17.277	
10,300.00	8,523.00	6,300.00	6,292.04	38.90	397.94	-37.05	2,153.11	-4,374.96	7,123.51	6,715.87	407.64	17.475	
10,400.00	8,523.00	6,300.00	6,292.04	39.61	397.94	-37.05	2,153.11	-4,374.96	7,215.66	6,807.39	408.27	17.674	
10,500.00	8,523.00	6,300.00	6,292.04	40.33	397.94	-37.05	2,153.11	-4,374.96	7,308.02	6,899.14	408.88	17.873	
10,600.00	8,523.00	6,300.00	6,292.04	41.07	397.94	-37.05	2,153.11	-4,374.96	7,400.58	6,991.11	409.48	18.073	
10,700.00	8,523.00	6,300.00	6,292.04	41.82	397.94	-37.05	2,153.11	-4,374.96	7,493.33	7,083.28	410.05	18.274	
10,800.00	8,523.00	6,300.00	6,292.04	42.60	397.94	-37.05	2,153.11	-4,374.96	7,586.26	7,175.65	410.61	18.476	
10,900.00	8,523.00	6,300.00	6,292.04	43.38	397.94	-37.05	2,153.11	-4,374.96	7,679.38	7,268.22	411.15	18.678	
11,000.00	8,523.00	6,300.00	6,292.04	44.19	397.94	-37.05	2,153.11	-4,374.96	7,772.66	7,360.98	411.68	18.880	
11,100.00	8,523.00	6,300.00	6,292.04	45.00	397.94	-37.05	2,153.11	-4,374.96	7,866.11	7,453.91	412.19	19.084	
11,200.00	8,523.00	6,300.00	6,292.04	45.83	397.94	-37.05	2,153.11	-4,374.96	7,959.71	7,547.02	412.69	19.287	
11,300.00	8,523.00	6,300.00	6,292.04	46.67	397.94	-37.05	2,153.11	-4,374.96	8,053.47	7,640.30	413.18	19.492	
11,400.00	8,523.00	6,300.00	6,292.04	47.53	397.94	-37.05	2,153.11	-4,374.96	8,147.38	7,733.74	413.65	19.696	
11,500.00	8,523.00	6,300.00	6,292.04	48.39	397.94	-37.05	2,153.11	-4,374.96	8,241.43	7,827.33	414.10	19.902	
11,600.00	8,523.00	6,300.00	6,292.04	49.26	397.94	-37.05	2,153.11	-4,374.96	8,335.62	7,921.07	414.55	20.108	
11,700.00	8,523.00	6,300.00	6,292.04	50.15	397.94	-37.05	2,153.11	-4,374.96	8,429.95	8,014.96	414.99	20.314	
11,800.00	8,523.00	6,300.00	6,292.04	51.04	397.94	-37.05	2,153.11	-4,374.96	8,524.40	8,108.99	415.41	20.520	
11,900.00	8,523.00	6,300.00	6,292.04	51.94	397.94	-37.05	2,153.11	-4,374.96	8,618.98	8,203.16	415.82	20.727	
12,000.00	8,523.00	6,300.00	6,292.04	52.85	397.94	-37.05	2,153.11	-4,374.96	8,713.68	8,297.45	416.23	20.935	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W06_FEDERAL V #003_1526867 - Depth Only - Depth Only

Offset Site Error: 0.00 usft

Survey Program: 6300-INC-ONLY

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Rule Assigned: Minimum Separation (usft)	Separation Factor	Warning
12,100.00	8,523.00	6,300.00	6,292.04	53.77	397.94	-37.05	2,153.11	-4,374.96	8,808.50	8,391.88	416.62	21.143	
12,200.00	8,523.00	6,300.00	6,292.04	54.70	397.94	-37.05	2,153.11	-4,374.96	8,903.43	8,486.42	417.00	21.351	
12,300.00	8,523.00	6,300.00	6,292.04	55.63	397.94	-37.05	2,153.11	-4,374.96	8,998.47	8,581.09	417.38	21.559	
12,400.00	8,523.00	6,300.00	6,292.04	56.57	397.94	-37.05	2,153.11	-4,374.96	9,093.62	8,675.87	417.75	21.768	
12,500.00	8,523.00	6,300.00	6,292.04	57.52	397.94	-37.05	2,153.11	-4,374.96	9,188.87	8,770.76	418.10	21.977	
12,600.00	8,523.00	6,300.00	6,292.04	58.47	397.94	-37.05	2,153.11	-4,374.96	9,284.22	8,865.76	418.45	22.187	
12,700.00	8,523.00	6,300.00	6,292.04	59.43	397.94	-37.05	2,153.11	-4,374.96	9,379.66	8,960.87	418.80	22.397	
12,800.00	8,523.00	6,300.00	6,292.04	60.39	397.94	-37.05	2,153.11	-4,374.96	9,475.20	9,056.07	419.13	22.607	
12,900.00	8,523.00	6,300.00	6,292.04	61.36	397.94	-37.05	2,153.11	-4,374.96	9,570.83	9,151.37	419.46	22.817	
13,000.00	8,523.00	6,300.00	6,292.04	62.34	397.94	-37.05	2,153.11	-4,374.96	9,666.55	9,246.77	419.78	23.028	
13,100.00	8,523.00	6,300.00	6,292.04	63.32	397.94	-37.05	2,153.11	-4,374.96	9,762.36	9,342.26	420.10	23.238	
13,200.00	8,523.00	6,300.00	6,292.04	64.30	397.94	-37.05	2,153.11	-4,374.96	9,858.25	9,437.85	420.40	23.449	
13,300.00	8,523.00	6,300.00	6,292.04	65.29	397.94	-37.05	2,153.11	-4,374.96	9,954.22	9,533.51	420.71	23.661	
13,400.00	8,523.00	6,300.00	6,292.04	66.29	397.94	-37.05	2,153.11	-4,374.96	10,050.27	9,629.27	421.00	23.872	
13,500.00	8,523.00	6,300.00	6,292.04	67.28	397.94	-37.05	2,153.11	-4,374.96	10,146.39	9,725.10	421.29	24.084	
13,600.00	8,523.00	6,300.00	6,292.04	68.28	397.94	-37.05	2,153.11	-4,374.96	10,242.59	9,821.01	421.58	24.296	
13,700.00	8,523.00	6,300.00	6,292.04	69.29	397.94	-37.05	2,153.11	-4,374.96	10,338.86	9,917.00	421.86	24.508	
13,800.00	8,523.00	6,300.00	6,292.04	70.30	397.94	-37.05	2,153.11	-4,374.96	10,435.20	10,013.07	422.13	24.720	
13,900.00	8,523.00	6,300.00	6,292.04	71.31	397.94	-37.05	2,153.11	-4,374.96	10,531.61	10,109.21	422.40	24.933	

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W07_PRE-ONGARD WELL #001_1527282 - Depth Only - Depth Only

Offset Site Error: 0.00 usft

Survey Program: 7450-INC-ONLY

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
1,100.00	1,100.00	1,067.00	1,067.00	3.71	67.40	-106.58	-488.64	-1,641.15	1,712.35	1,641.25	71.11	24.081	
1,200.00	1,200.00	1,167.00	1,167.00	4.07	73.71	-106.58	-488.64	-1,641.15	1,712.35	1,634.57	77.78	22.015 CC	
1,300.00	1,299.99	1,266.99	1,266.99	4.43	80.03	-101.76	-488.64	-1,641.15	1,712.62	1,628.16	84.46	20.278	
1,400.00	1,399.91	1,366.91	1,366.91	4.79	86.34	-101.88	-488.64	-1,641.15	1,713.42	1,622.30	91.12	18.803	
1,500.00	1,499.69	1,466.69	1,466.69	5.14	92.64	-102.07	-488.64	-1,641.15	1,714.78	1,617.00	97.78	17.536	
1,600.00	1,599.27	1,566.27	1,566.27	5.50	98.93	-102.34	-488.64	-1,641.15	1,716.73	1,612.30	104.43	16.439	
1,663.83	1,662.69	1,629.69	1,629.69	5.73	102.94	-102.55	-488.64	-1,641.15	1,718.29	1,609.62	108.66	15.813	
1,700.00	1,698.59	1,665.59	1,665.59	5.86	105.21	-102.69	-488.64	-1,641.15	1,719.25	1,608.19	111.06	15.480	
1,800.00	1,797.86	1,764.86	1,764.86	6.22	111.48	-103.08	-488.64	-1,641.15	1,721.97	1,604.29	117.69	14.632	
1,900.00	1,897.12	1,864.12	1,864.12	6.57	117.75	-103.47	-488.64	-1,641.15	1,724.77	1,600.46	124.31	13.874	
2,000.00	1,996.39	1,963.39	1,963.39	6.93	124.02	-103.86	-488.64	-1,641.15	1,727.65	1,596.71	130.94	13.194	
2,100.00	2,095.65	2,062.65	2,062.65	7.28	130.29	-104.24	-488.64	-1,641.15	1,730.62	1,593.04	137.57	12.580	
2,200.00	2,194.91	2,161.91	2,161.91	7.64	136.56	-104.63	-488.64	-1,641.15	1,733.66	1,589.46	144.20	12.023	
2,300.00	2,294.18	2,261.18	2,261.18	8.00	142.83	-105.01	-488.64	-1,641.15	1,736.78	1,585.95	150.83	11.515	
2,400.00	2,393.44	2,360.44	2,360.44	8.36	149.10	-105.40	-488.64	-1,641.15	1,739.98	1,582.52	157.46	11.050	
2,500.00	2,492.70	2,459.70	2,459.70	8.72	155.37	-105.78	-488.64	-1,641.15	1,743.25	1,579.16	164.09	10.624	
2,600.00	2,591.97	2,558.97	2,558.97	9.08	161.64	-106.16	-488.64	-1,641.15	1,746.61	1,575.89	170.72	10.231	
2,700.00	2,691.23	2,658.23	2,658.23	9.44	167.91	-106.54	-488.64	-1,641.15	1,750.04	1,572.69	177.35	9.868	
2,800.00	2,790.49	2,757.49	2,757.49	9.81	174.18	-106.91	-488.64	-1,641.15	1,753.55	1,569.57	183.98	9.531	
2,900.00	2,889.76	2,856.76	2,856.76	10.17	180.45	-107.29	-488.64	-1,641.15	1,757.14	1,566.52	190.61	9.218	
3,000.00	2,989.02	2,956.02	2,956.02	10.53	186.72	-107.66	-488.64	-1,641.15	1,760.80	1,563.55	197.24	8.927	
3,100.00	3,088.29	3,055.29	3,055.29	10.89	192.99	-108.03	-488.64	-1,641.15	1,764.54	1,560.66	203.88	8.655	
3,200.00	3,187.55	3,154.55	3,154.55	11.25	199.26	-108.40	-488.64	-1,641.15	1,768.35	1,557.84	210.51	8.400	
3,300.00	3,286.81	3,253.81	3,253.81	11.61	205.53	-108.77	-488.64	-1,641.15	1,772.23	1,555.10	217.14	8.162	
3,400.00	3,386.08	3,353.08	3,353.08	11.98	211.80	-109.14	-488.64	-1,641.15	1,776.20	1,552.43	223.77	7.938	
3,500.00	3,485.34	3,452.34	3,452.34	12.34	218.07	-109.51	-488.64	-1,641.15	1,780.23	1,549.83	230.40	7.727	
3,600.00	3,584.60	3,551.60	3,551.60	12.70	224.34	-109.87	-488.64	-1,641.15	1,784.34	1,547.30	237.03	7.528	
3,700.00	3,683.87	3,650.87	3,650.87	13.06	230.61	-110.23	-488.64	-1,641.15	1,788.52	1,544.85	243.67	7.340	
3,800.00	3,783.13	3,750.13	3,750.13	13.43	236.88	-110.59	-488.64	-1,641.15	1,792.77	1,542.47	250.30	7.163	
3,900.00	3,882.39	3,849.39	3,849.39	13.79	243.15	-110.95	-488.64	-1,641.15	1,797.10	1,540.17	256.93	6.994	
4,000.00	3,981.66	3,948.66	3,948.66	14.15	249.42	-111.31	-488.64	-1,641.15	1,801.49	1,537.93	263.56	6.835	
4,100.00	4,080.92	4,047.92	4,047.92	14.51	255.69	-111.67	-488.64	-1,641.15	1,805.96	1,535.76	270.19	6.684	
4,200.00	4,180.19	4,147.19	4,147.19	14.88	261.96	-112.02	-488.64	-1,641.15	1,810.49	1,533.67	276.83	6.540	
4,300.00	4,279.45	4,246.45	4,246.45	15.24	268.23	-112.37	-488.64	-1,641.15	1,815.10	1,531.64	283.46	6.403	
4,400.00	4,378.71	4,345.71	4,345.71	15.60	274.50	-112.72	-488.64	-1,641.15	1,819.77	1,529.68	290.09	6.273	
4,500.00	4,477.98	4,444.98	4,444.98	15.97	280.77	-113.07	-488.64	-1,641.15	1,824.52	1,527.79	296.72	6.149	
4,600.00	4,577.24	4,544.24	4,544.24	16.33	287.04	-113.42	-488.64	-1,641.15	1,829.33	1,525.97	303.35	6.030	
4,700.00	4,676.50	4,643.50	4,643.50	16.69	293.31	-113.76	-488.64	-1,641.15	1,834.21	1,524.22	309.99	5.917	
4,800.00	4,775.77	4,742.77	4,742.77	17.05	299.58	-114.11	-488.64	-1,641.15	1,839.15	1,522.53	316.62	5.809	
4,900.00	4,875.03	4,842.03	4,842.03	17.42	305.85	-114.45	-488.64	-1,641.15	1,844.16	1,520.91	323.25	5.705	
5,000.00	4,974.29	4,941.29	4,941.29	17.78	312.12	-114.79	-488.64	-1,641.15	1,849.24	1,519.36	329.88	5.606	
5,100.00	5,073.56	5,040.56	5,040.56	18.14	318.39	-115.13	-488.64	-1,641.15	1,854.38	1,517.87	336.52	5.511	
5,200.00	5,172.82	5,139.82	5,139.82	18.51	324.66	-115.46	-488.64	-1,641.15	1,859.59	1,516.44	343.15	5.419	
5,300.00	5,272.09	5,239.09	5,239.09	18.87	330.93	-115.80	-488.64	-1,641.15	1,864.86	1,515.08	349.78	5.332	
5,400.00	5,371.35	5,338.35	5,338.35	19.23	337.20	-116.13	-488.64	-1,641.15	1,870.19	1,513.78	356.41	5.247	
5,500.00	5,470.61	5,437.61	5,437.61	19.60	343.47	-116.46	-488.64	-1,641.15	1,875.59	1,512.55	363.04	5.166	
5,600.00	5,569.88	5,536.88	5,536.88	19.96	349.74	-116.79	-488.64	-1,641.15	1,881.05	1,511.38	369.68	5.088	
5,700.00	5,669.14	5,636.14	5,636.14	20.32	356.01	-117.11	-488.64	-1,641.15	1,886.57	1,510.27	376.31	5.013	
5,800.00	5,768.40	5,735.40	5,735.40	20.69	362.28	-117.44	-488.64	-1,641.15	1,892.16	1,509.22	382.94	4.941	
5,900.00	5,867.67	5,834.67	5,834.67	21.05	368.55	-117.76	-488.64	-1,641.15	1,897.80	1,508.23	389.57	4.872	
6,000.00	5,966.93	5,933.93	5,933.93	21.42	374.82	-118.08	-488.64	-1,641.15	1,903.51	1,507.30	396.20	4.804	
6,070.90	6,037.31	6,004.31	6,004.31	21.67	379.26	-118.31	-488.64	-1,641.15	1,907.59	1,506.68	400.90	4.758	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W07_PRE-ONGARD WELL #001_1527282 - Depth Only - Depth Only

Offset Site Error: 0.00 usft

Survey Program: 7450-INC-ONLY

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Rule Assigned: Warning
6,100.00	6,066.21	6,033.21	6,033.21	21.78	381.09	-118.42	-488.64	-1,641.15	1,909.22	1,506.38	402.84	4.739	
6,200.00	6,165.70	6,132.70	6,132.70	22.14	387.37	-118.75	-488.64	-1,641.15	1,914.05	1,504.57	409.48	4.674	
6,300.00	6,265.42	6,232.42	6,232.42	22.50	393.67	-118.99	-488.64	-1,641.15	1,917.65	1,501.52	416.14	4.608	
6,400.00	6,365.30	6,332.30	6,332.30	22.86	399.98	-119.15	-488.64	-1,641.15	1,920.00	1,497.20	422.80	4.541	
6,500.00	6,465.27	6,432.27	6,432.27	23.21	406.29	-119.22	-488.64	-1,641.15	1,921.09	1,491.61	429.47	4.473	
6,534.73	6,500.00	6,467.00	6,467.00	23.33	408.49	-124.08	-488.64	-1,641.15	1,921.16	1,489.37	431.79	4.449	
6,600.00	6,565.27	6,532.27	6,532.27	23.56	412.61	-124.08	-488.64	-1,641.15	1,921.16	1,485.02	436.14	4.405	
6,700.00	6,665.27	6,632.27	6,632.27	23.91	418.93	-124.08	-488.64	-1,641.15	1,921.16	1,478.35	442.81	4.339	
6,800.00	6,765.27	6,732.27	6,732.27	24.27	425.24	-124.08	-488.64	-1,641.15	1,921.16	1,471.68	449.48	4.274	
6,900.00	6,865.27	6,832.27	6,832.27	24.62	431.56	-124.08	-488.64	-1,641.15	1,921.16	1,465.01	456.15	4.212	
7,000.00	6,965.27	6,932.27	6,932.27	24.97	437.88	-124.08	-488.64	-1,641.15	1,921.16	1,458.34	462.82	4.151	
7,100.00	7,065.27	7,032.27	7,032.27	25.32	444.19	-124.08	-488.64	-1,641.15	1,921.16	1,451.67	469.49	4.092	
7,200.00	7,165.27	7,132.27	7,132.27	25.68	450.51	-124.08	-488.64	-1,641.15	1,921.16	1,445.00	476.16	4.035	
7,300.00	7,265.27	7,232.27	7,232.27	26.03	456.83	-124.08	-488.64	-1,641.15	1,921.16	1,438.33	482.83	3.979	
7,400.00	7,365.27	7,332.27	7,332.27	26.38	463.14	-124.08	-488.64	-1,641.15	1,921.16	1,431.66	489.50	3.925	
7,500.00	7,465.27	7,432.27	7,432.27	26.74	469.46	-124.08	-488.64	-1,641.15	1,921.16	1,424.99	496.17	3.872 ES	
7,600.00	7,565.27	7,450.00	7,440.59	27.09	470.58	-124.08	-488.64	-1,641.15	1,923.35	1,426.30	497.05	3.870 SF	
7,672.73	7,638.00	7,450.00	7,440.59	27.35	470.58	-124.08	-488.64	-1,641.15	1,928.18	1,432.14	496.04	3.887	
7,700.00	7,665.26	7,450.00	7,440.59	27.44	470.58	141.13	-488.64	-1,641.15	1,931.20	1,435.71	495.49	3.898	
7,750.00	7,715.04	7,450.00	7,440.59	27.61	470.58	140.54	-488.64	-1,641.15	1,940.31	1,446.06	494.25	3.926	
7,800.00	7,764.23	7,450.00	7,440.59	27.77	470.58	139.63	-488.64	-1,641.15	1,953.91	1,461.16	492.74	3.965	
7,850.00	7,812.46	7,450.00	7,440.59	27.93	470.58	138.37	-488.64	-1,641.15	1,971.81	1,480.77	491.04	4.016	
7,900.00	7,859.36	7,450.00	7,440.59	28.08	470.58	136.72	-488.64	-1,641.15	1,993.76	1,504.57	489.20	4.076	
7,950.00	7,904.57	7,450.00	7,440.59	28.22	470.58	134.63	-488.64	-1,641.15	2,019.47	1,532.19	487.29	4.144	
8,000.00	7,947.76	7,450.00	7,440.59	28.35	470.58	132.02	-488.64	-1,641.15	2,048.61	1,563.23	485.38	4.221	
8,050.00	7,988.59	7,450.00	7,440.59	28.47	470.58	128.81	-488.64	-1,641.15	2,080.80	1,597.27	483.53	4.303	
8,100.00	8,026.76	7,450.00	7,440.59	28.58	470.58	124.91	-488.64	-1,641.15	2,115.68	1,633.86	481.82	4.391	
8,150.00	8,061.96	7,450.00	7,440.59	28.70	470.58	120.23	-488.64	-1,641.15	2,152.85	1,672.56	480.28	4.482	
8,200.00	8,093.94	7,450.00	7,440.59	28.84	470.58	114.67	-488.64	-1,641.15	2,191.92	1,712.95	478.97	4.576	
8,250.00	8,122.44	7,450.00	7,440.59	28.98	470.58	108.20	-488.64	-1,641.15	2,232.51	1,754.60	477.90	4.671	
8,272.73	8,134.20	7,450.00	7,440.59	29.04	470.58	104.97	-488.64	-1,641.15	2,251.35	1,773.85	477.51	4.715	
8,300.00	8,147.72	7,450.00	7,440.59	29.12	470.58	104.26	-488.64	-1,641.15	2,274.17	1,797.09	477.08	4.767	
8,400.00	8,195.40	7,450.00	7,440.59	29.40	470.58	101.47	-488.64	-1,641.15	2,359.11	1,883.42	475.69	4.959	
8,500.00	8,240.02	7,450.00	7,440.59	29.71	470.58	98.36	-488.64	-1,641.15	2,445.81	1,971.22	474.59	5.154	
8,600.00	8,281.54	7,450.00	7,440.59	30.04	470.58	94.91	-488.64	-1,641.15	2,533.99	2,060.22	473.77	5.349	
8,700.00	8,319.91	7,450.00	7,440.59	30.40	470.58	91.14	-488.64	-1,641.15	2,623.40	2,150.17	473.23	5.544	
8,800.00	8,355.06	7,450.00	7,440.59	30.78	470.58	87.07	-488.64	-1,641.15	2,713.81	2,240.88	472.93	5.738	
8,900.00	8,386.98	7,450.00	7,440.59	31.18	470.58	82.74	-488.64	-1,641.15	2,805.02	2,332.16	472.86	5.932	
9,000.00	8,415.60	7,450.00	7,440.59	31.60	470.58	78.19	-488.64	-1,641.15	2,896.86	2,423.85	473.01	6.124	
9,100.00	8,440.91	7,450.00	7,440.59	32.05	470.58	73.50	-488.64	-1,641.15	2,989.15	2,515.81	473.34	6.315	
9,200.00	8,462.86	7,450.00	7,440.59	32.52	470.58	68.74	-488.64	-1,641.15	3,081.75	2,607.91	473.84	6.504	
9,300.00	8,481.43	7,450.00	7,440.59	33.01	470.58	64.00	-488.64	-1,641.15	3,174.52	2,700.03	474.49	6.690	
9,400.00	8,496.61	7,450.00	7,440.59	33.52	470.58	59.35	-488.64	-1,641.15	3,267.34	2,792.07	475.27	6.875	
9,500.00	8,508.36	7,450.00	7,440.59	34.04	470.58	54.86	-488.64	-1,641.15	3,360.10	2,883.95	476.16	7.057	
9,600.00	8,516.68	7,450.00	7,440.59	34.59	470.58	50.58	-488.64	-1,641.15	3,452.70	2,975.56	477.14	7.236	
9,700.00	8,521.56	7,450.00	7,440.59	35.14	470.58	46.56	-488.64	-1,641.15	3,545.03	3,066.83	478.20	7.413	
9,791.36	8,523.00	7,450.00	7,440.59	35.66	470.58	43.12	-488.64	-1,641.15	3,629.08	3,149.86	479.23	7.573	
9,800.00	8,523.00	7,450.00	7,440.59	35.71	470.58	43.12	-488.64	-1,641.15	3,637.02	3,157.69	479.33	7.588	
9,900.00	8,523.00	7,450.00	7,440.59	36.30	470.58	43.12	-488.64	-1,641.15	3,729.08	3,248.65	480.43	7.762	
10,000.00	8,523.00	7,450.00	7,440.59	36.92	470.58	43.12	-488.64	-1,641.15	3,821.55	3,340.09	481.46	7.937	
10,100.00	8,523.00	7,450.00	7,440.59	37.56	470.58	43.12	-488.64	-1,641.15	3,914.38	3,431.96	482.43	8.114	
10,200.00	8,523.00	7,450.00	7,440.59	38.22	470.58	43.12	-488.64	-1,641.15	4,007.56	3,524.23	483.33	8.292	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W07_PRE-ONGARD WELL #001_1527282 - Depth Only - Depth Only

