



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

Application for Permit to Drill

APD Package Report

Date Printed: 12/11/2025 07:18 PM

APD ID: 10400085979

Well Status: AAPD

APD Received Date: 06/09/2022 08:06 AM

Well Name: KOALA 9 FED COM

Operator: COLGATE OPERATING LLC

Well Number: 122H

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): 4 file(s)
 - Hydrogen sulfide drilling operations plan: 1 file(s)
 - Proposed horizontal/directional/multi-lateral plan submission: 2 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
(October 2024)FORM APPROVED
OMB No. 1004-0220
Expires: October 31, 2027

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

1a. Type of work: ☒ DRILL ☐ REENTER 1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☒ Single Zone ☐ Multiple Zone		5. Lease Serial No. NMNM137444 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. KOALA 9 FED COM 122H 9. API Well No.
2. Name of Operator COLGATE OPERATING LLC 3a. Address 300 N MARIENFELD STREET SUITE 1000, MIDLAND, TX 3b. Phone No. (include area code) (432) 695-4272		10. Field and Pool, or Exploratory OLD MILLMAN RANCH/BS (ASSOC) 11. Sec., T. R. M. or Blk. and Survey or Area SEC 8/T20S/R28E/NMP
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NENE / 796 FNL / 392 FEL / LAT 32.5930646 / LONG -104.1917654 At proposed prod. zone SENE / 2310 FNL / 10 FEL / LAT 32.5891906 / LONG -104.1565536		12. County or Parish EDDY 13. State NM
14. Distance in miles and direction from nearest town or post office* 12 miles		15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 392 feet
16. No of acres in lease 17. Spacing Unit dedicated to this well 320.0		18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1528 feet
19. Proposed Depth 7289 feet / 18275 feet		20. BLM/BIA Bond No. in file FED: NMB001382
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3288 feet		22. Approximate date work will start* 09/30/2022
23. Estimated duration 90 days		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 (Electronic Submission) Title Regulatory Manager	Name (Printed/Typed) MIKAH THOMAS / Ph: (432) 695-4224	Date 06/09/2022
Approved by (Signature) (Electronic Submission) Title Assistant Field Manager Lands & Minerals	Name (Printed/Typed) CODY LAYTON / Ph: (575) 234-5959	Date 03/22/2024
Office Carlsbad Field Office		

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

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

(Continued on page 2)

*(Instructions on page 2)



INSTRUCTIONS

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

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

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

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

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

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

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

NOTICES

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

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

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

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

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

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

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

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

Additional Operator Remarks

Location of Well

0. SHL: NENE / 796 FNL / 392 FEL / TWSP: 20S / RANGE: 28E / SECTION: 8 / LAT: 32.5930646 / LONG: -104.1917654 (TVD: 0 feet, MD: 0 feet)

PPP: SWNW / 2310 FNL / 100 FWL / TWSP: 20S / RANGE: 28E / SECTION: 9 / LAT: 32.5890258 / LONG: -104.1907588 (TVD: 7286 feet, MD: 7740 feet)

PPP: SWNW / 2310 FNL / 0 FEL / TWSP: 20S / RANGE: 28E / SECTION: 10 / LAT: 32.5891077 / LONG: -104.1737778 (TVD: 7289 feet, MD: 12970 feet)

PPP: SWNE / 2310 FNL / 0 FEL / TWSP: 20S / RANGE: 28E / SECTION: 9 / LAT: 32.5890652 / LONG: -104.1824312 (TVD: 7289 feet, MD: 10305 feet)

BHL: SENE / 2310 FNL / 10 FEL / TWSP: 20S / RANGE: 28E / SECTION: 10 / LAT: 32.5891906 / LONG: -104.1565536 (TVD: 7289 feet, MD: 18275 feet)

BLM Point of Contact

Name: GAVIN MICKWEE

Title: Land Law Examiner

Phone: (575) 234-5972

Email: GMICKWEE@BLM.GOV

**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.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☐ **Special Requirements**
 - Cave/Karst
- Watershed
- ☐ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads

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

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

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

Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be

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

IV. NOXIOUS WEEDS

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

V. SPECIAL REQUIREMENT(S)

Watershed:

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

Tank Battery 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.

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, siting valves 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 valves, 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

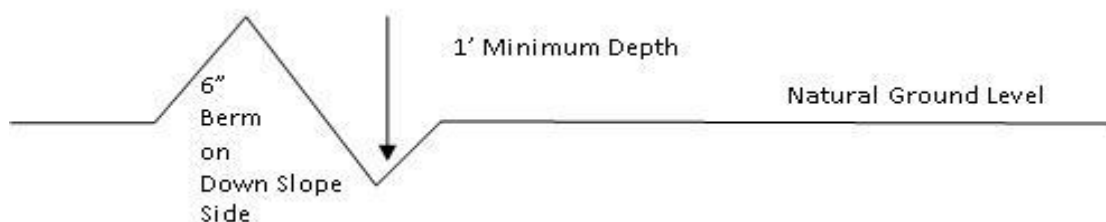
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outslowing and inslaping, 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:

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

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.