Offset Site Error: 0.00 usft

Survey Program: 7450-INC-ONLY

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Rule Assigned: Minimum Separation (usft)	Separation Factor	Warning
10,300.00	8,523.00	7,450.00	7,440.59	38.90	470.58	43.12	-488.64	-1,641.15	4,101.06	3,616.88	484.18	8.470	
10,400.00	8,523.00	7,450.00	7,440.59	39.61	470.58	43.12	-488.64	-1,641.15	4,194.86	3,709.88	484.98	8.650	
10,500.00	8,523.00	7,450.00	7,440.59	40.33	470.58	43.12	-488.64	-1,641.15	4,288.94	3,803.21	485.73	8.830	
10,600.00	8,523.00	7,450.00	7,440.59	41.07	470.58	43.12	-488.64	-1,641.15	4,383.29	3,896.85	486.44	9.011	
10,700.00	8,523.00	7,450.00	7,440.59	41.82	470.58	43.12	-488.64	-1,641.15	4,477.87	3,990.77	487.10	9.193	
10,800.00	8,523.00	7,450.00	7,440.59	42.60	470.58	43.12	-488.64	-1,641.15	4,572.69	4,084.96	487.74	9.375	
10,900.00	8,523.00	7,450.00	7,440.59	43.38	470.58	43.12	-488.64	-1,641.15	4,667.73	4,179.39	488.33	9.558	
11,000.00	8,523.00	7,450.00	7,440.59	44.19	470.58	43.12	-488.64	-1,641.15	4,762.96	4,274.07	488.90	9.742	
11,100.00	8,523.00	7,450.00	7,440.59	45.00	470.58	43.12	-488.64	-1,641.15	4,858.39	4,368.96	489.44	9.927	
11,200.00	8,523.00	7,450.00	7,440.59	45.83	470.58	43.12	-488.64	-1,641.15	4,954.00	4,464.06	489.95	10.111	
11,300.00	8,523.00	7,450.00	7,440.59	46.67	470.58	43.12	-488.64	-1,641.15	5,049.78	4,559.35	490.43	10.297	
11,400.00	8,523.00	7,450.00	7,440.59	47.53	470.58	43.12	-488.64	-1,641.15	5,145.72	4,654.83	490.89	10.482	
11,500.00	8,523.00	7,450.00	7,440.59	48.39	470.58	43.12	-488.64	-1,641.15	5,241.82	4,750.48	491.33	10.669	
11,600.00	8,523.00	7,450.00	7,440.59	49.26	470.58	43.12	-488.64	-1,641.15	5,338.05	4,846.30	491.76	10.855	
11,700.00	8,523.00	7,450.00	7,440.59	50.15	470.58	43.12	-488.64	-1,641.15	5,434.42	4,942.26	492.16	11.042	
11,800.00	8,523.00	7,450.00	7,440.59	51.04	470.58	43.12	-488.64	-1,641.15	5,530.92	5,038.38	492.54	11.229	
11,900.00	8,523.00	7,450.00	7,440.59	51.94	470.58	43.12	-488.64	-1,641.15	5,627.55	5,134.63	492.91	11.417	
12,000.00	8,523.00	7,450.00	7,440.59	52.85	470.58	43.12	-488.64	-1,641.15	5,724.28	5,231.02	493.27	11.605	
12,100.00	8,523.00	7,450.00	7,440.59	53.77	470.58	43.12	-488.64	-1,641.15	5,821.13	5,327.53	493.61	11.793	
12,200.00	8,523.00	7,450.00	7,440.59	54.70	470.58	43.12	-488.64	-1,641.15	5,918.09	5,424.16	493.93	11.982	
12,300.00	8,523.00	7,450.00	7,440.59	55.63	470.58	43.12	-488.64	-1,641.15	6,015.14	5,520.89	494.25	12.170	
12,400.00	8,523.00	7,450.00	7,440.59	56.57	470.58	43.12	-488.64	-1,641.15	6,112.29	5,617.74	494.55	12.359	
12,500.00	8,523.00	7,450.00	7,440.59	57.52	470.58	43.12	-488.64	-1,641.15	6,209.53	5,714.69	494.84	12.549	
12,600.00	8,523.00	7,450.00	7,440.59	58.47	470.58	43.12	-488.64	-1,641.15	6,306.85	5,811.73	495.12	12.738	
12,700.00	8,523.00	7,450.00	7,440.59	59.43	470.58	43.12	-488.64	-1,641.15	6,404.26	5,908.87	495.39	12.928	
12,800.00	8,523.00	7,450.00	7,440.59	60.39	470.58	43.12	-488.64	-1,641.15	6,501.75	6,006.09	495.66	13.117	
12,900.00	8,523.00	7,450.00	7,440.59	61.36	470.58	43.12	-488.64	-1,641.15	6,599.31	6,103.39	495.91	13.307	
13,000.00	8,523.00	7,450.00	7,440.59	62.34	470.58	43.12	-488.64	-1,641.15	6,696.94	6,200.78	496.16	13.498	
13,100.00	8,523.00	7,450.00	7,440.59	63.32	470.58	43.12	-488.64	-1,641.15	6,794.64	6,298.24	496.40	13.688	
13,200.00	8,523.00	7,450.00	7,440.59	64.30	470.58	43.12	-488.64	-1,641.15	6,892.41	6,395.78	496.63	13.878	
13,300.00	8,523.00	7,450.00	7,440.59	65.29	470.58	43.12	-488.64	-1,641.15	6,990.24	6,493.38	496.86	14.069	
13,400.00	8,523.00	7,450.00	7,440.59	66.29	470.58	43.12	-488.64	-1,641.15	7,088.14	6,591.06	497.08	14.260	
13,500.00	8,523.00	7,450.00	7,440.59	67.28	470.58	43.12	-488.64	-1,641.15	7,186.09	6,688.79	497.30	14.450	
13,600.00	8,523.00	7,450.00	7,440.59	68.28	470.58	43.12	-488.64	-1,641.15	7,284.09	6,786.59	497.50	14.641	
13,700.00	8,523.00	7,450.00	7,440.59	69.29	470.58	43.12	-488.64	-1,641.15	7,382.15	6,884.44	497.71	14.832	
13,800.00	8,523.00	7,450.00	7,440.59	70.30	470.58	43.12	-488.64	-1,641.15	7,480.26	6,982.35	497.91	15.023	
13,900.00	8,523.00	7,450.00	7,440.59	71.31	470.58	43.12	-488.64	-1,641.15	7,578.42	7,080.32	498.10	15.215	
14,000.00	8,523.00	7,450.00	7,440.59	72.32	470.58	43.12	-488.64	-1,641.15	7,676.63	7,178.34	498.29	15.406	
14,100.00	8,523.00	7,450.00	7,440.59	73.34	470.58	43.12	-488.64	-1,641.15	7,774.88	7,276.40	498.48	15.597	
14,200.00	8,523.00	7,450.00	7,440.59	74.36	470.58	43.12	-488.64	-1,641.15	7,873.18	7,374.52	498.66	15.789	
14,300.00	8,523.00	7,450.00	7,440.59	75.39	470.58	43.12	-488.64	-1,641.15	7,971.52	7,472.68	498.84	15.980	
14,400.00	8,523.00	7,450.00	7,440.59	76.41	470.58	43.12	-488.64	-1,641.15	8,069.90	7,570.88	499.01	16.172	
14,500.00	8,523.00	7,450.00	7,440.59	77.44	470.58	43.12	-488.64	-1,641.15	8,168.32	7,669.13	499.19	16.363	
14,600.00	8,523.00	7,450.00	7,440.59	78.47	470.58	43.12	-488.64	-1,641.15	8,266.78	7,767.42	499.36	16.555	
14,700.00	8,523.00	7,450.00	7,440.59	79.51	470.58	43.12	-488.64	-1,641.15	8,365.27	7,865.75	499.52	16.747	
14,800.00	8,523.00	7,450.00	7,440.59	80.55	470.58	43.12	-488.64	-1,641.15	8,463.80	7,964.12	499.69	16.938	
14,900.00	8,523.00	7,450.00	7,440.59	81.58	470.58	43.12	-488.64	-1,641.15	8,562.36	8,062.52	499.85	17.130	
15,000.00	8,523.00	7,450.00	7,440.59	82.63	470.58	43.12	-488.64	-1,641.15	8,660.96	8,160.96	500.00	17.322	
15,100.00	8,523.00	7,450.00	7,440.59	83.67	470.58	43.12	-488.64	-1,641.15	8,759.59	8,259.43	500.16	17.514	
15,200.00	8,523.00	7,450.00	7,440.59	84.71	470.58	43.12	-488.64	-1,641.15	8,858.25	8,357.93	500.31	17.705	
15,300.00	8,523.00	7,450.00	7,440.59	85.76	470.58	43.12	-488.64	-1,641.15	8,956.94	8,456.47	500.47	17.897	
15,400.00	8,523.00	7,450.00	7,440.59	86.81	470.58	43.12	-488.64	-1,641.15	9,055.65	8,555.04	500.62	18.089	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W07_PRE-ONGARD WELL #001_1527282 - Depth Only - Depth Only

Offset Site Error: 0.00 usft

Survey Program: 7450-INC-ONLY

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,500.00	8,523.00	7,450.00	7,440.59	87.86	470.58	43.12	-488.64	-1,641.15	9,154.40	8,653.64	500.76	18.281	
15,600.00	8,523.00	7,450.00	7,440.59	88.91	470.58	43.12	-488.64	-1,641.15	9,253.17	8,752.26	500.91	18.473	
15,700.00	8,523.00	7,450.00	7,440.59	89.97	470.58	43.12	-488.64	-1,641.15	9,351.97	8,850.92	501.05	18.665	
15,800.00	8,523.00	7,450.00	7,440.59	91.02	470.58	43.12	-488.64	-1,641.15	9,450.79	8,949.60	501.20	18.856	
15,900.00	8,523.00	7,450.00	7,440.59	92.08	470.58	43.12	-488.64	-1,641.15	9,549.64	9,048.30	501.34	19.048	
16,000.00	8,523.00	7,450.00	7,440.59	93.14	470.58	43.12	-488.64	-1,641.15	9,648.51	9,147.04	501.48	19.240	
16,100.00	8,523.00	7,450.00	7,440.59	94.20	470.58	43.12	-488.64	-1,641.15	9,747.41	9,245.79	501.62	19.432	
16,200.00	8,523.00	7,450.00	7,440.59	95.26	470.58	43.12	-488.64	-1,641.15	9,846.33	9,344.57	501.76	19.624	
16,300.00	8,523.00	7,450.00	7,440.59	96.32	470.58	43.12	-488.64	-1,641.15	9,945.27	9,443.37	501.89	19.816	
16,400.00	8,523.00	7,450.00	7,440.59	97.39	470.58	43.12	-488.64	-1,641.15	10,044.23	9,542.20	502.03	20.007	
16,500.00	8,523.00	7,450.00	7,440.59	98.45	470.58	43.12	-488.64	-1,641.15	10,143.21	9,641.04	502.16	20.199	
16,600.00	8,523.00	7,450.00	7,440.59	99.52	470.58	43.12	-488.64	-1,641.15	10,242.21	9,739.91	502.30	20.391	
16,700.00	8,523.00	7,450.00	7,440.59	100.59	470.58	43.12	-488.64	-1,641.15	10,341.23	9,838.80	502.43	20.582	
16,800.00	8,523.00	7,450.00	7,440.59	101.66	470.58	43.12	-488.64	-1,641.15	10,440.26	9,937.70	502.56	20.774	
16,900.00	8,523.00	7,450.00	7,440.59	102.73	470.58	43.12	-488.64	-1,641.15	10,539.32	10,036.63	502.69	20.966	
17,000.00	8,523.00	7,450.00	7,440.59	103.80	470.58	43.12	-488.64	-1,641.15	10,638.39	10,135.57	502.82	21.157	
17,100.00	8,523.00	7,450.00	7,440.59	104.87	470.58	43.12	-488.64	-1,641.15	10,737.49	10,234.54	502.95	21.349	
17,200.00	8,523.00	7,450.00	7,440.59	105.95	470.58	43.12	-488.64	-1,641.15	10,836.59	10,333.52	503.08	21.541	
17,300.00	8,523.00	7,450.00	7,440.59	107.02	470.58	43.12	-488.64	-1,641.15	10,935.72	10,432.51	503.21	21.732	
17,400.00	8,523.00	7,450.00	7,440.59	108.10	470.58	43.12	-488.64	-1,641.15	11,034.86	10,531.52	503.33	21.924	
17,500.00	8,523.00	7,450.00	7,440.59	109.17	470.58	43.12	-488.64	-1,641.15	11,134.01	10,630.55	503.46	22.115	
17,600.00	8,523.00	7,450.00	7,440.59	110.25	470.58	43.12	-488.64	-1,641.15	11,233.18	10,729.60	503.59	22.306	
17,700.00	8,523.00	7,450.00	7,440.59	111.33	470.58	43.12	-488.64	-1,641.15	11,332.37	10,828.66	503.71	22.498	
17,800.00	8,523.00	7,450.00	7,440.59	112.41	470.58	43.12	-488.64	-1,641.15	11,431.57	10,927.73	503.84	22.689	
17,900.00	8,523.00	7,450.00	7,440.59	113.49	470.58	43.12	-488.64	-1,641.15	11,530.78	11,026.82	503.96	22.880	
18,000.00	8,523.00	7,450.00	7,440.59	114.57	470.58	43.12	-488.64	-1,641.15	11,630.01	11,125.92	504.09	23.071	
18,100.00	8,523.00	7,450.00	7,440.59	115.65	470.58	43.12	-488.64	-1,641.15	11,729.25	11,225.03	504.21	23.263	
18,200.00	8,523.00	7,450.00	7,440.59	116.73	470.58	43.12	-488.64	-1,641.15	11,828.50	11,324.16	504.34	23.454	
18,300.00	8,523.00	7,450.00	7,440.59	117.82	470.58	43.12	-488.64	-1,641.15	11,927.76	11,423.30	504.46	23.645	
18,400.00	8,523.00	7,450.00	7,440.59	118.90	470.58	43.12	-488.64	-1,641.15	12,027.04	11,522.46	504.58	23.836	
18,500.00	8,523.00	7,450.00	7,440.59	119.98	470.58	43.12	-488.64	-1,641.15	12,126.33	11,621.62	504.70	24.027	
18,600.00	8,523.00	7,450.00	7,440.59	121.07	470.58	43.12	-488.64	-1,641.15	12,225.63	11,720.80	504.83	24.217	
18,700.00	8,523.00	7,450.00	7,440.59	122.16	470.58	43.12	-488.64	-1,641.15	12,324.94	11,819.99	504.95	24.408	
18,800.00	8,523.00	7,450.00	7,440.59	123.24	470.58	43.12	-488.64	-1,641.15	12,424.26	11,919.19	505.07	24.599	
18,900.00	8,523.00	7,450.00	7,440.59	124.33	470.58	43.12	-488.64	-1,641.15	12,523.60	12,018.40	505.19	24.790	
19,009.61	8,523.00	7,450.00	7,440.59	125.52	470.58	43.12	-488.64	-1,641.15	12,632.49	12,127.16	505.33	24.999	

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W08_FEDERAL V COM #004_1535127 - Inc Only - Inc Only

Offset Site Error: 0.00 usft

Survey Program: 262-INC-ONLY

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,700.00	6,665.27	6,642.15	6,640.27	23.91	159.39	-64.29	2,546.05	-4,116.97	4,513.80	4,330.57	183.23	24.635	
6,800.00	6,765.27	6,750.68	6,748.79	24.27	162.01	-64.30	2,545.37	-4,116.97	4,513.53	4,327.32	186.20	24.240	
6,900.00	6,865.27	6,834.28	6,832.27	24.62	164.10	-64.31	2,544.77	-4,116.97	4,513.24	4,324.59	188.65	23.924	
7,000.00	6,965.27	6,934.28	6,932.27	24.97	166.83	-64.31	2,544.77	-4,116.97	4,513.24	4,321.50	191.74	23.539	
7,100.00	7,065.27	7,043.06	7,041.04	25.32	169.81	-64.29	2,545.76	-4,116.97	4,513.68	4,318.61	195.06	23.140	
7,200.00	7,165.27	7,160.71	7,158.66	25.68	173.02	-64.31	2,544.70	-4,116.97	4,513.29	4,314.66	198.63	22.723	
7,221.50	7,186.77	7,186.01	7,183.96	25.75	173.72	-64.31	2,544.34	-4,116.97	4,513.15	4,313.76	199.39	22.635	CC
7,300.00	7,265.27	7,234.44	7,232.27	26.03	175.12	-64.31	2,544.77	-4,116.97	4,513.24	4,312.15	201.09	22.444	
7,400.00	7,365.27	7,354.34	7,352.14	26.38	178.53	-64.30	2,545.49	-4,116.97	4,513.60	4,308.75	204.84	22.035	
7,500.00	7,465.27	7,434.57	7,432.27	26.74	180.81	-64.31	2,544.77	-4,116.97	4,513.24	4,305.76	207.48	21.752	
7,600.00	7,565.27	7,534.93	7,532.61	27.09	183.66	-64.29	2,545.73	-4,116.97	4,513.66	4,302.97	210.69	21.423	
7,672.73	7,638.00	7,630.24	7,627.91	27.35	186.37	-64.30	2,545.17	-4,116.97	4,513.47	4,299.82	213.65	21.126	
7,675.98	7,641.25	7,634.50	7,632.17	27.36	186.50	-158.90	2,545.11	-4,116.97	4,513.46	4,299.68	213.78	21.112	
7,700.00	7,665.26	7,665.98	7,663.63	27.44	187.39	-158.89	2,544.67	-4,116.97	4,513.91	4,299.15	214.76	21.019	ES
7,750.00	7,715.04	7,684.48	7,682.04	27.61	187.81	-158.75	2,544.77	-4,116.97	4,518.09	4,302.74	215.36	20.980	
7,800.00	7,764.23	7,733.67	7,731.23	27.77	189.00	-158.49	2,544.77	-4,116.97	4,526.37	4,309.66	216.71	20.887	
7,850.00	7,812.46	7,781.89	7,779.46	27.93	190.17	-158.08	2,544.77	-4,116.97	4,538.63	4,320.59	218.04	20.815	
7,900.00	7,859.36	7,845.38	7,842.91	28.08	191.70	-157.54	2,545.60	-4,116.97	4,555.16	4,335.43	219.73	20.731	
7,950.00	7,904.57	7,907.77	7,905.28	28.22	193.21	-156.86	2,544.80	-4,116.97	4,574.82	4,353.44	221.38	20.665	SF
8,000.00	7,947.76	7,917.28	7,914.76	28.35	193.41	-155.83	2,544.77	-4,116.97	4,598.21	4,376.48	221.73	20.738	
8,050.00	7,988.59	7,958.11	7,955.59	28.47	194.23	-154.63	2,544.77	-4,116.97	4,625.20	4,402.52	222.67	20.771	
8,100.00	8,026.76	7,996.27	7,993.76	28.58	194.99	-153.12	2,544.77	-4,116.97	4,655.44	4,431.88	223.55	20.825	
8,150.00	8,061.96	8,031.48	8,028.96	28.70	195.69	-151.23	2,544.77	-4,116.97	4,688.71	4,464.35	224.36	20.898	
8,200.00	8,093.94	8,066.89	8,064.37	28.84	196.40	-148.87	2,545.14	-4,116.97	4,724.92	4,499.76	225.16	20.985	
8,250.00	8,122.44	8,098.73	8,096.21	28.98	197.03	-145.87	2,545.06	-4,116.97	4,763.47	4,537.59	225.87	21.089	
8,272.73	8,134.20	8,111.86	8,109.34	29.04	197.29	-144.24	2,545.01	-4,116.97	4,781.74	4,555.57	226.17	21.142	
8,300.00	8,147.72	8,126.98	8,124.45	29.12	197.59	-143.79	2,544.94	-4,116.97	4,803.99	4,577.48	226.51	21.209	
8,400.00	8,195.40	8,164.94	8,162.40	29.40	198.35	-141.89	2,544.77	-4,116.97	4,886.56	4,659.17	227.39	21.490	
8,500.00	8,240.02	8,209.57	8,207.02	29.71	199.24	-139.93	2,544.77	-4,116.97	4,970.69	4,742.29	228.40	21.763	
8,600.00	8,281.54	8,251.09	8,248.54	30.04	200.07	-137.78	2,544.77	-4,116.97	5,056.22	4,826.87	229.35	22.046	
8,700.00	8,319.91	8,289.45	8,286.91	30.40	200.84	-135.42	2,544.77	-4,116.97	5,143.03	4,912.80	230.23	22.339	
8,800.00	8,355.06	8,325.96	8,323.41	30.78	201.57	-132.82	2,545.44	-4,116.97	5,231.31	5,000.24	231.07	22.640	
8,900.00	8,386.98	8,361.93	8,359.38	31.18	202.28	-130.01	2,545.38	-4,116.97	5,320.39	5,088.50	231.89	22.943	
9,000.00	8,415.60	8,394.22	8,391.66	31.60	202.93	-126.91	2,545.27	-4,116.97	5,410.45	5,177.82	232.64	23.257	
9,100.00	8,440.91	8,422.77	8,420.22	32.05	203.50	-123.48	2,545.12	-4,116.97	5,501.40	5,268.09	233.31	23.580	
9,200.00	8,462.86	8,447.56	8,445.00	32.52	203.99	-119.71	2,544.95	-4,116.97	5,593.11	5,359.22	233.90	23.913	
9,300.00	8,481.43	8,468.53	8,465.97	33.01	204.41	-115.57	2,544.78	-4,116.97	5,685.51	5,451.10	234.41	24.255	
9,400.00	8,496.61	8,485.67	8,483.10	33.52	204.75	-111.06	2,544.62	-4,116.97	5,778.48	5,543.64	234.84	24.606	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W09_GOVERNMENT AB #002_1521480 - Inc Only - Inc Only — **Offset Site Error:** 0.00 usft