- Construction Steps
1. Salvage topsoil

2. Construct road

3. Redistribute topsoil

4. Revegetate slopes

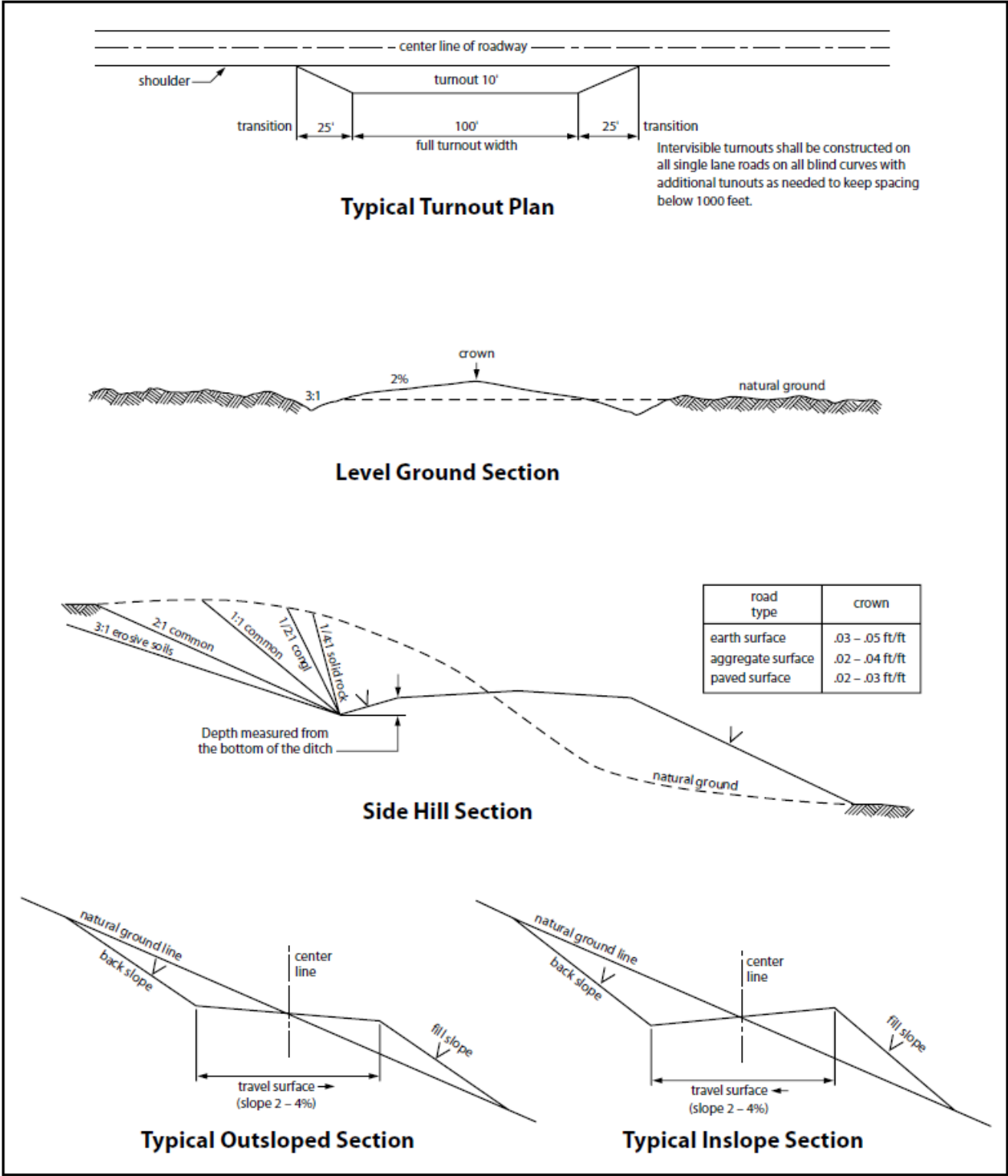


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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).

VRM Facility Requirement

Low-profile tanks not greater than eight-feet-high shall be used.

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 or dune areas, the pipeline shall be "snaked" around hummocks and dunes rather than suspended across these features.

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

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

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

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

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

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

15. 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.

17. Special Stipulations:

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.

18. Special Stipulations:

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.