Survey Program: 300-INC-ONLY — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,500.00	8,523.00	8,494.45	8,491.59	57.52	207.67	-91.32	902.11	10,242.61	5,861.18	5,623.03	238.16	24.611	
12,600.00	8,523.00	8,494.44	8,491.58	58.47	207.67	-91.32	902.11	10,242.61	5,761.34	5,523.13	238.21	24.186	
12,700.00	8,523.00	8,494.42	8,491.57	59.43	207.67	-91.32	902.11	10,242.61	5,661.51	5,423.25	238.26	23.762	
12,800.00	8,523.00	8,494.41	8,491.55	60.39	207.67	-91.31	902.11	10,242.61	5,561.68	5,323.36	238.32	23.337	
12,900.00	8,523.00	8,494.40	8,491.54	61.36	207.67	-91.31	902.11	10,242.61	5,461.86	5,223.49	238.37	22.913	
13,000.00	8,523.00	8,494.38	8,491.52	62.34	207.66	-91.31	902.11	10,242.61	5,362.05	5,123.61	238.43	22.489	
13,100.00	8,523.00	8,494.37	8,491.51	63.32	207.66	-91.31	902.11	10,242.61	5,262.24	5,023.75	238.49	22.065	
13,200.00	8,523.00	8,494.35	8,491.50	64.30	207.66	-91.30	902.11	10,242.61	5,162.44	4,923.88	238.55	21.641	
13,300.00	8,523.00	8,494.34	8,491.48	65.29	207.66	-91.30	902.11	10,242.61	5,062.65	4,824.03	238.62	21.217	
13,400.00	8,523.00	8,494.33	8,491.47	66.29	207.66	-91.30	902.11	10,242.61	4,962.86	4,724.18	238.68	20.793	
13,500.00	8,523.00	8,494.31	8,491.45	67.28	207.66	-91.30	902.11	10,242.61	4,863.09	4,624.34	238.75	20.369	
13,600.00	8,523.00	8,494.30	8,491.44	68.28	207.66	-91.29	902.11	10,242.61	4,763.32	4,524.50	238.82	19.945	
13,700.00	8,523.00	8,494.28	8,491.43	69.29	207.66	-91.29	902.11	10,242.61	4,663.56	4,424.67	238.89	19.522	
13,800.00	8,523.00	8,494.27	8,491.41	70.30	207.66	-91.29	902.11	10,242.61	4,563.82	4,324.85	238.97	19.098	
13,900.00	8,523.00	8,494.26	8,491.40	71.31	207.66	-91.29	902.11	10,242.61	4,464.09	4,225.04	239.04	18.675	
14,000.00	8,523.00	8,494.24	8,491.38	72.32	207.66	-91.29	902.11	10,242.61	4,364.36	4,125.24	239.12	18.251	
14,100.00	8,523.00	8,494.23	8,491.37	73.34	207.66	-91.28	902.11	10,242.61	4,264.66	4,025.45	239.21	17.828	
14,200.00	8,523.00	8,494.21	8,491.36	74.36	207.66	-91.28	902.11	10,242.61	4,164.96	3,925.67	239.29	17.405	
14,300.00	8,523.00	8,494.20	8,491.34	75.39	207.66	-91.28	902.11	10,242.61	4,065.28	3,825.90	239.38	16.982	
14,400.00	8,523.00	8,494.19	8,491.33	76.41	207.66	-91.28	902.12	10,242.61	3,965.62	3,726.14	239.48	16.559	
14,500.00	8,523.00	8,494.17	8,491.31	77.44	207.66	-91.27	902.12	10,242.61	3,865.97	3,626.40	239.58	16.137	
14,600.00	8,523.00	8,494.16	8,491.30	78.47	207.66	-91.27	902.12	10,242.61	3,766.35	3,526.67	239.68	15.714	
14,700.00	8,523.00	8,494.14	8,491.29	79.51	207.66	-91.27	902.12	10,242.61	3,666.74	3,426.95	239.79	15.292	
14,800.00	8,523.00	8,494.13	8,491.27	80.55	207.66	-91.27	902.12	10,242.61	3,567.15	3,327.25	239.90	14.869	
14,900.00	8,523.00	8,494.12	8,491.26	81.58	207.66	-91.26	902.12	10,242.61	3,467.59	3,227.57	240.02	14.447	
15,000.00	8,523.00	8,494.10	8,491.24	82.63	207.66	-91.26	902.12	10,242.61	3,368.06	3,127.91	240.14	14.025	
15,100.00	8,523.00	8,494.09	8,491.23	83.67	207.66	-91.26	902.12	10,242.61	3,268.55	3,028.27	240.28	13.603	
15,200.00	8,523.00	8,494.07	8,491.22	84.71	207.66	-91.26	902.12	10,242.61	3,169.08	2,928.66	240.42	13.181	
15,300.00	8,523.00	8,494.06	8,491.20	85.76	207.65	-91.25	902.12	10,242.61	3,069.63	2,829.06	240.57	12.760	
15,400.00	8,523.00	8,494.05	8,491.19	86.81	207.65	-91.25	902.12	10,242.61	2,970.23	2,729.50	240.73	12.338	
15,500.00	8,523.00	8,494.03	8,491.17	87.86	207.65	-91.25	902.12	10,242.61	2,870.87	2,629.96	240.91	11.917	
15,600.00	8,523.00	8,494.02	8,491.16	88.91	207.65	-91.25	902.12	10,242.61	2,771.55	2,530.46	241.10	11.496	
15,700.00	8,523.00	8,494.00	8,491.15	89.97	207.65	-91.24	902.12	10,242.61	2,672.29	2,430.99	241.30	11.075	
15,800.00	8,523.00	8,493.99	8,491.13	91.02	207.65	-91.24	902.12	10,242.61	2,573.08	2,331.56	241.52	10.654	
15,900.00	8,523.00	8,493.98	8,491.12	92.08	207.65	-91.24	902.12	10,242.61	2,473.93	2,232.17	241.77	10.233	
16,000.00	8,523.00	8,493.96	8,491.10	93.14	207.65	-91.24	902.12	10,242.61	2,374.86	2,132.83	242.03	9.812	
16,100.00	8,523.00	8,493.95	8,491.09	94.20	207.65	-91.23	902.12	10,242.61	2,275.87	2,033.54	242.33	9.392	
16,200.00	8,523.00	8,493.93	8,491.08	95.26	207.65	-91.23	902.12	10,242.61	2,176.97	1,934.31	242.66	8.971	
16,300.00	8,523.00	8,493.92	8,491.06	96.32	207.65	-91.23	902.12	10,242.61	2,078.17	1,835.14	243.03	8.551	
16,400.00	8,523.00	8,493.91	8,491.05	97.39	207.65	-91.23	902.12	10,242.61	1,979.50	1,736.05	243.45	8.131	
16,500.00	8,523.00	8,493.89	8,491.03	98.45	207.65	-91.22	902.12	10,242.61	1,880.96	1,637.04	243.92	7.711	
16,600.00	8,523.00	8,493.88	8,491.02	99.52	207.65	-91.22	902.12	10,242.61	1,782.59	1,538.13	244.47	7.292	
16,700.00	8,523.00	8,493.86	8,491.01	100.59	207.65	-91.22	902.12	10,242.61	1,684.42	1,439.32	245.10	6.872	
16,800.00	8,523.00	8,493.85	8,490.99	101.66	207.65	-91.22	902.12	10,242.61	1,586.46	1,340.63	245.83	6.454	
16,900.00	8,523.00	8,493.84	8,490.98	102.73	207.65	-91.21	902.12	10,242.61	1,488.79	1,242.10	246.69	6.035	
17,000.00	8,523.00	8,493.82	8,490.96	103.80	207.65	-91.21	902.12	10,242.61	1,391.44	1,143.73	247.71	5.617	
17,100.00	8,523.00	8,493.81	8,490.95	104.87	207.65	-91.21	902.12	10,242.61	1,294.49	1,045.56	248.94	5.200	
17,200.00	8,523.00	8,493.79	8,490.94	105.95	207.65	-91.21	902.12	10,242.61	1,198.05	947.63	250.42	4.784	
17,300.00	8,523.00	8,493.78	8,490.92	107.02	207.65	-91.20	902.12	10,242.61	1,102.24	850.01	252.23	4.370	
17,400.00	8,523.00	8,493.77	8,490.91	108.10	207.65	-91.20	902.12	10,242.61	1,007.25	752.77	254.48	3.958	
17,500.00	8,523.00	8,493.75	8,490.89	109.17	207.65	-91.20	902.12	10,242.61	913.33	656.03	257.30	3.550	
17,600.00	8,523.00	8,493.74	8,490.88	110.25	207.65	-91.20	902.12	10,242.61	820.84	559.97	260.88	3.146	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W09_GOVERNMENT AB #002_1521480 - Inc Only - Inc Only

Offset Site Error: 0.00 usft

Survey Program: 300-INC-ONLY

Rule Assigned:

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,700.00	8,523.00	8,493.72	8,490.87	111.33	207.64	-91.20	902.12	10,242.61	730.34	464.87	265.47	2.751	
17,800.00	8,523.00	8,493.71	8,490.85	112.41	207.64	-91.19	902.12	10,242.61	642.66	371.25	271.41	2.368	
17,900.00	8,523.00	8,493.70	8,490.84	113.49	207.64	-91.19	902.12	10,242.61	559.13	280.00	279.13	2.003	
18,000.00	8,523.00	8,493.68	8,490.83	114.57	207.64	-91.19	902.13	10,242.61	481.91	192.87	289.04	1.667	
18,100.00	8,523.00	8,493.67	8,490.81	115.65	207.64	-91.19	902.13	10,242.61	414.55	113.40	301.15	1.377	Level 3
18,200.00	8,523.00	8,493.66	8,490.80	116.73	207.64	-91.18	902.13	10,242.61	362.59	48.49	314.09	1.154	Level 2
18,300.00	8,523.00	8,493.64	8,490.78	117.82	207.64	-91.18	902.13	10,242.61	333.29	9.42	323.87	1.029	Level 2
18,351.93	8,523.00	8,493.63	8,490.78	118.38	207.64	-91.18	902.13	10,242.61	329.22	3.32	325.90	1.010	Level 2, CC, ES, SF
18,400.00	8,523.00	8,493.63	8,490.77	118.90	207.64	-91.18	902.13	10,242.61	332.71	7.28	325.43	1.022	Level 2
18,500.00	8,523.00	8,493.61	8,490.76	119.98	207.64	-91.18	902.13	10,242.61	360.99	42.70	318.28	1.134	Level 2
18,600.00	8,523.00	8,493.60	8,490.74	121.07	207.64	-91.17	902.13	10,242.61	412.22	105.16	307.06	1.342	Level 3
18,700.00	8,523.00	8,493.59	8,490.73	122.16	207.64	-91.17	902.13	10,242.61	479.10	183.18	295.93	1.619	
18,800.00	8,523.00	8,493.57	8,490.71	123.24	207.64	-91.17	902.13	10,242.61	556.02	269.48	286.53	1.940	
18,900.00	8,523.00	8,493.56	8,490.70	124.33	207.64	-91.17	902.13	10,242.61	639.35	360.29	279.06	2.291	
19,009.61	8,523.00	8,493.54	8,490.68	125.52	207.64	-91.16	902.13	10,242.61	735.48	462.75	272.73	2.697	

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W10_GOVERNMENT AB #003_1521774 - Inc Only - Inc Only — **Offset Site Error:** 0.00 usft

Survey Program: 350-INC-ONLY — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,800.00	8,523.00	8,498.15	8,497.45	42.60	166.41	-90.60	884.18	7,570.86	4,891.19	4,694.95	196.24	24.925	
10,900.00	8,523.00	8,498.14	8,497.44	43.38	166.41	-90.60	884.18	7,570.86	4,791.42	4,595.15	196.27	24.412	
11,000.00	8,523.00	8,498.13	8,497.44	44.19	166.41	-90.60	884.18	7,570.86	4,691.67	4,495.36	196.31	23.900	
11,100.00	8,523.00	8,498.13	8,497.43	45.00	166.41	-90.60	884.18	7,570.86	4,591.92	4,395.57	196.35	23.387	
11,200.00	8,523.00	8,498.12	8,497.42	45.83	166.41	-90.60	884.18	7,570.86	4,492.18	4,295.79	196.38	22.874	
11,300.00	8,523.00	8,498.12	8,497.42	46.67	166.41	-90.59	884.18	7,570.86	4,392.45	4,196.03	196.43	22.362	
11,400.00	8,523.00	8,498.11	8,497.41	47.53	166.41	-90.59	884.18	7,570.86	4,292.74	4,096.27	196.47	21.849	
11,500.00	8,523.00	8,498.10	8,497.40	48.39	166.41	-90.59	884.18	7,570.86	4,193.04	3,996.53	196.51	21.337	
11,600.00	8,523.00	8,498.10	8,497.40	49.26	166.41	-90.59	884.18	7,570.86	4,093.36	3,896.80	196.56	20.825	
11,700.00	8,523.00	8,498.09	8,497.39	50.15	166.41	-90.59	884.18	7,570.86	3,993.69	3,797.08	196.61	20.313	
11,800.00	8,523.00	8,498.08	8,497.38	51.04	166.41	-90.59	884.18	7,570.86	3,894.04	3,697.38	196.66	19.801	
11,900.00	8,523.00	8,498.08	8,497.38	51.94	166.41	-90.59	884.18	7,570.86	3,794.40	3,597.69	196.72	19.289	
12,000.00	8,523.00	8,498.07	8,497.37	52.85	166.41	-90.59	884.18	7,570.86	3,694.79	3,498.02	196.78	18.777	
12,100.00	8,523.00	8,498.06	8,497.37	53.77	166.41	-90.59	884.18	7,570.86	3,595.20	3,398.36	196.84	18.265	
12,200.00	8,523.00	8,498.06	8,497.36	54.70	166.41	-90.58	884.18	7,570.86	3,495.63	3,298.73	196.90	17.753	
12,300.00	8,523.00	8,498.05	8,497.35	55.63	166.41	-90.58	884.18	7,570.86	3,396.09	3,199.12	196.97	17.242	
12,400.00	8,523.00	8,498.04	8,497.35	56.57	166.41	-90.58	884.18	7,570.86	3,296.57	3,099.53	197.04	16.730	
12,500.00	8,523.00	8,498.04	8,497.34	57.52	166.41	-90.58	884.18	7,570.86	3,197.09	2,999.97	197.12	16.219	
12,600.00	8,523.00	8,498.03	8,497.33	58.47	166.41	-90.58	884.18	7,570.86	3,097.64	2,900.43	197.20	15.708	
12,700.00	8,523.00	8,498.03	8,497.33	59.43	166.41	-90.58	884.18	7,570.86	2,998.22	2,800.93	197.29	15.197	
12,800.00	8,523.00	8,498.02	8,497.32	60.39	166.41	-90.58	884.18	7,570.86	2,898.84	2,701.46	197.39	14.686	
12,900.00	8,523.00	8,498.01	8,497.31	61.36	166.41	-90.58	884.18	7,570.86	2,799.51	2,602.02	197.49	14.175	
13,000.00	8,523.00	8,498.01	8,497.31	62.34	166.41	-90.58	884.18	7,570.86	2,700.23	2,502.63	197.60	13.665	
13,100.00	8,523.00	8,498.00	8,497.30	63.32	166.41	-90.57	884.18	7,570.86	2,601.00	2,403.28	197.72	13.155	
13,200.00	8,523.00	8,497.99	8,497.29	64.30	166.41	-90.57	884.18	7,570.86	2,501.84	2,303.98	197.86	12.645	
13,300.00	8,523.00	8,497.99	8,497.29	65.29	166.41	-90.57	884.18	7,570.86	2,402.74	2,204.74	198.00	12.135	
13,400.00	8,523.00	8,497.98	8,497.28	66.29	166.41	-90.57	884.18	7,570.86	2,303.73	2,105.56	198.17	11.625	
13,500.00	8,523.00	8,497.97	8,497.28	67.28	166.41	-90.57	884.18	7,570.86	2,204.80	2,006.45	198.35	11.116	
13,600.00	8,523.00	8,497.97	8,497.27	68.28	166.41	-90.57	884.18	7,570.86	2,105.97	1,907.42	198.55	10.607	
13,700.00	8,523.00	8,497.96	8,497.26	69.29	166.41	-90.57	884.18	7,570.86	2,007.26	1,808.47	198.78	10.098	
13,800.00	8,523.00	8,497.95	8,497.26	70.30	166.41	-90.57	884.18	7,570.86	1,908.68	1,709.63	199.05	9.589	
13,900.00	8,523.00	8,497.95	8,497.25	71.31	166.41	-90.57	884.18	7,570.86	1,810.26	1,610.91	199.35	9.081	
14,000.00	8,523.00	8,497.94	8,497.24	72.32	166.41	-90.56	884.18	7,570.86	1,712.02	1,512.32	199.70	8.573	
14,100.00	8,523.00	8,497.94	8,497.24	73.34	166.41	-90.56	884.18	7,570.86	1,614.00	1,413.89	200.11	8.066	
14,200.00	8,523.00	8,497.93	8,497.23	74.36	166.41	-90.56	884.18	7,570.86	1,516.23	1,315.64	200.59	7.559	
14,300.00	8,523.00	8,497.92	8,497.22	75.39	166.41	-90.56	884.18	7,570.86	1,418.78	1,217.61	201.17	7.053	
14,400.00	8,523.00	8,497.92	8,497.22	76.41	166.41	-90.56	884.18	7,570.86	1,321.71	1,119.84	201.87	6.547	
14,500.00	8,523.00	8,497.91	8,497.21	77.44	166.40	-90.56	884.18	7,570.86	1,225.11	1,022.39	202.72	6.043	
14,600.00	8,523.00	8,497.90	8,497.20	78.47	166.40	-90.56	884.18	7,570.86	1,129.10	925.33	203.77	5.541	
14,700.00	8,523.00	8,497.90	8,497.20	79.51	166.40	-90.56	884.18	7,570.86	1,033.85	828.76	205.09	5.041	
14,800.00	8,523.00	8,497.89	8,497.19	80.55	166.40	-90.56	884.18	7,570.86	939.59	732.82	206.77	4.544	
14,900.00	8,523.00	8,497.88	8,497.19	81.58	166.40	-90.55	884.18	7,570.86	846.64	637.71	208.93	4.052	
15,000.00	8,523.00	8,497.88	8,497.18	82.63	166.40	-90.55	884.18	7,570.86	755.50	543.75	211.75	3.568	
15,100.00	8,523.00	8,497.87	8,497.17	83.67	166.40	-90.55	884.18	7,570.86	666.90	451.44	215.46	3.095	
15,200.00	8,523.00	8,497.86	8,497.17	84.71	166.40	-90.55	884.18	7,570.86	582.00	361.62	220.39	2.641	
15,300.00	8,523.00	8,497.86	8,497.16	85.76	166.40	-90.55	884.18	7,570.86	502.70	275.83	226.87	2.216	
15,400.00	8,523.00	8,497.85	8,497.15	86.81	166.40	-90.55	884.18	7,570.86	432.07	196.97	235.10	1.838	
15,500.00	8,523.00	8,497.85	8,497.15	87.86	166.40	-90.55	884.18	7,570.86	375.04	130.51	244.53	1.534	
15,600.00	8,523.00	8,497.84	8,497.14	88.91	166.40	-90.55	884.18	7,570.86	338.58	85.71	252.87	1.339	Level 3
15,680.12	8,523.00	8,497.83	8,497.14	89.76	166.40	-90.55	884.18	7,570.86	328.96	72.84	256.12	1.284	Level 3, CC, ES, SF
15,700.00	8,523.00	8,497.83	8,497.13	89.97	166.40	-90.55	884.18	7,570.86	329.56	73.31	256.25	1.286	Level 3
15,800.00	8,523.00	8,497.83	8,497.13	91.02	166.40	-90.54	884.18	7,570.86	350.12	97.20	252.93	1.384	Level 3

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W10_GOVERNMENT AB #003_1521774 - Inc Only - Inc Only

Offset Site Error: 0.00 usft

Survey Program: 350-INC-ONLY

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,900.00	8,523.00	8,497.82	8,497.12	92.08	166.40	-90.54	884.18	7,570.86	395.68	150.14	245.54	1.611	
16,000.00	8,523.00	8,497.81	8,497.12	93.14	166.40	-90.54	884.18	7,570.86	458.85	221.32	237.53	1.932	
16,100.00	8,523.00	8,497.81	8,497.11	94.20	166.40	-90.54	884.18	7,570.86	533.40	302.81	230.59	2.313	
16,200.00	8,523.00	8,497.80	8,497.10	95.26	166.40	-90.54	884.18	7,570.86	615.22	390.17	225.04	2.734	
16,300.00	8,523.00	8,497.79	8,497.10	96.32	166.40	-90.54	884.18	7,570.86	701.76	481.02	220.74	3.179	
16,400.00	8,523.00	8,497.79	8,497.09	97.39	166.40	-90.54	884.18	7,570.86	791.48	574.08	217.41	3.641	
16,500.00	8,523.00	8,497.78	8,497.08	98.45	166.40	-90.54	884.18	7,570.86	883.41	668.61	214.81	4.113	
16,600.00	8,523.00	8,497.78	8,497.08	99.52	166.40	-90.54	884.18	7,570.86	976.93	764.17	212.77	4.592	
16,700.00	8,523.00	8,497.77	8,497.07	100.59	166.40	-90.53	884.18	7,570.86	1,071.62	860.48	211.14	5.075	
16,800.00	8,523.00	8,497.76	8,497.06	101.66	166.40	-90.53	884.18	7,570.86	1,167.20	957.36	209.84	5.562	
16,900.00	8,523.00	8,497.76	8,497.06	102.73	166.40	-90.53	884.18	7,570.86	1,263.46	1,054.68	208.78	6.052	
17,000.00	8,523.00	8,497.75	8,497.05	103.80	166.40	-90.53	884.18	7,570.86	1,360.26	1,152.34	207.92	6.542	
17,100.00	8,523.00	8,497.74	8,497.04	104.87	166.40	-90.53	884.18	7,570.86	1,457.49	1,250.29	207.20	7.034	
17,200.00	8,523.00	8,497.74	8,497.04	105.95	166.40	-90.53	884.18	7,570.86	1,555.07	1,348.46	206.61	7.527	
17,300.00	8,523.00	8,497.73	8,497.03	107.02	166.40	-90.53	884.18	7,570.86	1,652.95	1,446.83	206.12	8.019	
17,400.00	8,523.00	8,497.72	8,497.03	108.10	166.40	-90.53	884.18	7,570.86	1,751.06	1,545.36	205.70	8.513	
17,500.00	8,523.00	8,497.72	8,497.02	109.17	166.40	-90.53	884.18	7,570.86	1,849.37	1,644.02	205.36	9.006	
17,600.00	8,523.00	8,497.71	8,497.01	110.25	166.40	-90.52	884.18	7,570.86	1,947.86	1,742.80	205.06	9.499	
17,700.00	8,523.00	8,497.71	8,497.01	111.33	166.40	-90.52	884.18	7,570.86	2,046.49	1,841.68	204.82	9.992	
17,800.00	8,523.00	8,497.70	8,497.00	112.41	166.40	-90.52	884.18	7,570.86	2,145.25	1,940.64	204.61	10.485	
17,900.00	8,523.00	8,497.69	8,496.99	113.49	166.40	-90.52	884.18	7,570.86	2,244.12	2,039.69	204.43	10.977	
18,000.00	8,523.00	8,497.69	8,496.99	114.57	166.40	-90.52	884.18	7,570.86	2,343.09	2,138.80	204.29	11.470	
18,100.00	8,523.00	8,497.68	8,496.98	115.65	166.40	-90.52	884.18	7,570.86	2,442.14	2,237.97	204.17	11.961	
18,200.00	8,523.00	8,497.67	8,496.97	116.73	166.40	-90.52	884.19	7,570.86	2,541.26	2,337.20	204.07	12.453	
18,300.00	8,523.00	8,497.67	8,496.97	117.82	166.40	-90.52	884.19	7,570.86	2,640.45	2,436.47	203.98	12.944	
18,400.00	8,523.00	8,497.66	8,496.96	118.90	166.40	-90.52	884.19	7,570.86	2,739.70	2,535.78	203.92	13.435	
18,500.00	8,523.00	8,497.65	8,496.96	119.98	166.40	-90.51	884.19	7,570.86	2,839.00	2,635.14	203.87	13.926	
18,600.00	8,523.00	8,497.65	8,496.95	121.07	166.40	-90.51	884.19	7,570.86	2,938.35	2,734.53	203.83	14.416	
18,700.00	8,523.00	8,497.64	8,496.94	122.16	166.40	-90.51	884.19	7,570.86	3,037.75	2,833.95	203.80	14.905	
18,800.00	8,523.00	8,497.63	8,496.94	123.24	166.40	-90.51	884.19	7,570.86	3,137.18	2,933.39	203.78	15.395	
18,900.00	8,523.00	8,497.63	8,496.93	124.33	166.40	-90.51	884.19	7,570.86	3,236.64	3,032.87	203.78	15.883	
19,009.61	8,523.00	8,497.62	8,496.92	125.52	166.40	-90.51	884.19	7,570.86	3,345.71	3,141.93	203.78	16.419	

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W11_GOVERNMENT AB #006_1527846 - Inc Only - Inc Only

Offset Site Error: 0.00 usft

Survey Program: 156-INC-ONLY

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
11,400.00	8,523.00	6,554.00	6,551.42	47.53	165.57	-56.89	3,530.40	6,288.51	4,666.87	4,478.67	188.20	24.798	
11,500.00	8,523.00	6,554.00	6,551.42	48.39	165.57	-56.89	3,530.40	6,288.51	4,602.89	4,414.44	188.45	24.425	
11,600.00	8,523.00	6,554.00	6,551.42	49.26	165.57	-56.89	3,530.40	6,288.51	4,540.21	4,351.48	188.73	24.056	
11,700.00	8,523.00	6,554.00	6,551.42	50.15	165.57	-56.89	3,530.40	6,288.51	4,478.89	4,289.86	189.04	23.693	
11,800.00	8,523.00	6,554.00	6,551.42	51.04	165.57	-56.89	3,530.40	6,288.51	4,418.98	4,229.62	189.36	23.336	
11,900.00	8,523.00	6,554.00	6,551.42	51.94	165.57	-56.89	3,530.40	6,288.51	4,360.54	4,170.82	189.72	22.984	
12,000.00	8,523.00	6,554.00	6,551.42	52.85	165.57	-56.89	3,530.40	6,288.51	4,303.63	4,113.54	190.10	22.639	
12,100.00	8,523.00	6,554.00	6,551.42	53.77	165.57	-56.89	3,530.40	6,288.51	4,248.32	4,057.82	190.50	22.301	
12,200.00	8,523.00	6,554.00	6,551.42	54.70	165.57	-56.89	3,530.40	6,288.51	4,194.65	4,003.72	190.93	21.970	
12,300.00	8,523.00	6,554.00	6,551.42	55.63	165.57	-56.89	3,530.40	6,288.51	4,142.71	3,951.32	191.38	21.646	
12,400.00	8,523.00	6,554.00	6,551.42	56.57	165.57	-56.89	3,530.40	6,288.51	4,092.55	3,900.68	191.87	21.330	
12,500.00	8,523.00	6,554.00	6,551.42	57.52	165.57	-56.89	3,530.40	6,288.51	4,044.24	3,851.87	192.37	21.023	
12,600.00	8,523.00	6,554.00	6,551.42	58.47	165.57	-56.89	3,530.40	6,288.51	3,997.85	3,804.94	192.91	20.724	
12,700.00	8,523.00	6,554.00	6,551.42	59.43	165.57	-56.89	3,530.40	6,288.51	3,953.45	3,759.98	193.47	20.435	
12,800.00	8,523.00	6,554.00	6,551.42	60.39	165.57	-56.89	3,530.40	6,288.51	3,911.10	3,717.04	194.06	20.155	
12,900.00	8,523.00	6,554.00	6,551.42	61.36	165.57	-56.89	3,530.40	6,288.51	3,870.87	3,676.20	194.67	19.884	
13,000.00	8,523.00	6,554.00	6,551.42	62.34	165.57	-56.89	3,530.40	6,288.51	3,832.82	3,637.52	195.31	19.625	
13,100.00	8,523.00	6,554.00	6,551.42	63.32	165.57	-56.89	3,530.40	6,288.51	3,797.03	3,601.06	195.97	19.375	
13,200.00	8,523.00	6,554.00	6,551.42	64.30	165.57	-56.89	3,530.40	6,288.51	3,763.56	3,566.90	196.66	19.137	
13,300.00	8,523.00	6,554.00	6,551.42	65.29	165.57	-56.89	3,530.40	6,288.51	3,732.47	3,535.09	197.38	18.910	
13,400.00	8,523.00	6,554.00	6,551.42	66.29	165.57	-56.89	3,530.40	6,288.51	3,703.81	3,505.70	198.12	18.695	
13,500.00	8,523.00	6,554.00	6,551.42	67.28	165.57	-56.89	3,530.40	6,288.51	3,677.66	3,478.78	198.88	18.492	
13,600.00	8,523.00	6,554.00	6,551.42	68.28	165.57	-56.89	3,530.40	6,288.51	3,654.05	3,454.39	199.66	18.301	
13,700.00	8,523.00	6,554.00	6,551.42	69.29	165.57	-56.89	3,530.40	6,288.51	3,633.04	3,432.57	200.47	18.122	
13,800.00	8,523.00	6,554.00	6,551.42	70.30	165.57	-56.89	3,530.40	6,288.51	3,614.68	3,413.38	201.30	17.956	
13,900.00	8,523.00	6,554.00	6,551.42	71.31	165.57	-56.89	3,530.40	6,288.51	3,599.01	3,396.86	202.15	17.804	
14,000.00	8,523.00	6,554.00	6,551.42	72.32	165.57	-56.89	3,530.40	6,288.51	3,586.06	3,383.04	203.02	17.664	
14,100.00	8,523.00	6,554.00	6,551.42	73.34	165.57	-56.89	3,530.40	6,288.51	3,575.85	3,371.95	203.90	17.537	
14,200.00	8,523.00	6,554.00	6,551.42	74.36	165.57	-56.89	3,530.40	6,288.51	3,568.42	3,363.62	204.80	17.424	
14,300.00	8,523.00	6,554.00	6,551.42	75.39	165.57	-56.89	3,530.40	6,288.51	3,563.79	3,358.08	205.71	17.324	
14,400.00	8,523.00	6,554.00	6,551.42	76.41	165.57	-56.89	3,530.40	6,288.51	3,561.95	3,355.32	206.63	17.238	
14,415.37	8,523.00	6,554.00	6,551.42	76.57	165.57	-56.89	3,530.40	6,288.51	3,561.92	3,355.15	206.77	17.226	CC, ES
14,500.00	8,523.00	6,554.00	6,551.42	77.44	165.57	-56.89	3,530.40	6,288.51	3,562.92	3,355.37	207.55	17.166	
14,600.00	8,523.00	6,554.00	6,551.42	78.47	165.57	-56.89	3,530.40	6,288.51	3,566.70	3,358.22	208.49	17.108	
14,700.00	8,523.00	6,554.00	6,551.42	79.51	165.57	-56.89	3,530.40	6,288.51	3,573.27	3,363.85	209.42	17.063	
14,800.00	8,523.00	6,554.00	6,551.42	80.55	165.57	-56.89	3,530.40	6,288.51	3,582.63	3,372.28	210.35	17.032	
14,900.00	8,523.00	6,554.00	6,551.42	81.58	165.57	-56.89	3,530.40	6,288.51	3,594.74	3,383.46	211.28	17.014	
15,000.00	8,523.00	6,554.00	6,551.42	82.63	165.57	-56.89	3,530.40	6,288.51	3,609.58	3,397.38	212.20	17.010	SF
15,100.00	8,523.00	6,554.00	6,551.42	83.67	165.57	-56.89	3,530.40	6,288.51	3,627.12	3,414.01	213.11	17.020	
15,200.00	8,523.00	6,554.00	6,551.42	84.71	165.57	-56.89	3,530.40	6,288.51	3,647.32	3,433.31	214.01	17.043	
15,300.00	8,523.00	6,554.00	6,551.42	85.76	165.57	-56.89	3,530.40	6,288.51	3,670.13	3,455.24	214.89	17.079	
15,400.00	8,523.00	6,554.00	6,551.42	86.81	165.57	-56.89	3,530.40	6,288.51	3,695.51	3,479.75	215.75	17.128	
15,500.00	8,523.00	6,554.00	6,551.42	87.86	165.57	-56.89	3,530.40	6,288.51	3,723.40	3,506.80	216.60	17.190	
15,600.00	8,523.00	6,554.00	6,551.42	88.91	165.57	-56.89	3,530.40	6,288.51	3,753.75	3,536.33	217.42	17.265	
15,700.00	8,523.00	6,554.00	6,551.42	89.97	165.57	-56.89	3,530.40	6,288.51	3,786.50	3,568.28	218.22	17.352	
15,800.00	8,523.00	6,554.00	6,551.42	91.02	165.57	-56.89	3,530.40	6,288.51	3,821.58	3,602.59	218.99	17.451	
15,900.00	8,523.00	6,554.00	6,551.42	92.08	165.57	-56.89	3,530.40	6,288.51	3,858.94	3,639.21	219.73	17.562	
16,000.00	8,523.00	6,554.00	6,551.42	93.14	165.57	-56.89	3,530.40	6,288.51	3,898.50	3,678.05	220.45	17.684	
16,100.00	8,523.00	6,554.00	6,551.42	94.20	165.57	-56.89	3,530.40	6,288.51	3,940.21	3,719.07	221.14	17.818	
16,200.00	8,523.00	6,554.00	6,551.42	95.26	165.57	-56.89	3,530.40	6,288.51	3,983.99	3,762.20	221.79	17.963	
16,300.00	8,523.00	6,554.00	6,551.42	96.32	165.57	-56.89	3,530.40	6,288.51	4,029.78	3,807.36	222.42	18.118	
16,400.00	8,523.00	6,554.00	6,551.42	97.39	165.57	-56.89	3,530.40	6,288.51	4,077.50	3,854.49	223.02	18.283	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W11_GOVERNMENT AB #006_1527846 - Inc Only - Inc Only

Offset Site Error: 0.00 usft

Survey Program: 156-INC-ONLY

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Rule Assigned: Minimum Separation (usft)	Separation Factor	Warning
16,500.00	8,523.00	6,554.00	6,551.42	98.45	165.57	-56.89	3,530.40	6,288.51	4,127.10	3,903.52	223.58	18.459	
16,600.00	8,523.00	6,554.00	6,551.42	99.52	165.57	-56.89	3,530.40	6,288.51	4,178.50	3,954.38	224.12	18.644	
16,700.00	8,523.00	6,554.00	6,551.42	100.59	165.57	-56.89	3,530.40	6,288.51	4,231.65	4,007.02	224.63	18.838	
16,800.00	8,523.00	6,554.00	6,551.42	101.66	165.57	-56.89	3,530.40	6,288.51	4,286.46	4,061.35	225.11	19.042	
16,900.00	8,523.00	6,554.00	6,551.42	102.73	165.57	-56.89	3,530.40	6,288.51	4,342.89	4,117.33	225.56	19.254	
17,000.00	8,523.00	6,554.00	6,551.42	103.80	165.57	-56.89	3,530.40	6,288.51	4,400.86	4,174.88	225.98	19.475	
17,100.00	8,523.00	6,554.00	6,551.42	104.87	165.57	-56.89	3,530.40	6,288.51	4,460.33	4,233.95	226.38	19.703	
17,200.00	8,523.00	6,554.00	6,551.42	105.95	165.57	-56.89	3,530.40	6,288.51	4,521.22	4,294.48	226.75	19.939	
17,300.00	8,523.00	6,554.00	6,551.42	107.02	165.57	-56.89	3,530.40	6,288.51	4,583.49	4,356.40	227.09	20.183	
17,400.00	8,523.00	6,554.00	6,551.42	108.10	165.57	-56.89	3,530.40	6,288.51	4,647.08	4,419.66	227.42	20.434	
17,500.00	8,523.00	6,554.00	6,551.42	109.17	165.57	-56.89	3,530.40	6,288.51	4,711.92	4,484.21	227.72	20.692	
17,600.00	8,523.00	6,554.00	6,551.42	110.25	165.57	-56.89	3,530.40	6,288.51	4,777.99	4,549.99	227.99	20.957	
17,700.00	8,523.00	6,554.00	6,551.42	111.33	165.57	-56.89	3,530.40	6,288.51	4,845.21	4,616.96	228.25	21.227	
17,800.00	8,523.00	6,554.00	6,551.42	112.41	165.57	-56.89	3,530.40	6,288.51	4,913.55	4,685.06	228.49	21.504	
17,900.00	8,523.00	6,554.00	6,551.42	113.49	165.57	-56.89	3,530.40	6,288.51	4,982.97	4,754.25	228.71	21.787	
18,000.00	8,523.00	6,554.00	6,551.42	114.57	165.57	-56.89	3,530.40	6,288.51	5,053.40	4,824.49	228.91	22.076	
18,100.00	8,523.00	6,554.00	6,551.42	115.65	165.57	-56.89	3,530.40	6,288.51	5,124.82	4,895.72	229.10	22.369	
18,200.00	8,523.00	6,554.00	6,551.42	116.73	165.57	-56.89	3,530.40	6,288.51	5,197.18	4,967.91	229.27	22.668	
18,300.00	8,523.00	6,554.00	6,551.42	117.82	165.57	-56.89	3,530.40	6,288.51	5,270.45	5,041.02	229.43	22.972	
18,400.00	8,523.00	6,554.00	6,551.42	118.90	165.57	-56.89	3,530.40	6,288.51	5,344.58	5,115.01	229.57	23.281	
18,500.00	8,523.00	6,554.00	6,551.42	119.98	165.57	-56.89	3,530.40	6,288.51	5,419.55	5,189.85	229.70	23.594	
18,600.00	8,523.00	6,554.00	6,551.42	121.07	165.57	-56.89	3,530.40	6,288.51	5,495.31	5,265.49	229.82	23.911	
18,700.00	8,523.00	6,554.00	6,551.42	122.16	165.57	-56.89	3,530.40	6,288.51	5,571.84	5,341.91	229.93	24.233	
18,800.00	8,523.00	6,554.00	6,551.42	123.24	165.57	-56.89	3,530.40	6,288.51	5,649.10	5,419.07	230.03	24.558	
18,900.00	8,523.00	6,554.00	6,551.42	124.33	165.57	-56.89	3,530.40	6,288.51	5,727.06	5,496.95	230.11	24.888	

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W12_GOVERNMENT AB #007_1527847 - Inc Only - Inc Only

Offset Site Error: 0.00 usft

Survey Program: 155-INC-ONLY

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,100.00	8,523.00	6,590.00	6,586.51	53.77	178.10	-57.46	3,540.77	7,609.00	5,075.27	4,870.52	204.75	24.788	
12,200.00	8,523.00	6,590.00	6,586.51	54.70	178.10	-57.46	3,540.77	7,609.00	5,004.11	4,799.02	205.10	24.399	
12,300.00	8,523.00	6,590.00	6,586.51	55.63	178.10	-57.46	3,540.77	7,609.00	4,933.96	4,728.50	205.46	24.014	
12,400.00	8,523.00	6,590.00	6,586.51	56.57	178.10	-57.46	3,540.77	7,609.00	4,864.85	4,659.00	205.85	23.633	
12,500.00	8,523.00	6,590.00	6,586.51	57.52	178.10	-57.46	3,540.77	7,609.00	4,796.83	4,590.57	206.26	23.256	
12,600.00	8,523.00	6,590.00	6,586.51	58.47	178.10	-57.46	3,540.77	7,609.00	4,729.95	4,523.26	206.69	22.884	
12,700.00	8,523.00	6,590.00	6,586.51	59.43	178.10	-57.46	3,540.77	7,609.00	4,664.25	4,457.10	207.15	22.516	
12,800.00	8,523.00	6,590.00	6,586.51	60.39	178.10	-57.46	3,540.77	7,609.00	4,599.79	4,392.17	207.63	22.154	
12,900.00	8,523.00	6,590.00	6,586.51	61.36	178.10	-57.46	3,540.77	7,609.00	4,536.62	4,328.49	208.13	21.797	
13,000.00	8,523.00	6,590.00	6,586.51	62.34	178.10	-57.46	3,540.77	7,609.00	4,474.79	4,266.14	208.65	21.447	
13,100.00	8,523.00	6,590.00	6,586.51	63.32	178.10	-57.46	3,540.77	7,609.00	4,414.36	4,205.16	209.19	21.102	
13,200.00	8,523.00	6,590.00	6,586.51	64.30	178.10	-57.46	3,540.77	7,609.00	4,355.38	4,145.62	209.76	20.764	
13,300.00	8,523.00	6,590.00	6,586.51	65.29	178.10	-57.46	3,540.77	7,609.00	4,297.93	4,087.58	210.35	20.432	
13,400.00	8,523.00	6,590.00	6,586.51	66.29	178.10	-57.46	3,540.77	7,609.00	4,242.05	4,031.09	210.96	20.108	
13,500.00	8,523.00	6,590.00	6,586.51	67.28	178.10	-57.46	3,540.77	7,609.00	4,187.82	3,976.23	211.59	19.792	
13,600.00	8,523.00	6,590.00	6,586.51	68.28	178.10	-57.46	3,540.77	7,609.00	4,135.29	3,923.04	212.25	19.483	
13,700.00	8,523.00	6,590.00	6,586.51	69.29	178.10	-57.46	3,540.77	7,609.00	4,084.54	3,871.61	212.93	19.183	
13,800.00	8,523.00	6,590.00	6,586.51	70.30	178.10	-57.46	3,540.77	7,609.00	4,035.63	3,822.00	213.63	18.891	
13,900.00	8,523.00	6,590.00	6,586.51	71.31	178.10	-57.46	3,540.77	7,609.00	3,988.62	3,774.28	214.35	18.608	
14,000.00	8,523.00	6,590.00	6,586.51	72.32	178.10	-57.46	3,540.77	7,609.00	3,943.59	3,728.51	215.09	18.335	
14,100.00	8,523.00	6,590.00	6,586.51	73.34	178.10	-57.46	3,540.77	7,609.00	3,900.61	3,684.76	215.85	18.071	
14,200.00	8,523.00	6,590.00	6,586.51	74.36	178.10	-57.46	3,540.77	7,609.00	3,859.74	3,643.11	216.63	17.817	
14,300.00	8,523.00	6,590.00	6,586.51	75.39	178.10	-57.46	3,540.77	7,609.00	3,821.05	3,603.61	217.43	17.573	
14,400.00	8,523.00	6,590.00	6,586.51	76.41	178.10	-57.46	3,540.77	7,609.00	3,784.60	3,566.35	218.25	17.340	
14,500.00	8,523.00	6,590.00	6,586.51	77.44	178.10	-57.46	3,540.77	7,609.00	3,750.47	3,531.38	219.09	17.118	
14,600.00	8,523.00	6,590.00	6,586.51	78.47	178.10	-57.46	3,540.77	7,609.00	3,718.72	3,498.77	219.95	16.907	
14,700.00	8,523.00	6,590.00	6,586.51	79.51	178.10	-57.46	3,540.77	7,609.00	3,689.40	3,468.58	220.82	16.708	
14,800.00	8,523.00	6,590.00	6,586.51	80.55	178.10	-57.46	3,540.77	7,609.00	3,662.58	3,440.87	221.71	16.520	
14,900.00	8,523.00	6,590.00	6,586.51	81.58	178.10	-57.46	3,540.77	7,609.00	3,638.31	3,415.70	222.61	16.344	
15,000.00	8,523.00	6,590.00	6,586.51	82.63	178.10	-57.46	3,540.77	7,609.00	3,616.65	3,393.12	223.53	16.180	
15,100.00	8,523.00	6,590.00	6,586.51	83.67	178.10	-57.46	3,540.77	7,609.00	3,597.63	3,373.18	224.45	16.028	
15,200.00	8,523.00	6,590.00	6,586.51	84.71	178.10	-57.46	3,540.77	7,609.00	3,581.31	3,355.92	225.39	15.889	
15,300.00	8,523.00	6,590.00	6,586.51	85.76	178.10	-57.46	3,540.77	7,609.00	3,567.72	3,341.38	226.34	15.763	
15,400.00	8,523.00	6,590.00	6,586.51	86.81	178.10	-57.46	3,540.77	7,609.00	3,556.88	3,329.60	227.29	15.649	
15,500.00	8,523.00	6,590.00	6,586.51	87.86	178.10	-57.46	3,540.77	7,609.00	3,548.84	3,320.59	228.25	15.548	
15,600.00	8,523.00	6,590.00	6,586.51	88.91	178.10	-57.46	3,540.77	7,609.00	3,543.60	3,314.39	229.20	15.460	
15,700.00	8,523.00	6,590.00	6,586.51	89.97	178.10	-57.46	3,540.77	7,609.00	3,541.17	3,311.01	230.16	15.385	
15,735.90	8,523.00	6,590.00	6,586.51	90.35	178.10	-57.46	3,540.77	7,609.00	3,540.99	3,310.48	230.51	15.362 CC	
15,800.00	8,523.00	6,590.00	6,586.51	91.02	178.10	-57.46	3,540.77	7,609.00	3,541.57	3,310.45	231.12	15.323 ES	
15,900.00	8,523.00	6,590.00	6,586.51	92.08	178.10	-57.46	3,540.77	7,609.00	3,544.79	3,312.72	232.07	15.275	
16,000.00	8,523.00	6,590.00	6,586.51	93.14	178.10	-57.46	3,540.77	7,609.00	3,550.82	3,317.81	233.02	15.239	
16,100.00	8,523.00	6,590.00	6,586.51	94.20	178.10	-57.46	3,540.77	7,609.00	3,559.66	3,325.71	233.95	15.216	
16,200.00	8,523.00	6,590.00	6,586.51	95.26	178.10	-57.46	3,540.77	7,609.00	3,571.27	3,336.41	234.87	15.205 SF	
16,300.00	8,523.00	6,590.00	6,586.51	96.32	178.10	-57.46	3,540.77	7,609.00	3,585.64	3,349.87	235.77	15.208	
16,400.00	8,523.00	6,590.00	6,586.51	97.39	178.10	-57.46	3,540.77	7,609.00	3,602.73	3,366.07	236.66	15.223	
16,500.00	8,523.00	6,590.00	6,586.51	98.45	178.10	-57.46	3,540.77	7,609.00	3,622.49	3,384.97	237.52	15.251	
16,600.00	8,523.00	6,590.00	6,586.51	99.52	178.10	-57.46	3,540.77	7,609.00	3,644.90	3,406.54	238.36	15.291	
16,700.00	8,523.00	6,590.00	6,586.51	100.59	178.10	-57.46	3,540.77	7,609.00	3,669.89	3,430.71	239.18	15.344	
16,800.00	8,523.00	6,590.00	6,586.51	101.66	178.10	-57.46	3,540.77	7,609.00	3,697.42	3,457.46	239.97	15.408	
16,900.00	8,523.00	6,590.00	6,586.51	102.73	178.10	-57.46	3,540.77	7,609.00	3,727.43	3,486.71	240.72	15.484	
17,000.00	8,523.00	6,590.00	6,586.51	103.80	178.10	-57.46	3,540.77	7,609.00	3,759.86	3,518.41	241.45	15.572	
17,100.00	8,523.00	6,590.00	6,586.51	104.87	178.10	-57.46	3,540.77	7,609.00	3,794.65	3,552.50	242.15	15.671	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W12_GOVERNMENT AB #007_1527847 - Inc Only - Inc Only

Offset Site Error: 0.00 usft

Survey Program: 155-INC-ONLY

Offset Well Error: 0.00 usft

Rule Assigned:

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,200.00	8,523.00	6,590.00	6,586.51	105.95	178.10	-57.46	3,540.77	7,609.00	3,831.74	3,588.92	242.81	15.781	
17,300.00	8,523.00	6,590.00	6,586.51	107.02	178.10	-57.46	3,540.77	7,609.00	3,871.05	3,627.61	243.44	15.901	
17,400.00	8,523.00	6,590.00	6,586.51	108.10	178.10	-57.46	3,540.77	7,609.00	3,912.52	3,668.48	244.04	16.032	
17,500.00	8,523.00	6,590.00	6,586.51	109.17	178.10	-57.46	3,540.77	7,609.00	3,956.09	3,711.49	244.61	16.173	
17,600.00	8,523.00	6,590.00	6,586.51	110.25	178.10	-57.46	3,540.77	7,609.00	4,001.69	3,756.55	245.14	16.324	
17,700.00	8,523.00	6,590.00	6,586.51	111.33	178.10	-57.46	3,540.77	7,609.00	4,049.24	3,803.60	245.63	16.485	
17,800.00	8,523.00	6,590.00	6,586.51	112.41	178.10	-57.46	3,540.77	7,609.00	4,098.67	3,852.58	246.10	16.655	
17,900.00	8,523.00	6,590.00	6,586.51	113.49	178.10	-57.46	3,540.77	7,609.00	4,149.93	3,903.41	246.53	16.834	
18,000.00	8,523.00	6,590.00	6,586.51	114.57	178.10	-57.46	3,540.77	7,609.00	4,202.95	3,956.02	246.93	17.021	
18,100.00	8,523.00	6,590.00	6,586.51	115.65	178.10	-57.46	3,540.77	7,609.00	4,257.65	4,010.35	247.30	17.217	
18,200.00	8,523.00	6,590.00	6,586.51	116.73	178.10	-57.46	3,540.77	7,609.00	4,313.98	4,066.34	247.64	17.421	
18,300.00	8,523.00	6,590.00	6,586.51	117.82	178.10	-57.46	3,540.77	7,609.00	4,371.87	4,123.92	247.95	17.632	
18,400.00	8,523.00	6,590.00	6,586.51	118.90	178.10	-57.46	3,540.77	7,609.00	4,431.26	4,183.03	248.23	17.851	
18,500.00	8,523.00	6,590.00	6,586.51	119.98	178.10	-57.46	3,540.77	7,609.00	4,492.09	4,243.60	248.49	18.077	
18,600.00	8,523.00	6,590.00	6,586.51	121.07	178.10	-57.46	3,540.77	7,609.00	4,554.31	4,305.58	248.73	18.311	
18,700.00	8,523.00	6,590.00	6,586.51	122.16	178.10	-57.46	3,540.77	7,609.00	4,617.85	4,368.91	248.94	18.550	
18,800.00	8,523.00	6,590.00	6,586.51	123.24	178.10	-57.46	3,540.77	7,609.00	4,682.66	4,433.54	249.12	18.797	
18,900.00	8,523.00	6,590.00	6,586.51	124.33	178.10	-57.46	3,540.77	7,609.00	4,748.70	4,499.41	249.29	19.049	
19,009.61	8,523.00	6,590.00	6,586.51	125.52	178.10	-57.46	3,540.77	7,609.00	4,822.43	4,572.98	249.45	19.332	

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W13_GOVERNMENT AB #008_1527863 - Inc Only - Inc Only — **Offset Site Error:** 0.00 usft

Survey Program: 150-INC-ONLY — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
13,800.00	8,523.00	6,630.00	6,627.95	70.30	154.10	-56.69	3,401.34	8,955.59	4,721.33	4,530.61	190.72	24.755	
13,900.00	8,523.00	6,630.00	6,627.95	71.31	154.10	-56.69	3,401.34	8,955.59	4,652.38	4,461.00	191.38	24.310	
14,000.00	8,523.00	6,630.00	6,627.95	72.32	154.10	-56.69	3,401.34	8,955.59	4,584.57	4,392.52	192.06	23.871	
14,100.00	8,523.00	6,630.00	6,627.95	73.34	154.10	-56.69	3,401.34	8,955.59	4,517.96	4,325.20	192.76	23.438	
14,200.00	8,523.00	6,630.00	6,627.95	74.36	154.10	-56.69	3,401.34	8,955.59	4,452.61	4,259.12	193.49	23.012	
14,300.00	8,523.00	6,630.00	6,627.95	75.39	154.10	-56.69	3,401.34	8,955.59	4,388.55	4,194.31	194.24	22.594	
14,400.00	8,523.00	6,630.00	6,627.95	76.41	154.10	-56.69	3,401.34	8,955.59	4,325.86	4,130.85	195.01	22.183	
14,500.00	8,523.00	6,630.00	6,627.95	77.44	154.10	-56.69	3,401.34	8,955.59	4,264.60	4,068.79	195.81	21.780	
14,600.00	8,523.00	6,630.00	6,627.95	78.47	154.10	-56.69	3,401.34	8,955.59	4,204.81	4,008.19	196.62	21.385	
14,700.00	8,523.00	6,630.00	6,627.95	79.51	154.10	-56.69	3,401.34	8,955.59	4,146.58	3,949.12	197.46	20.999	
14,800.00	8,523.00	6,630.00	6,627.95	80.55	154.10	-56.69	3,401.34	8,955.59	4,089.97	3,891.65	198.32	20.623	
14,900.00	8,523.00	6,630.00	6,627.95	81.58	154.10	-56.69	3,401.34	8,955.59	4,035.04	3,835.83	199.20	20.256	
15,000.00	8,523.00	6,630.00	6,627.95	82.63	154.10	-56.69	3,401.34	8,955.59	3,981.86	3,781.76	200.11	19.899	
15,100.00	8,523.00	6,630.00	6,627.95	83.67	154.10	-56.69	3,401.34	8,955.59	3,930.51	3,729.49	201.03	19.552	
15,200.00	8,523.00	6,630.00	6,627.95	84.71	154.10	-56.69	3,401.34	8,955.59	3,881.06	3,679.09	201.97	19.216	
15,300.00	8,523.00	6,630.00	6,627.95	85.76	154.10	-56.69	3,401.34	8,955.59	3,833.58	3,630.65	202.92	18.892	
15,400.00	8,523.00	6,630.00	6,627.95	86.81	154.10	-56.69	3,401.34	8,955.59	3,788.14	3,584.25	203.89	18.579	
15,500.00	8,523.00	6,630.00	6,627.95	87.86	154.10	-56.69	3,401.34	8,955.59	3,744.82	3,539.94	204.88	18.278	
15,600.00	8,523.00	6,630.00	6,627.95	88.91	154.10	-56.69	3,401.34	8,955.59	3,703.70	3,497.82	205.88	17.989	
15,700.00	8,523.00	6,630.00	6,627.95	89.97	154.10	-56.69	3,401.34	8,955.59	3,664.84	3,457.95	206.90	17.713	
15,800.00	8,523.00	6,630.00	6,627.95	91.02	154.10	-56.69	3,401.34	8,955.59	3,628.33	3,420.41	207.92	17.451	
15,900.00	8,523.00	6,630.00	6,627.95	92.08	154.10	-56.69	3,401.34	8,955.59	3,594.23	3,385.27	208.95	17.201	
16,000.00	8,523.00	6,630.00	6,627.95	93.14	154.10	-56.69	3,401.34	8,955.59	3,562.61	3,352.61	209.99	16.965	
16,100.00	8,523.00	6,630.00	6,627.95	94.20	154.10	-56.69	3,401.34	8,955.59	3,533.53	3,322.49	211.04	16.743	
16,200.00	8,523.00	6,630.00	6,627.95	95.26	154.10	-56.69	3,401.34	8,955.59	3,507.07	3,294.98	212.09	16.536	
16,300.00	8,523.00	6,630.00	6,627.95	96.32	154.10	-56.69	3,401.34	8,955.59	3,483.28	3,270.14	213.14	16.342	
16,400.00	8,523.00	6,630.00	6,627.95	97.39	154.10	-56.69	3,401.34	8,955.59	3,462.21	3,248.02	214.19	16.164	
16,500.00	8,523.00	6,630.00	6,627.95	98.45	154.10	-56.69	3,401.34	8,955.59	3,443.92	3,228.68	215.24	16.000	
16,600.00	8,523.00	6,630.00	6,627.95	99.52	154.10	-56.69	3,401.34	8,955.59	3,428.46	3,212.17	216.29	15.851	
16,700.00	8,523.00	6,630.00	6,627.95	100.59	154.10	-56.69	3,401.34	8,955.59	3,415.85	3,198.52	217.32	15.718	
16,800.00	8,523.00	6,630.00	6,627.95	101.66	154.10	-56.69	3,401.34	8,955.59	3,406.13	3,187.78	218.35	15.600	
16,900.00	8,523.00	6,630.00	6,627.95	102.73	154.10	-56.69	3,401.34	8,955.59	3,399.32	3,179.96	219.36	15.497	
17,000.00	8,523.00	6,630.00	6,627.95	103.80	154.10	-56.69	3,401.34	8,955.59	3,395.45	3,175.10	220.35	15.409	
17,081.54	8,523.00	6,630.00	6,627.95	104.68	154.10	-56.69	3,401.34	8,955.59	3,394.47	3,173.32	221.15	15.349 CC	
17,100.00	8,523.00	6,630.00	6,627.95	104.87	154.10	-56.69	3,401.34	8,955.59	3,394.52	3,173.19	221.33	15.337 ES	
17,200.00	8,523.00	6,630.00	6,627.95	105.95	154.10	-56.69	3,401.34	8,955.59	3,396.54	3,174.25	222.29	15.280	
17,300.00	8,523.00	6,630.00	6,627.95	107.02	154.10	-56.69	3,401.34	8,955.59	3,401.49	3,178.27	223.22	15.238	
17,400.00	8,523.00	6,630.00	6,627.95	108.10	154.10	-56.69	3,401.34	8,955.59	3,409.38	3,185.25	224.13	15.212	
17,500.00	8,523.00	6,630.00	6,627.95	109.17	154.10	-56.69	3,401.34	8,955.59	3,420.17	3,195.16	225.00	15.201 SF	
17,600.00	8,523.00	6,630.00	6,627.95	110.25	154.10	-56.69	3,401.34	8,955.59	3,433.84	3,207.99	225.85	15.204	
17,700.00	8,523.00	6,630.00	6,627.95	111.33	154.10	-56.69	3,401.34	8,955.59	3,450.35	3,223.69	226.66	15.223	
17,800.00	8,523.00	6,630.00	6,627.95	112.41	154.10	-56.69	3,401.34	8,955.59	3,469.67	3,242.24	227.43	15.256	
17,900.00	8,523.00	6,630.00	6,627.95	113.49	154.10	-56.69	3,401.34	8,955.59	3,491.75	3,263.58	228.17	15.303	
18,000.00	8,523.00	6,630.00	6,627.95	114.57	154.10	-56.69	3,401.34	8,955.59	3,516.53	3,287.66	228.87	15.365	
18,100.00	8,523.00	6,630.00	6,627.95	115.65	154.10	-56.69	3,401.34	8,955.59	3,543.97	3,314.44	229.53	15.440	
18,200.00	8,523.00	6,630.00	6,627.95	116.73	154.10	-56.69	3,401.34	8,955.59	3,573.99	3,343.84	230.15	15.529	
18,300.00	8,523.00	6,630.00	6,627.95	117.82	154.10	-56.69	3,401.34	8,955.59	3,606.53	3,375.81	230.72	15.631	
18,400.00	8,523.00	6,630.00	6,627.95	118.90	154.10	-56.69	3,401.34	8,955.59	3,641.53	3,410.28	231.26	15.747	
18,500.00	8,523.00	6,630.00	6,627.95	119.98	154.10	-56.69	3,401.34	8,955.59	3,678.92	3,447.17	231.75	15.874	
18,600.00	8,523.00	6,630.00	6,627.95	121.07	154.10	-56.69	3,401.34	8,955.59	3,718.62	3,486.42	232.20	16.015	
18,700.00	8,523.00	6,630.00	6,627.95	122.16	154.10	-56.69	3,401.34	8,955.59	3,760.56	3,527.95	232.61	16.167	
18,800.00	8,523.00	6,630.00	6,627.95	123.24	154.10	-56.69	3,401.34	8,955.59	3,804.67	3,571.69	232.98	16.330	

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

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W13_GOVERNMENT AB #008_1527863 - Inc Only - Inc Only

Offset Site Error: 0.00 usft

Survey Program: 150-INC-ONLY

Rule Assigned:

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
18,900.00	8,523.00	6,630.00	6,627.95	124.33	154.10	-56.69	3,401.34	8,955.59	3,850.87	3,617.56	233.31	16.505	
19,009.61	8,523.00	6,630.00	6,627.95	125.52	154.10	-56.69	3,401.34	8,955.59	3,903.83	3,670.20	233.63	16.709	

COLGATE ENERGY

Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Offset Design: Koala 9 Fed Com Offsets - W17_GOVERNMENT AB FEDERAL #013_1540920 - MWD - MWD

Offset Site Error: 0.00 usft

Survey Program: 267-OWSG MWD Rev 5

Rule Assigned:

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,900.00	8,523.00	6,652.00	6,649.47	113.49	25.17	-42.57	2,276.47	10,212.94	2,554.97	2,451.95	103.02	24.801	
18,000.00	8,523.00	6,652.00	6,649.47	114.57	25.17	-42.57	2,276.47	10,212.94	2,539.99	2,435.68	104.32	24.348	
18,100.00	8,523.00	6,652.00	6,649.47	115.65	25.17	-42.57	2,276.47	10,212.94	2,528.89	2,423.35	105.54	23.962	
18,200.00	8,523.00	6,652.00	6,649.47	116.73	25.17	-42.57	2,276.47	10,212.94	2,521.71	2,415.04	106.67	23.641	
18,300.00	8,523.00	6,652.00	6,649.47	117.82	25.17	-42.57	2,276.47	10,212.94	2,518.48	2,410.78	107.70	23.385	
18,331.39	8,523.00	6,652.00	6,649.47	118.16	25.17	-42.57	2,276.47	10,212.94	2,518.28	2,410.29	108.00	23.318	CC, ES
18,400.00	8,523.00	6,652.00	6,649.47	118.90	25.17	-42.57	2,276.47	10,212.94	2,519.22	2,410.60	108.62	23.193	
18,500.00	8,523.00	6,652.00	6,649.47	119.98	25.17	-42.57	2,276.47	10,212.94	2,523.92	2,414.49	109.43	23.064	
18,600.00	8,523.00	6,652.00	6,649.47	121.07	25.17	-42.57	2,276.47	10,212.94	2,532.57	2,422.44	110.13	22.996	
18,700.00	8,523.00	6,652.00	6,649.47	122.16	25.17	-42.57	2,276.47	10,212.94	2,545.12	2,434.40	110.72	22.988	SF
18,800.00	8,523.00	6,652.00	6,649.47	123.24	25.17	-42.57	2,276.47	10,212.94	2,561.51	2,450.33	111.18	23.038	
18,900.00	8,523.00	6,652.00	6,649.47	124.33	25.17	-42.57	2,276.47	10,212.94	2,581.68	2,470.14	111.54	23.146	
19,009.61	8,523.00	6,652.00	6,649.47	125.52	25.17	-42.57	2,276.47	10,212.94	2,608.02	2,496.21	111.80	23.327	

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

COLGATE ENERGY

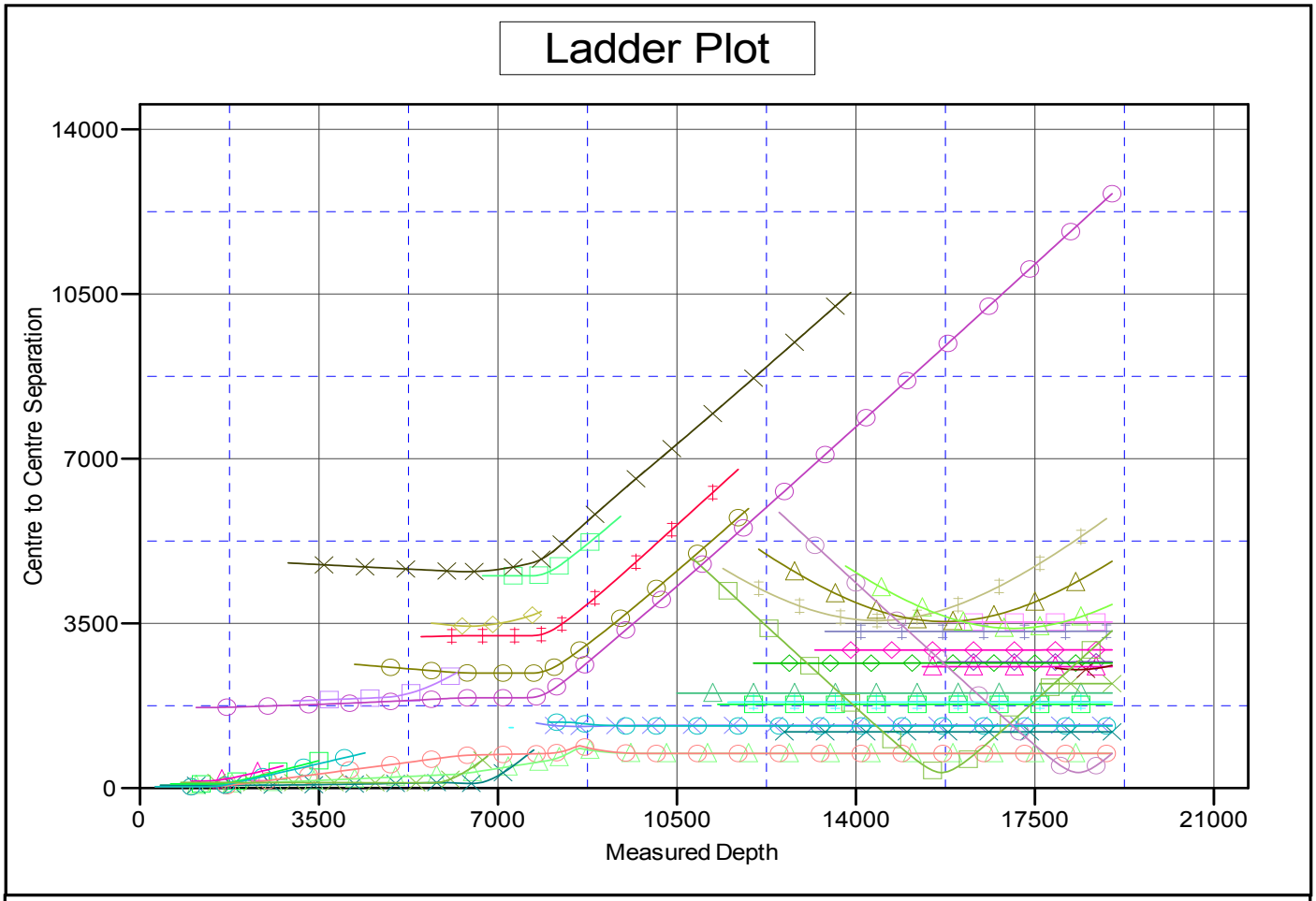
Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to 3274+30 @ 3304.00usft
Offset Depths are relative to Offset Datum
Central Meridian is -104.33333334

Coordinates are relative to: (B03) Koala 9 Fed Com 133H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.08°

Ladder Plot



LEGEND

(A05) Koala 9 Fed Com 121H, Permit, APD-Rev00 V0
(A04) Koala 9 Fed Com 132H, Permit, APD-Rev00 V0
(A02) Koala 9 Fed Com 202H, Permit, APD-Rev00 V0
(A01) Koala 9 Fed Com 201H, Permit, APD-Rev00 V0
(B08) Koala 9 Fed Com 114H, Permit, APD-Rev00 V0
(A06) Koala 9 Fed Com 122H, Permit, APD-Rev00 V0
(B01) Koala 9 Fed Com 203H, Permit, APD-Rev00 V0
(A08) Koala 9 Fed Com 112H, Permit, APD-Rev00 V0
(B05) Koala 9 Fed Com 123H, Permit, APD-Rev00 V0
(B06) Koala 9 Fed Com 124H, Permit, APD-Rev00 V0
(A07) Koala 9 Fed Com 111H, Permit, APD-Rev00 V0
(B02) Koala 9 Fed Com 204H, Permit, APD-Revv00 V0
(A03) Koala 9 Fed Com 131H, Permit, APD-Rev00 V0
(B04) Koala 9 Fed Com 134H, Permit, APD-Rev00 V0
(B07) Koala 9 Fed Com 113H, Permit, APD-Rev00 V0
W02_GOVERNMENT AO COM #001_1524032, Inc Only, Inc Only V0
W08_FEDERAL V COM #004_1535127,Inc Only, Inc Only V0
W04_FEDERAL V #001_1526451, Inc Only, Inc Only V0
W11_GOVERNMENT AB #006_1527846, Inc Only, Inc Only V0
W06_FEDERAL V #003_1526867, Depth Only, Depth Only V0
W12_GOVERNMENT AB #007_1527847, Inc Only, Inc Only V0
W05_FEDERAL V #002_1526702, Inc Only, Inc Only V0
W17_GOVERNMENT AB FEDERAL #013_1540920,MWD, MWD V0
W13_GOVERNMENT AB #008_1527863, Inc Only, Inc Only V0
W03_PRE-ONGARD WELL #001_1525793, Inc Only, Inc Only V0
W10_GOVERNMENT AB #003_1521774, Inc Only, Inc Only V0
W09_GOVERNMENT AB #002_1521480, Inc Only, Inc Only V0
W07_PRE-ONGARD WELL #001_1527282, Depth Only, Depth Only V0

COLGATE ENERGY

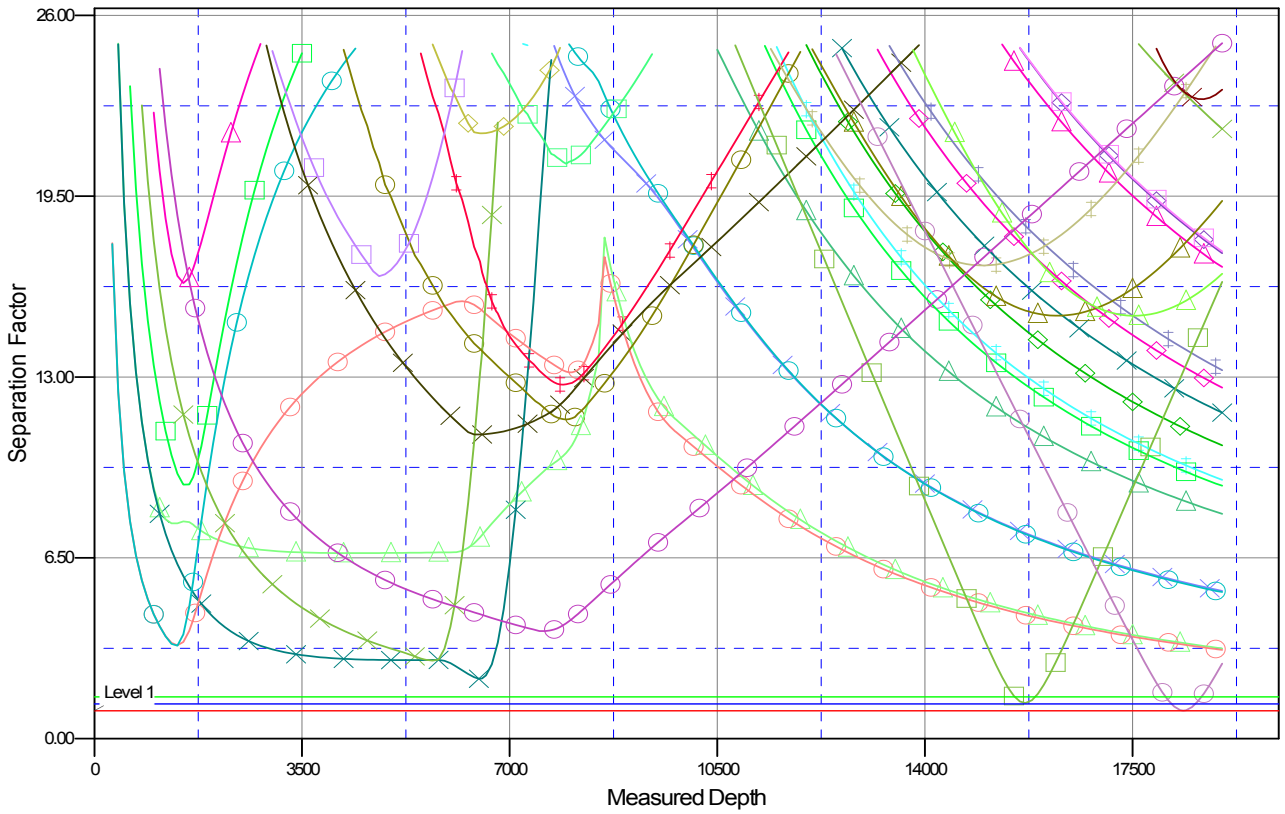
Anticollision Report

Company:	Colgate Energy	**Local Co-ordinate Reference:**	Well (B03) Koala 9 Fed Com 133H
Project:	(Permit) Eddy County, NM (83-NME)	**TVD Reference:**	3274+30 @ 3304.00usft
Reference Site:	(Permit) Koala 9 Fed Com	**MD Reference:**	3274+30 @ 3304.00usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	(B03) Koala 9 Fed Com 133H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Permit	**Database:**	EDM 5000.14 Single User Db
Reference Design:	APD-Rev00	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to 3274+30 @ 3304.00usft
Offset Depths are relative to Offset Datum
Central Meridian is -104.33333334

Coordinates are relative to: (B03) Koala 9 Fed Com 133H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.08°

Separation Factor Plot



LEGEND

(A05) Koala 9 Fed Com 121H ,Permit, APD-Rev00 V0
(A04) Koala 9 Fed Com 132H ,Permit, APD-Rev00 V0
(A02) Koala 9 Fed Com 202H ,Permit, APD-Rev00 V0
(A01) Koala 9 Fed Com 201H ,Permit, APD-Rev00 V0
(B08) Koala 9 Fed Com 114H ,Permit, APD-Rev00 V0
(A06) Koala 9 Fed Com 122H ,Permit, APD-Rev00 V0
(B01) Koala 9 Fed Com 203H ,Permit, APD-Rev00 V0
(A08) Koala 9 Fed Com 112H ,Permit, APD-Rev00 V0
(B05) Koala 9 Fed Com 123H ,Permit, APD-Rev00 V0
(B06) Koala 9 Fed Com 124H ,Permit, APD-Rev00 V0
(A07) Koala 9 Fed Com 111H ,Permit, APD-Rev00 V0
(B02) Koala 9 Fed Com 204H ,Permit, APD-Revv00 V0
(A03) Koala 9 Fed Com 131H ,Permit, APD-Rev00 V0
(B04) Koala 9 Fed Com 134H ,Permit, APD-Rev00 V0
(B07) Koala 9 Fed Com 113H ,Permit, APD-Rev00 V0
W02_GOVERNMENT AO COM #001_1524032, Inc Only, Inc Only V0
W08_FEDERAL V COM #004_1535127,Inc Only, Inc Only V0
W04_FEDERAL V #001_1526451, Inc Only, Inc Only V0
W11_GOVERNMENT AB #006_1527846, Inc Only, Inc Only V0
W06_FEDERAL V #003_1526867, Depth Only, Depth Only V0
W12_GOVERNMENT AB #007_1527847, Inc Only, Inc Only V0
W05_FEDERAL V #002_1526702, Inc Only, Inc Only V0
W17_GOVERNMENT AB FEDERAL #013_1540920,MWD, MWD V0
W13_GOVERNMENT AB #008_1527863, Inc Only, Inc Only V0
W03_PRE-ONGARD WELL #001_1525793, Inc Only, Inc Only V0
W10_GOVERNMENT AB #003_1521774, Inc Only, Inc Only V0
W09_GOVERNMENT AB #002_1521480, Inc Only, Inc Only V0
W07_PRE-ONGARD WELL #001_1527282, Depth Only, Depth Only V0

COLGATE ENERGY

Site: (Permit) Koala 9 Fed Com
Well: (B03) Koala 9 Fed Com 133H
Wellbore: Permit
Plan: APD-Rev00

WELL DETAILS: (B03) Koala 9 Fed Com 133H

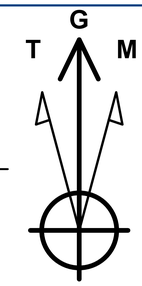
Northing	Easting	Latittude	Longitude
576206.98	584863.30	32.58396748	-104.19201920

Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00	0.00
3	1663.83	6.96	355.14	1662.69	28.03	-2.38	1.50	355.14	-2.20
4	6070.90	6.96	355.14	6037.31	559.94	-47.62	0.00	0.00	-43.90
5	6534.73	0.00	0.00	6500.00	587.97	-50.00	1.50	180.00	-46.10
6	7672.73	0.00	0.00	7638.00	587.97	-50.00	0.00	0.00	-46.10
7	8272.73	60.00	94.60	8134.20	564.99	235.56	10.00	94.60	239.30
8	9791.36	90.00	89.62	8523.00	516.15	1684.41	2.00	-9.89	1687.80
9	19009.61	90.00	89.62	8523.00	577.35	10902.46	0.00	0.00	10906.05

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
227.00	227.00	Rustler
368.00	368.00	T/Salt
704.00	704.00	Tansill
779.00	779.00	Yates
1154.00	1154.00	Seven Rivers
1824.00	1826.34	Queen
2054.00	2058.04	Grayburg
2404.00	2410.64	San Andres
2979.00	2989.90	CYCN
4654.00	4677.33	BSGL
6104.00	6138.02	FBSG
7179.00	7213.73	SBSG
8304.00	8657.52	TBSG



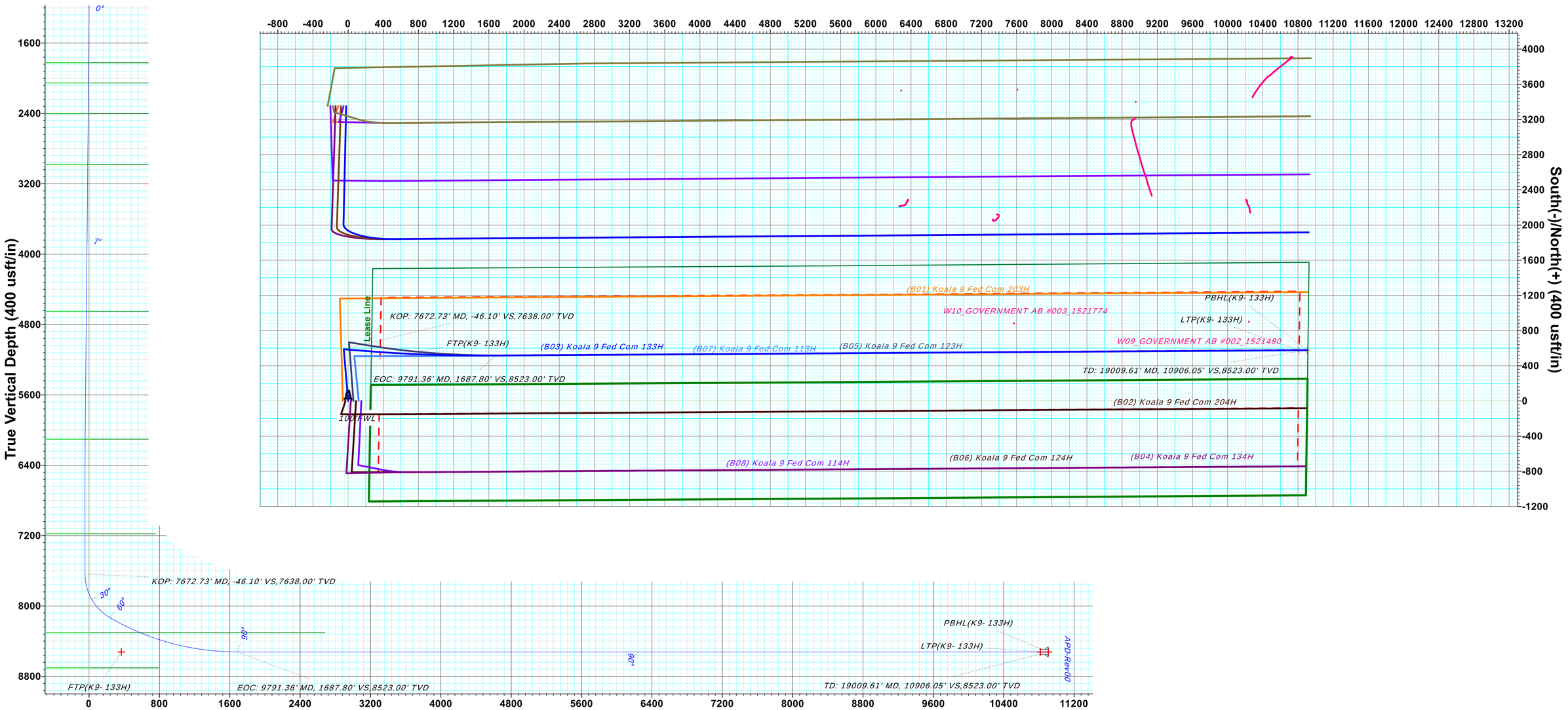
Azimuths to Grid North
True North: -0.08°
Magnetic North: 6.68°

Magnetic Field
Strength: 47550.5nT
Dip Angle: 60.11°
Date: 5/6/2022
Model: IGRF2020

PROJECT DETAILS: (Permit) Eddy County, NM (83-NME)
Well Name: (B03) Koala 9 Fed Com 133H
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level
Local North: Grid
KB Elevation: 3274+30 @ 3304.00usft
Elevation: 3274.00

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP(K9- 133H)	8523.00	507.84	363.47	576714.82	585226.77	32.58536207	-104.19083692
LTP(K9- 133H)	8523.00	576.79	10812.44	576783.77	595675.74	32.58550854	-104.15691174
PBHL(K9- 133H)	8523.00	577.35	10902.46	576784.33	595765.76	32.58550967	-104.15661947



TURNAZONTAL WELL PLANNING

Plan: APD-Rev00 ((B03) Koala 9 Fed Com 133H/Permit)
Created By: Adrian Castro Date: 8:21, May 13 2022

Permian Resources - Koala 9 Fed Com 133H

1. Geologic Formations

Formation	Elevation	TVD	Target
Rustler	-3077	227	No
Top of Salt	-2936	368	No
Capitan	NP	NP	No
Tansill	-2600	704	No
Yates	-2525	779	No
Seven Rivers	-2150	1154	No
Queen	-1480	1824	No
Grayburg	-1250	2054	No
San Andres	-900	2404	No
Delaware Mountain Group	-325	2979	No
Bone Spring Lime	1350	4654	No
1st Bone Spring Sand	2800	6104	No
2nd Bone Spring Sand	3875	7179	No
3rd Bone Spring Sand	5000	8304	Yes
Wolfcamp XY	NP	NP	No

2. Blowout Prevention

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
12.25	13-5/8"	5M	Annular	x	2500 psi
			Blind Ram	x	5000 psi
			Pipe Ram	x	
			Double Ram		
			Other*		
8.75	13-5/8"	5M	Annular	x	2500 psi
			Blind Ram	x	5000 psi
			Pipe Ram	x	
			Double Ram		
			Other*		

Equipment: BOPE with working pressure ratings in excess of anticipated maximum surface pressure will be utilized for well control from drill out of surface casing to TMD. 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. All BOPE connections shall be flanged, welded or clamped. All choke lines shall be straight unless targeted with running tees or tee blocks are used, and choke lines shall be anchored to prevent whip and reduce vibrations. All valves in the choke line & the choke manifold shall be full opening as to not cause restrictions and to allow for straight fluid paths to minimize potential erosion. All gauges utilized in the well control system shall be of a type designed for drilling fluid service. A top drive inside BOP valve will be utilized at all times. Subs equipped with full opening valves sized to fit the drill pipe and collars will be available on the rig floor in the open position. The key to operate said valve equipped subs will be on the rig floor at all times. The accumulator system will have sufficient capacity to open the HCR and close all three sets of rams plus the annular preventer while retaining at least 300 psi above precharge on the closing manifold (accumulator system shall be capable of doing so without using the closing unit pumps). The fluid reservoir capacity will be double the usable fluid volume of the accumulator system capacity, and the fluid level will be maintained at the manufacturer's recommended level. Prior to connecting the closing unit to the BOP stack, an accumulator precharge pressure test shall be performed to ensure the precharge pressure is within 100 psi of the desired precharge pressure (only nitrogen gas will be used to precharge). Two independent power sources will be made available at all times to power the closing unit pumps so that the pumps can automatically start when the closing valve manifold pressure has decreased to the preset level. Closing unit pumps will be sized to allow opening of HCR and closing of annular preventer on 5" drill pipe achieving at least 200 psi above precharge pressure with the accumulator system isolated from service in less than two minutes. A valve shall be installed in the closing line as close to the annular preventer as possible to act as a locking device; the valve shall be maintained in the open position and shall be closed only when the power source for the accumulator system is inoperative. Remote controls capable of opening and closing all preventers & the HCR shall be readily accessible to the driller; master controls with the same capability will be operable at the accumulator. The wellhead will be a multibowl speed head allowing for hangoff of intermediate casing & isolation of the 133/8 x 95/8 annulus without breaking the connection between the BOP & wellhead to install an additional casing head. A wear bushing will be installed & inspected frequently to guard against internal wear to wellhead. VBRs (variablebore rams) will be run in upper rambody of BOP stack to provide redundancy to annular preventer while RIH w/ production casing;

Requesting Variance? YES
Variance request: Flex hose and offline cement variances, see attachments in section 8.
Testing Procedure: The BOP test shall be performed before drilling out of the surface casing shoe and will occur at a minimum: a. when initially installed b. whenever any seal subject to test pressure is broken c. following related repairs d. at 30 day intervals e. checked daily as to mechanical operating conditions. The ram type preventer(s) will be tested using a test plug to 250 psi (low) and 5,000 psi (high) (casinghead WP) with a test plug upon its installation onto the 13 surface casing. If a test plug is not used, the ram type preventer(s) shall be tested to 70% of the minimum internal yield pressure of the casing. The annular type preventer(s) shall be tested to 3500 psi. Pressure will be maintained for at least 10 minutes or until provisions of the test are met, whichever is longer. A Sundry Notice (Form 3160 5), along with a copy of the BOP test report, shall be submitted to the local BLM office within 5 working days following the test. If the bleed line is connected into the buffer tank (header), all BOP equipment including the buffer tank and associated valves will be rated at the required BOP pressure. The BLM office will be provided with a minimum of four (4) hours notice of BOP testing to allow witnessing. The BOP Configuration, choke manifold layout, and accumulator system, will be in compliance with Onshore Order 2 for a 5,000 psi system. A remote accumulator and a multi-bowl system will be used, please see attachment in section 8 for multi-bowl procedure. Pressures, capacities, and specific placement and use of the manual and/or hydraulic controls, accumulator controls, bleed lines, etc., will be identified at the time of the BLM 'witnessed BOP test. Any remote controls will be capable of both opening and closing all preventers and shall be readily accessible.

Choke Diagram Attachemnt: 5 M Choe Manifold
BOP Diagram Attachment: BOP Schematic

3. Casing

String	Hole Size	Casing Size	Top	Bottom	Top TVD	Bottom TVD	Length	Grade	Weight	Connection	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
Surface	17.5	13.375	0	252	0	252	252	J55	54.5	BTC	9.08	4.08	Dry	7.99	Dry	7.50
Intermediate	12.25	9.625	0	2929	0	2929	2929	J55	36	BTC	2.68	1.59	Dry	3.11	Dry	2.75
Production	8.75	5.5	0	9791	0	8523	9791	P110RY	17	GeoConn	1.69	1.76	Dry	2.23	Dry	2.23
Production	7.875	5.5	9791	19009	8523	8523	9218	P110RY	17	GeoConn	1.69	1.76	Dry	2.23	Dry	2.23
								BLM Min Safety Factor			1.125	1		1.6		1.6

Non API casing spec sheets and casing design assumptions attached.

4. Cement

String	Lead/Tail	Top MD	Bottom MD	Quanity (sx)	Yield	Density	Cu Ft	Excess %	Cement Type	Additives
Surface	Tail	0	252	210	1.34	14.8	270	50%	Class C	Accelerator
Intermediate	Lead	0	2340	520	2.08	12.7	1080	50%	Class C	Salt, Extender, and LCM
Intermediate	Tail	2340	2929	210	1.34	14.8	280	50%	Class C	Accelerator
Production	Lead	2429	7672	760	2.41	11.5	1820	40%	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder
Production	Tail	7672	19009	1550	1.73	12.5	2670	25%	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder

5. Circulating Medium

Mud System Type: Closed
Will an air or gas system be used: No
Describe what will be on location to control well or mitigate oter conditions: Sufficient quantities of mud materials will be on the well site at all times for the purpose of assuring well control and maintaining wellbore integrity. Surface interval will employ fresh water mud. The intermediate hole will utilize a saturated brine fluid to inhibit salt washout. The production hole will employ brine based and oil base fluid to inhibit formation reactivity and of the appropriate density to maintain well control.

Describe the mud monitoring system utilized: Centrifuge separation system. Open tank monitoring with EDR will be used for drilling fluids and return volumes. Open tank monitoring will be used for cement and cuttings return volumes. Mud properties will be monitored at least every 24 hours using industry accepted mud check practices.

Cuttings Volume: 8600 Cu Ft

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight	Max Weight
0	252	Water Based Mud	8.6	9.5
252	2929	Salt Saturated	10	10
2929	9791	Brine	9	10
9791	19009	OBM	9	10

6. Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:
Will utilize MWD/LWD (Gamma Ray logging) from intermediate hole to TD of the well.
List of open and cased hole logs run in the well:
DIRECTIONAL SURVEY,GAMMA RAY LOG,
Coring operation description for the well:
N/A

7. Pressure

Anticipated Bottom Hole Pressure	4440	psi
Anticipated Surface Pressure	2556.9	psi
Anticipated Bottom Hole Temperature	142	°F
Anticipated Abnormal pressure, temp, or geo hazards	No	

8. Other Information

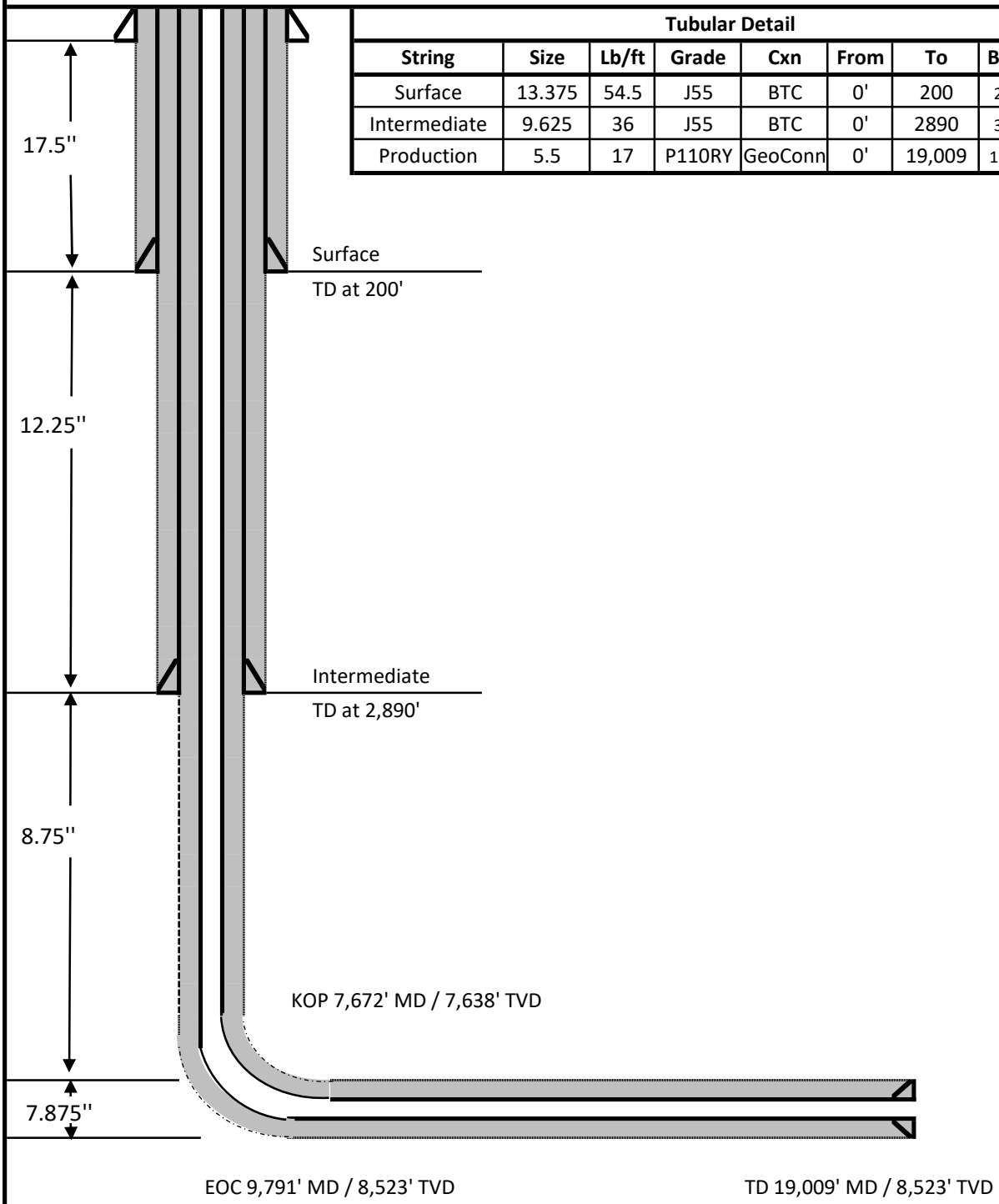
Well Plan and AC Report: attached
Batching Drilling Procedure: attached
WBD: attached
Flex Hose Specs: attached
Offline Cementing Procedure Attached:

Permian Resources

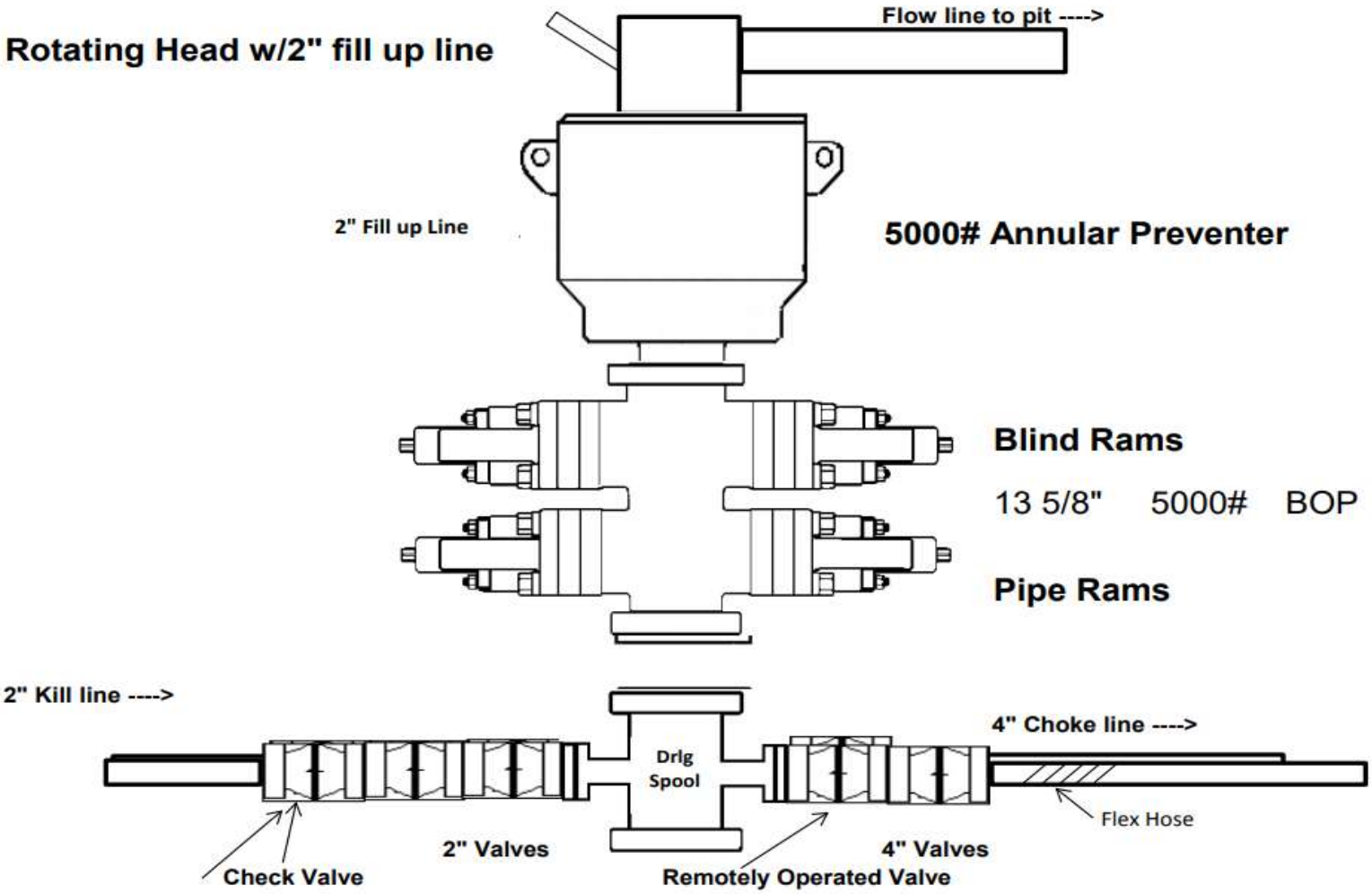
Well: Koala 9 Fed Com 133H
State New Mexico **County:** Eddy
FM Target: 3rd Bone Spring Sand
Location: Lot P, Section 8, T20S, R28E, 1144' FSL, 255' FEL
BHL: Lot I, Section 10, T20S, R28E, 1650' FSL, 10' FEL
KB Elev: 3304 **KB:** 30 **GL Elev:** 3274

Tubular Detail

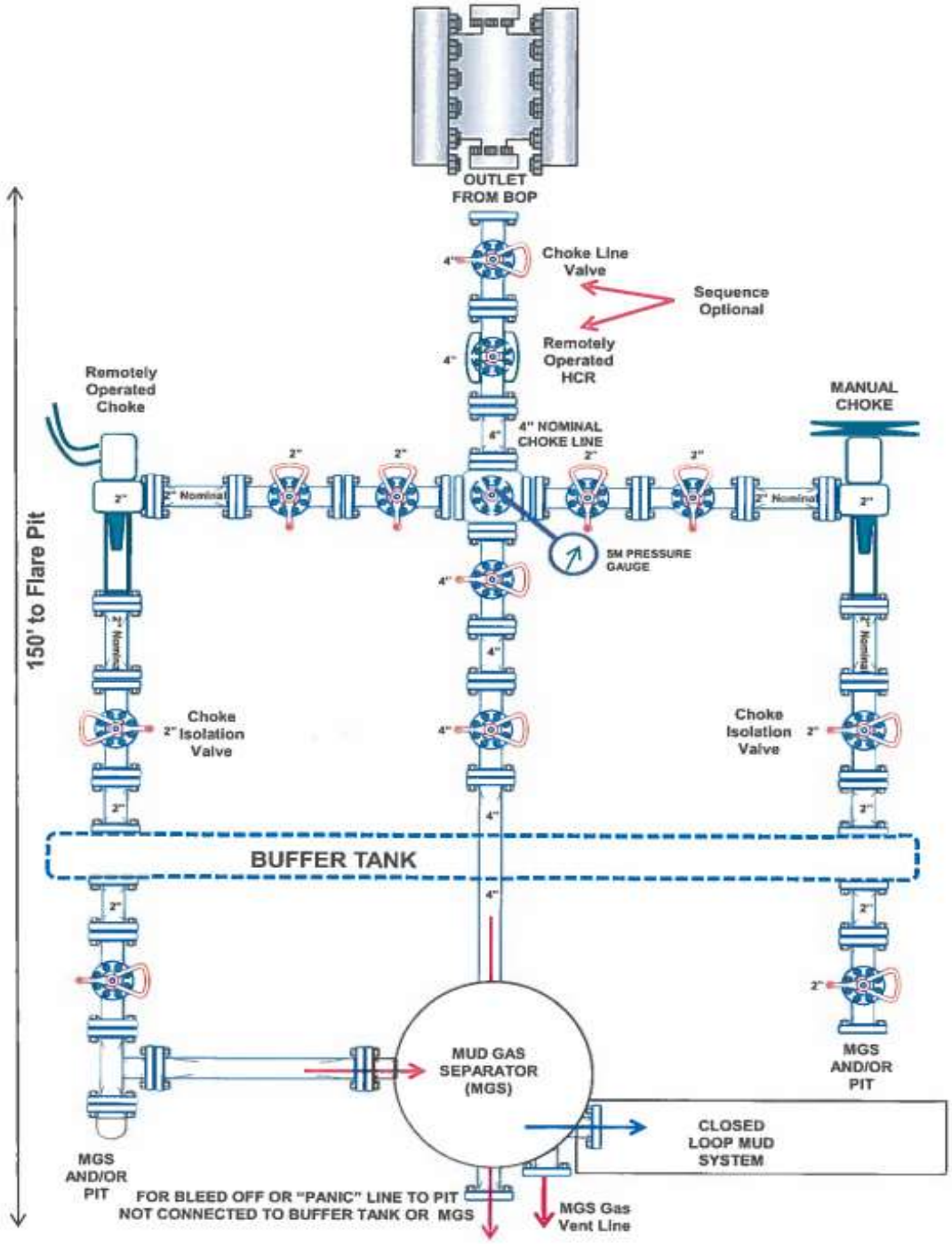
String	Size	Lb/ft	Grade	Cxn	From	To	Burst	Cllps
Surface	13.375	54.5	J55	BTC	0'	200	2740	1,130
Intermediate	9.625	36	J55	BTC	0'	2890	3520	2,020
Production	5.5	17	P110RY	GeoConn	0'	19,009	11550	7,480



5,000 psi BOP Schematic



5M Choke Manifold Equipment (WITH MGS + CLOSED LOOP)



Continental
ContiTech

CONTITECH RUBBER Industrial Kft.	No:QC-DB- 210/ 2014
	Page: 9 / 113

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE					CERT. N°:	504	
PURCHASER:	ContiTech Oil & Marine Corp.				P.O. N°:	4500409659	
CONTITECH RUBBER order N°:	538236		HOSE TYPE:	3" ID	Choke and Kill Hose		
HOSE SERIAL N°:	67255		NOMINAL / ACTUAL LENGTH:		10,67 m / 10,77 m		
W.P. 68,9 MPa	10000 psi		T.P. 103,4 MPa	15000 psi	Duration:	60	min.

Pressure test with water at
ambient tempecature

See attachment. (1 page)

↑ 10 mm = 10 Min.
→ 10 mm = 20 MPa

COUPLINGS Type	Serial N°		Quality	Heat N°
3" coupling with	9251	9254	AISI 4130	A0579N
4 1/16" 10K API b.w. Flange end			AISI 4130	035608

Not Designed For Well Testing

API Spec 16 C

Temperature rate:"B"

All metal parts are flawless

WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

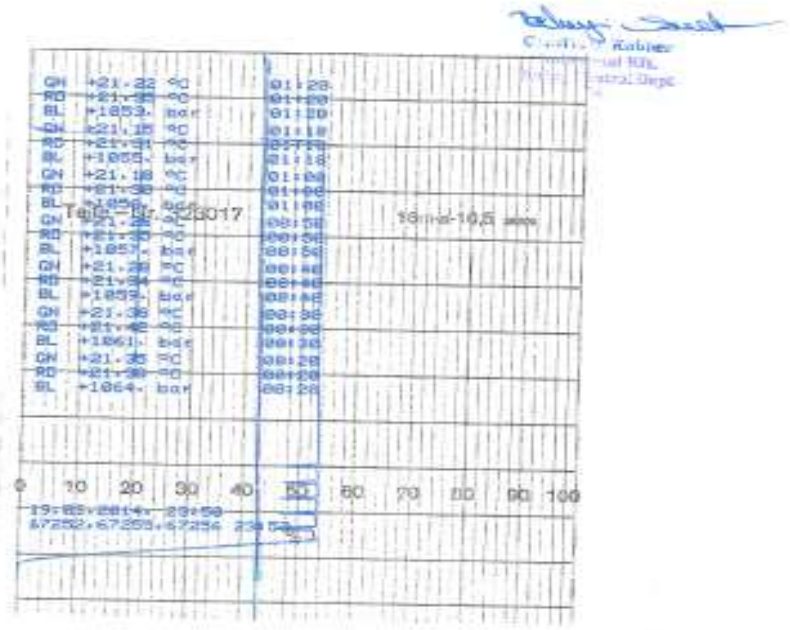
STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.

COUNTRY OF ORIGIN HUNGARY/EU

Date:	Inspector	Quality Control
20. March 2014.		

ATTACHMENT OF QUALITY CONTROL INSPECTION AND TEST CERTIFICATE No: 501, 504, 505

Page: 1 / 1



Hose Data Sheet

CRI Order No.	538236
Customer	ContiTech Oil & Marine Corp.
Customer Order No	4500409659
Item No.	1
Hose Type	Flexible Hose
Standard	**API SPEC 16 C**
Inside dia in inches	3
Length	35 ft
Type of coupling one end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
Type of coupling other end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
H2S service NACE MR0175	Yes
Working Pressure	10 000 psi
Design Pressure	10 000 psi
Test Pressure	15 000 psi
Safety Factor	2,25
Marking	USUAL PHOENIX
Cover	NOT FIRE RESISTANT
Outside protection	St.steel outer wrap
Internal stripwound tube	No
Lining	OIL + GAS RESISTANT SOUR
Safety clamp	No
Lifting collar	No
Element C	No
Safety chain	No
Safety wire rope	No
Max.design temperature [°C]	100
Min.design temperature [°C]	-20
Min. Bend Radius operating [m]	0,90
Min. Bend Radius storage [m]	0,90
Electrical continuity	The Hose is electrically continuous
Type of packing	WOODEN CRATE ISPM-15

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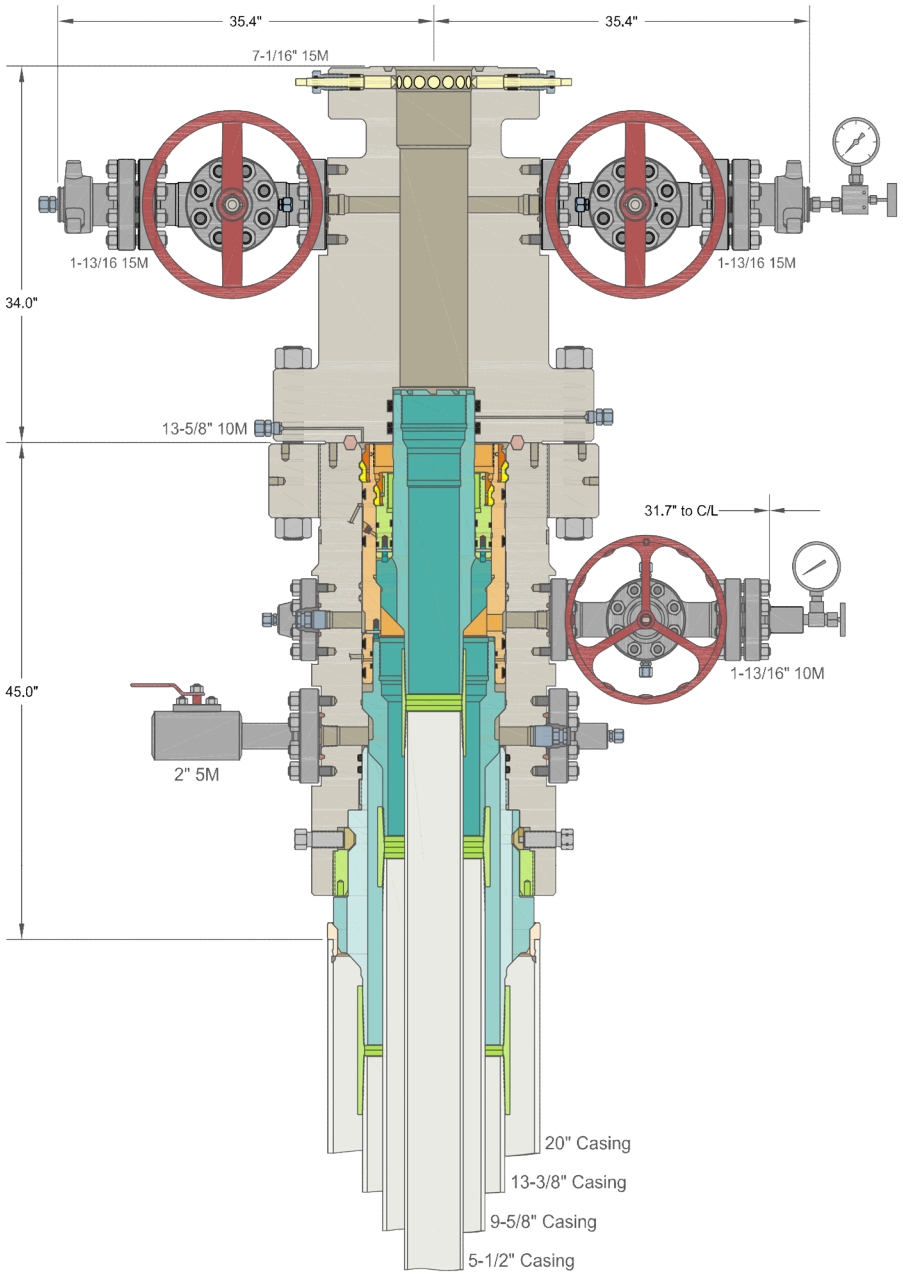


ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC	CENTENNIAL RESOURCE DEVELOPMENT LEE CO, NM		
20" x 13-3/8" x 9-5/8" x 5-1/2" 10M MBU-3T-CFL-R-DBLO System With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head, 20" Landing Ring & Pin Down Mandrel Casing Hangers	DRAWN	DLE	10JUN20
	APPRV		
	DRAWING NO.	HBE0000338	

Permian Resources Casing Design Criteria

A sundry will be requested if any lesser grade or different size casing is substituted. All casing will be centralized as specified in On Shore Order II. Casing will be tested as specified in On Shore Order II.

Casing Design Assumptions:

Surface

1) Burst Design Loads
   a) Displacement to Gas
      (1) Internal: Assumes a full column of gas in the casing with a gas gradient of 0.7 psi/ft in the absence of better information. It is limited to the controlling pressure based on the maximum expected pore pressure within the next drilling interval.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
   b) Lost Returns with Mud Drop
      (1) Internal: Lost circulation at the TD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

Intermediate I

1) Burst Design Loads
   a) Displacement to Gas
      (1) Internal: Assumes a full column of gas in the casing with a gas gradient of 0.7 psi/ft in the absence of better information. It is limited to the controlling pressure based on the maximum expected pore pressure within the next drilling interval.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.

(2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.

2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
   b) Lost Returns with Mud Drop
      (1) Internal: Lost circulation at the TD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

<u>Intermediate or Intermediate II</u>

1) Burst Design Loads
   a) Gas Kick Profile
      (1) Internal: Load profile based on influx encountered in lateral portion of wellbore with a maximum influx volume of 150 bbl and a kick intensity of 1.5 ppg using maximum anticipated MW of 9.9 ppg.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
   b) Lost Returns with Mud Drop
      (1) Internal: Lost circulation at the deepest TVD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

Production

1) Burst Design Loads
   a) Injection Down Casing
      (1) Internal: Surface pressure plus injection fluid gradient.
      (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test (Drilling)
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   c) Casing Pressure Test (Production)
      (1) Internal: The design pressure test should be the greater of the planned test pressure prior to simulation down the casing, the regulatory test pressure, and the expected gas lift system pressure. The design test fluid should be the fluid associated with the pressure test having the greatest pressure.
      (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
   d) Tubing Leak
      (1) Internal: SITP plus a packer fluid gradient to the top of packer.
      (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
   b) Full Evacuation
      (1) Internal: Full void pipe.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

Permian Resources
Multi-Well Pad Batch Drilling Procedure

Surface Casing - PR intends to Batch set all 13-3/8" casing to a depth approved in the APD. 17-1/2" Surface Holes will be batch drilled by a rig. Appropriate notifications will be made prior to spudding the well, running and cementing casing and prior to skidding to the rig to the next well on pad.

1. Drill 17-1/2" Surface hole to Approved Depth with Rig and perform wellbore cleanup cycles. Trip out and rack back drilling BHA.
2. Run and land 13-3/8" 54.5# J55 BTC casing see Illustration 1-1 Below to depth approved in APD.
3. Set packoff and test to 5k psi
4. Offline Cement
5. Install wellhead with pressure gauge and nightcap. Nightcap is shown on final wellhead Stack up Illustration #2-2.
6. Skid Rig to adjacent well to drill Surface hole.
7. Surface casing test will be performed by the rig in order to allow ample time for Cement to develop 500psi compressive strength. Casing test to 0.22 psi/ft or 1500 psi whichever is

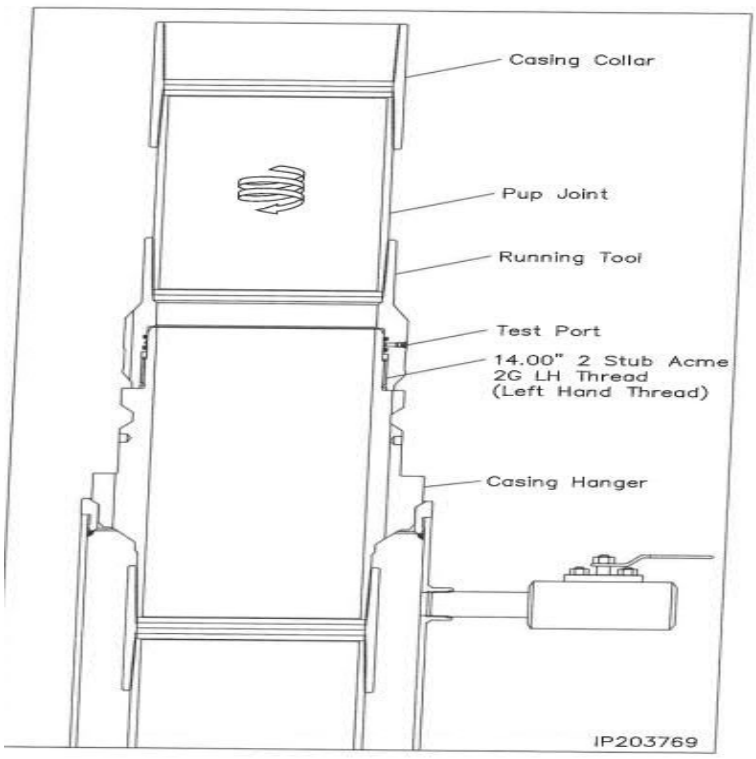


Illustration 1-1

Intermediate Casing – PR intends to Batch set all intermediate casing strings to a depth approved in the APD, typically set into Lamar. 12-1/4" Intermediate Holes will be batch drilled by the rig. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

1. Rig will remove the nightcap and install and test BOPE.
2. Test Surface casing per COA WOC timing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst. Cement must have achieved 500psi compressive strength prior to test.
3. Install wear bushing then drill out 13-3/8" shoe-track plus 20' and conduct FIT to minimum of the MW equivalent anticipated to control the formation pressure to the next casing point.
4. Drill Intermediate hole to approved casing point. Trip out of hole with BHA to run Casing.
5. Remove wear bushing then run and land Intermediate Casing with mandrel hanger in wellhead.
6. Cement casing to surface with floats holding.
7. Washout stack then run wash tool in wellhead and wash hanger and pack-off setting area.
8. Install pack-off and test void to 5,000 psi for 15 minutes. Nightcap shown on final wellhead stack up illustration 2-2 on page 3.
9. Test casing per COA WOC timing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst. Cement must have achieved 500psi compressive strength prior to test.
10. Install nightcap – skid rig to adjacent well to drill Intermediate hole.

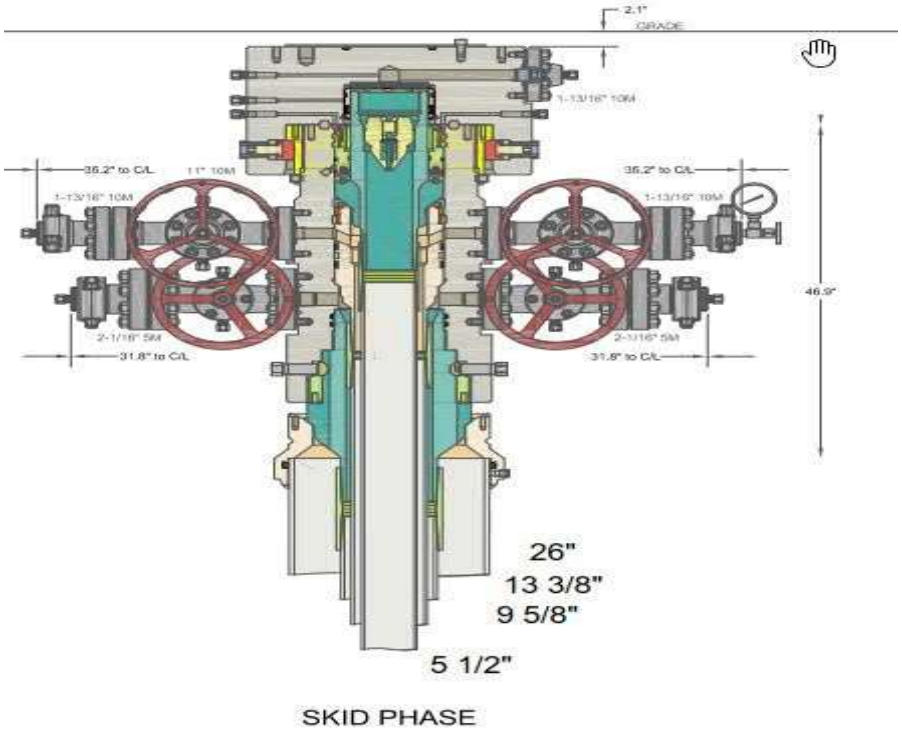


Illustration 2-2

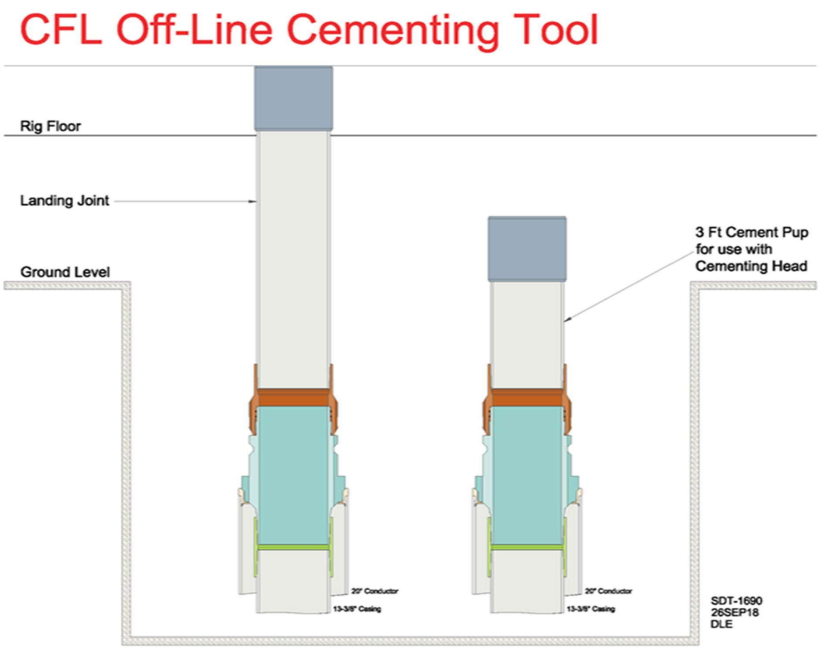
Production Casing – PR intends to Batch set all Production casings with Rig. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

1. Big Rig will remove the nightcap and install and test BOPE.
2. Install wear bushing then drill Intermediate shoe-track plus 20' and conduct FIT to minimum MW equivalent to control the formation pressure to TD of well.
3. Drill Vertical hole to KOP – Trip out for Curve BHA.
4. Drill Curve, landing in production interval – Trip for Lateral BHA.
5. Drill Lateral / Production hole to Permitted BHL, perform cleanup cycles and trip out to run 51/2" Production Casing.
6. Remove wear bushing then run 5-1/2" production casing to TD landing casing mandrel in wellhead.
7. Cement 5-1/2" Production string with floats holding.
8. Run in with wash tool and wash wellhead area – install pack-off and test void to 5,000psi for 15 minutes.
9. Install BPV in 5-1/2" mandrel hanger – Nipple down BOPE and install nightcap.
10. Test nightcap void to 5,000psi for 30 minutes per illustration 2-2
11. Skid rig to adjacent well on pad to drill production hole.

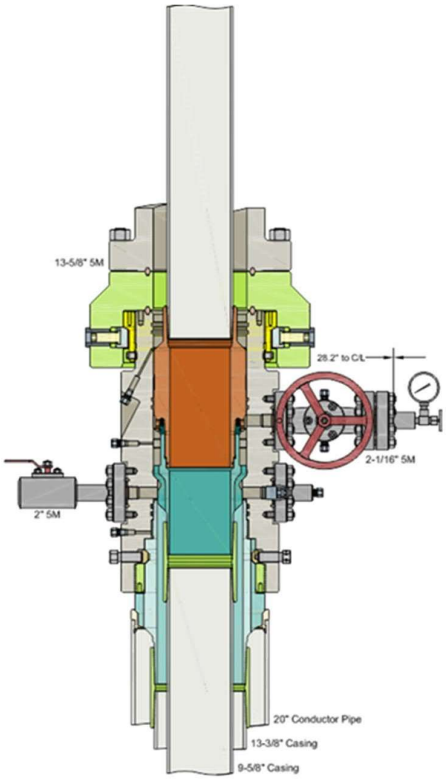
Permian Resources Offline Cementing Procedure
13-3/8" & 9-5/8" Casing

1. Drill hole to Total Depth with Rig and perform wellbore cleanup cycles.
2. Run and casing to Depth.
3. Land casing with mandrel.
4. Circulate 1.5 csg capacity.
5. Flow test – Confirm well is static and floats are holding.
6. Set Annular packoff and pressure test. Test to 5k.
7. Nipple down BOP and install cap flange.
8. Skid rig to next well on pad
9. Remove cap flange (confirm well is static before removal)
    a) If well is not static use the casing outlet valves to kill well
    b) Drillers method will be used in well control event
    c) High pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
    d) Kill mud will be circulated once influx is circulated out of hole
    e) Confirm well is static and remove cap flange to start offline cement operations
10. Install offline cement tool.
11. Rig up cementers.
12. Circulate bottoms up with cement truck
13. Commence planned cement job, take returns through the annulus wellhead valve
14. After plug is bumped confirm floats hold and well is static
15. Rig down cementers and equipment
16. Install night cap with pressure gauge to monitor.

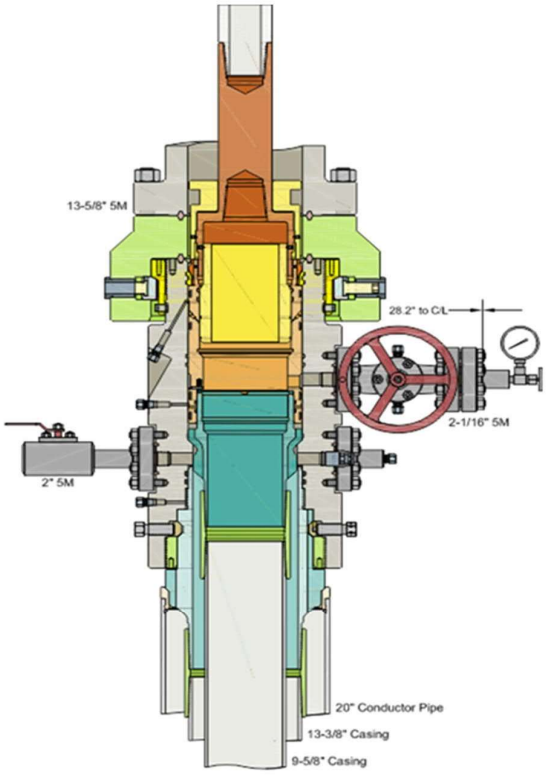
13 3/8" Surface



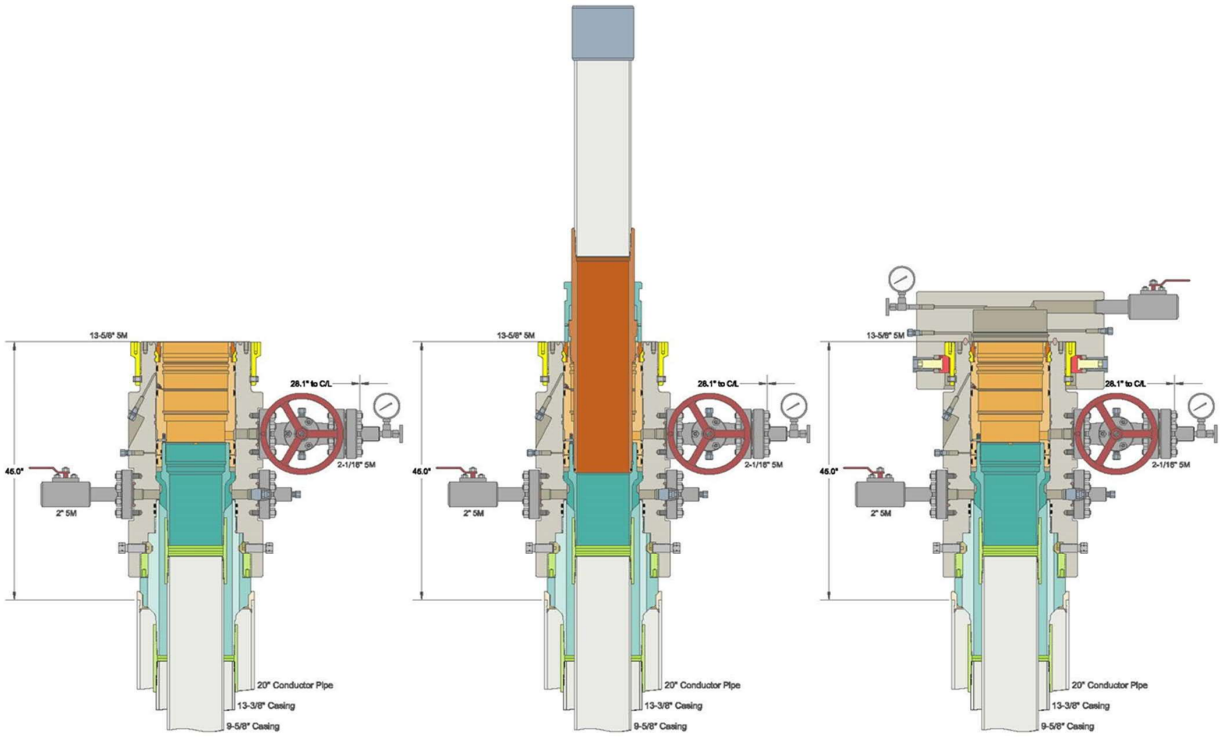
9 5/8" Intermediate



Run 9-5/8" Casing
Land Casing on 9-5/8" Mandrel Hanger
Cement 9-5/8" Casing
Retrieve Running Tool



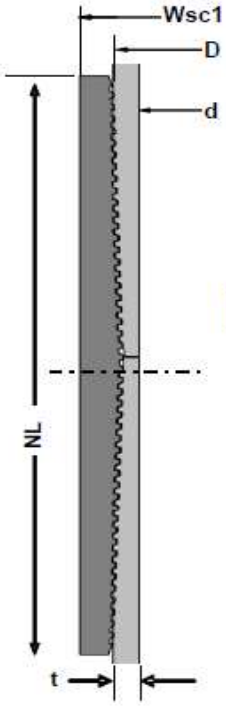
Run 13-5/8" Packoff
Test Upper and Lower Seals
Engage Lockring
Retrieve Running Tool



Metal One Corp.	GEOCONN-SC Pipe: SeAH P110RY 95%PBW (SMYS110ksi) *1 Coupling: P110RY (SMYS110ksi) Connection Data Sheet	Page	MAI GC 5.5 17 SeAH P110RY 95%RBW+SC-Cplg6.050 P110RY
Metal One		Date	3-Feb-21
		Rev.	0

Geometry

GEOCONN-SC



Pipe Body

		Imperial		S.I.	
Grade *1	P110RY	-	P110RY	-
SMYS	110	ksi	110	ksi
Pipe OD (D)	5.500	in	139.70	mm
Weight	17.00	lb/ft	25.33	kg/m
Wall Thickness (t)	0.304	in	7.72	mm
Pipe ID (d)	4.892	in	124.26	mm
Drift Dia.	4.767	in	121.08	mm

Connection

Coupling SMYS	110	ksi	110	ksi
SC-Coupling OD (Wsc1)	6.050	in	153.67	mm
Coupling Length (NL)	8.350	in	212.09	mm
Make up Loss	4.125	in	104.78	mm
Pipe Critical Area	4.96	in^2	3,202	mm^2
Box Critical Area	6.10	in^2	3,937	mm^2
Thread Taper	1 / 16 (3/4" per ft)			
Number of Threads	5 TPI			

Performance

Performance Properties for Pipe Body

		Imperial		S.I.	
S.M.Y.S. *1	546	kips	2,428	kN
M.I.Y.P. *1	11,550	psi	79.66	MPa
Collapse Strength *1	7,480	psi	51.59	MPa

Note S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body
M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body

*1: SeAH P110RY 95%RBW: SMYS110ksi, MIYP11,550psi

Performance Properties for Connection

Min. Connection Joint Strength	100% of S.M.Y.S.
Min. Compression Yield	100% of S.M.Y.S.
Internal Pressure	100% of M.I.Y.P.
External Pressure	100% of Collapse Strength
Max. DLS (deg. /100ft)	>90

Recommended Torque

Min.	10,800	ft-lb	14,600	N-m
Opti.	12,000	ft-lb	16,200	N-m
Max.	13,200	ft-lb	17,800	N-m
Operational Max.	15,600	ft-lb	21,100	N-m

Note : Operational Max. torque can be applied for high torque application

Hose Data Sheet

CRI Order No.	538236
Customer	ContiTech Oil & Marine Corp.
Customer Order No	4500409659
Item No.	1
Hose Type	Flexible Hose
Standard	**API SPEC 16 C**
Inside dia in inches	3
Length	35 ft
Type of coupling one end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
Type of coupling other end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
H2S service NACE MR0175	Yes
Working Pressure	10 000 psi
Design Pressure	10 000 psi
Test Pressure	15 000 psi
Safety Factor	2,25
Marking	USUAL PHOENIX
Cover	NOT FIRE RESISTANT
Outside protection	St.steel outer wrap
Internal stripwound tube	No
Lining	OIL + GAS RESISTANT SOUR
Safety clamp	No
Lifting collar	No
Element C	No
Safety chain	No
Safety wire rope	No
Max.design temperature [°C]	100
Min.design temperature [°C]	-20
Min. Bend Radius operating [m]	0,90
Min. Bend Radius storage [m]	0,90
Electrical continuity	The Hose is electrically continuous
Type of packing	WOODEN CRATE ISPM-15

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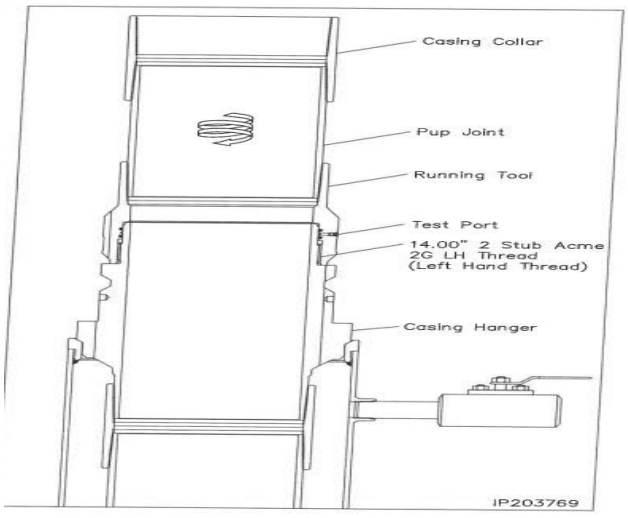
Permian Resources
Multi-Well Pad Batch Drilling & Off Line Cement Procedure

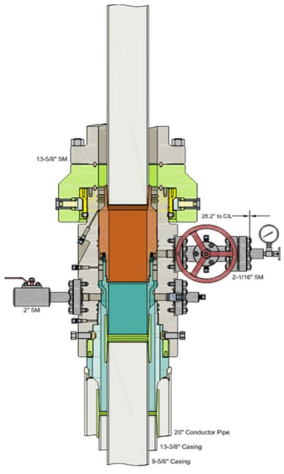
20" Surface Casing - PR intends to Batch set and offline cement all 20" casing to a depth approved in the APD. 24" Surface Holes will be batch drilled by a big rig. Appropriate notifications will be made prior to spudding the well, running, and cementing casing and prior to skidding to the rig to the next well on pad.

1. Drill 24" Surface hole to Approved Depth with Surface Preset Rig and perform wellbore cleanup cycles. Trip out and rack back drilling BHA.
2. Run casing with Cactus Multibowl system, with 32" baseplate supported by both 30" Conductor.
3. Circulate 1.5 csg capacity.
4. Flow test – Confirm well is static.
5. Install cap flange.
6. Skid rig to next well on pad
7. Remove cap flange (confirm well is static before removal)
    a) If well is not static use the casing outlet valves to kill well
    b) Drillers method will be used in well control event
    c) High pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
    d) Kill mud will be circulated once influx is circulated out of hole
    e) Confirm well is static and remove cap flange to start offline cement operations
8. Install offline cement tool.
9. Rig up cementers.
10. Circulate bottoms up with cement truck
11. Commence planned cement job, take returns through the annulus wellhead valve
12. After plug is bumped confirm floats hold and well is static
13. Perform green cement casing test.
    a) Test Surface casing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst.
14. Rig down cementers and equipment
15. Install night cap with pressure gauge to monitor.

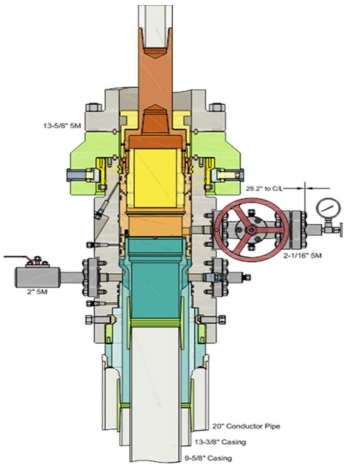


Intermediate 1 Casing – PR intends to Batch set all intermediate 1 casing strings to a depth approved in the APD, typically set into end of salts. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.
Rig will remove the nightcap and install and test BOPE (testing will be performed on the first intermediate 1 as per requested break testing variance).
Install wear bushing then drill out 20" shoe-track.

1. Drill 17.5" Intermediate 1 hole to approved casing point. Trip out of hole with BHA to run Casing.
2. Remove wear bushing then run and land Intermediate 13 3/8" 54.5# J-55 BTC casing with mandrel hanger in wellhead.
3. Flow test – Confirm well is static.
4. Set Annular packoff and pressure test. Test to 5k.
5. Install BPV, Nipple down BOP and install cap flange.
6. Skid rig to next well on pad
7. Remove cap flange (confirm well is static before removal)
    a) If well is not static use the casing outlet valves to kill well
    b) Drillers method will be used in well control event
    c) High pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
    d) Kill mud will be circulated once influx is circulated out of hole
    e) Confirm well is static and remove cap flange to start offline cement operations
8. Install offline cement tool.
9. Rig up cementers.
10. Circulate bottoms up with cement truck
11. Commence planned cement job, take returns through the annulus wellhead valve
12. After plug is bumped confirm floats hold and well is static
13. Perform green cement casing test.
    a) Test casing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst.
14. Rig down cementers and equipment
15. Install night cap with pressure gauge to monitor.



Run 9-5/8" Casing
Land Casing on 9-5/8" Mandrel Hanger
Cement 9-5/8" Casing
Retrieve Running Tool



Run 13-5/8" Packoff
Test Upper and Lower Seals
Engage Lockring
Retrieve Running Tool

Intermediate 2 Casing – PR intends to Batch set all intermediate 2 casing strings to a depth approved in the APD, typically set into Captain past losses. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

1. Rig will remove the nightcap and install and test BOPE (testing will be performed on the first intermediate 2 as per requested break testing variance).
2. Install wear bushing then drill out 13-3/8" shoe-track.
3. Drill Intermediate 12.25" hole to approved casing point. Trip out of hole with BHA to run Casing.
4. Remove wear bushing then run and land Intermediate 9.625" 40# J-55 BTC casing with mandrel hanger in wellhead.
5. Flow test – Confirm well is static.
6. Set Annular packoff and pressure test. Test to 5k.
7. Install BPV, Nipple down BOP and install cap flange.
8. Skid rig to next well on pad
9. Remove cap flange (confirm well is static before removal)
    a) If well is not static use the casing outlet valves to kill well
    b) Drillers method will be used in well control event
    c) High pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
    d) Kill mud will be circulated once influx is circulated out of hole
    e) Confirm well is static and remove cap flange to start offline cement operations
10. Install offline cement tool.
11. Rig up cementers.
12. Circulate bottoms up with cement truck
13. Commence planned cement job, take returns through the annulus wellhead valve
14. After plug is bumped confirm floats hold and well is static
15. Perform green cement casing test.
    a) Test casing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst.
16. Rig down cementers and equipment
17. Install night cap with pressure gauge to monitor.

Production Casing – PR intends to Batch set all Production casings. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

1. Rig will remove the nightcap and install and test BOPE.
2. Install wear bushing then drill Intermediate shoe-track.
3. 3. Drill Vertical hole to KOP – Trip out for Curve BHA.
4. Drill Curve, landing in production interval – Trip for Lateral BHA.
5. Drill Lateral / Production hole to Permitted BHL, perform cleanup cycles and trip out to run 5-1/2" Production Casing.
6. Remove wear bushing then run 5-1/2" production casing to TD landing casing mandrel in wellhead.
7. Cement 5-1/2" Production string to surface with floats holding.

AFMSS

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

Bond Info Data

08/31/2023

APD ID: 10400085823

Submission Date: 06/03/2022

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM

Well Number: 133H

Well Type: OIL WELL

Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Bond

Federal/Indian APD: FED

BLM Bond number: NMB001382

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 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 260966

CONDITIONS

Operator: Permian Resources Operating, LLC 1001 17th Street, Suite 1800 Denver, CO 80202	OGRID: 372165
	Action Number: 260966
	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	9/8/2023
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	9/8/2023
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	9/8/2023
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	9/8/2023
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	9/8/2023