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

	<u>lb/acre</u>
Plains lovegrass (<i>Eragrostis intermedia</i>)	0.5
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1.0
Sideoats grama (<i>Bouteloua curtipendula</i>)	5.0
Plains bristlegrass (<i>Setaria macrostachya</i>)	2.0

*Pounds of pure live seed:

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

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Centennial
LEASE NO.:	NMNM137444
LOCATION:	Section 8, T.20 S, R.28E., NMPM
COUNTY:	Eddy County, New Mexico
WELL NAME & NO.:	Koala 9 Fed Com 121H
SURFACE HOLE FOOTAGE:	796'/N & 392'/E
BOTTOM HOLE FOOTAGE:	2310'/N & 10'/E

COA

H₂S	☒ 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

- 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 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.
1. 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, and Capitan Reef.

 - ❖ 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.
2. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - 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 4%. 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).

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

Operator is not approved for 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 integrity 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.

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 1/7/2024



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

Operator Certification Data Report

12/11/2025

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:

Signed on: 08/23/2023

Title:

Street Address:

City:

State:

Zip:

Phone:

Email address:

Field

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:



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

Application Data

12/11/2025

APD ID: 10400085979

Submission Date: 06/09/2022

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM

Well Number: 122H

Well Type: OIL WELL

Well Work Type: Drill

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

Section 1 - General

APD ID: 10400085979

Tie to previous NOS?

Submission Date: 06/09/2022

BLM Office: Carlsbad

User: MIKAH X THOMAS

Title: Regulatory Manager

Federal/Indian APD: FED

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

Lease number: NMNM137444

Lease Acres:

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? NO

Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? N

Permitting Agent? NO

APD Operator: 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:

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: 122H

Field/Pool or Exploratory? Field and Pool

Field Name: OLD MILLMAN
RANCH

Pool Name: BS (ASSOC)

Operator Name: COLGATE OPERATING LLC**Well Name:** KOALA 9 FED COM**Well Number:** 122H**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 NORTH**Number:** 2**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:** 12 Miles**Distance to nearest well:** 1528 FT**Distance to lease line:** 392 FT**Reservoir well spacing assigned acres Measurement:** 320 Acres**Well plat:** KOALA_9_FED_COM_122H_C102_REV_1_SIGNED_20230810104817.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:** 12177**Reference Datum:** KELLY BUSHING

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	796	FNL	392	FEL	20S	28E	8	Aliquot NENE	32.5930646	- 104.1917654	EDD Y	NEW MEXICO	NEW MEXICO	F	NMNM 83584	3288			N
KOP Leg #1	2170	FNL	346	FEL	20S	28E	8	Aliquot SENE	32.5894039	- 104.1924786	EDD Y	NEW MEXICO	NEW MEXICO	F	NMNM 26683	- 3440	6894	6728	N
PPP Leg #1-1	2310	FNL	100	FWL	20S	28E	9	Aliquot SWNW	32.5890258	- 104.1907588	EDD Y	NEW MEXICO	NEW MEXICO	F	NMNM 137444	- 3998	7740	7286	Y

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM

Well Number: 122H

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	2310	FNL	0	FEL	20S	28E	9	Aliquot SWNE	32.5890652	- 104.1824312	EDD Y	NEW MEXICO	NEW MEXICO	F	NMNM 13232	- 4001	10305	7289	Y
PPP Leg #1-3	2310	FNL	0	FEL	20S	28E	10	Aliquot SWNW	32.5891077	- 104.1737778	EDD Y	NEW MEXICO	NEW MEXICO	F	NMNM 15003	- 4001	12970	7289	Y
EXIT Leg #1	2310	FNL	100	FEL	20S	28E	10	Aliquot SENE	32.5891892	- 104.1568459	EDD Y	NEW MEXICO	NEW MEXICO	F	NMNM 15003	- 4001	18185	7289	Y
BHL Leg #1	2310	FNL	10	FEL	20S	28E	10	Aliquot SENE	32.5891906	- 104.1565536	EDD Y	NEW MEXICO	NEW MEXICO	F	NMNM 15003	- 4001	18275	7289	Y

C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION		Revised July 9, 2024	
	Submittal Type:	☐ Initial Submittal		
		☒ Amended Report		
		☐ As Drilled		

WELL LOCATION INFORMATION

API Number 30-015-57637	Pool Code 48035	Pool Name OLD MILLMAN RANCH; BS (ASSOC)	
Property Code 335840	Property Name KOALA 9 FED COM		Well Number 122H
OGRID No. 372165	Operator Name PERMIAN RESOURCES OPERATING, LLC		Ground Level Elevation 3288'
Surface Owner: ☒ State ☐ Fee ☐ Tribal ☐ Federal		Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal	

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
A	8	20-S	28-E		796' N	392' E	32.59318	-104.19227	EDDY

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
H	10	20-S	28-E		2310' N	10' E	32.58919	-104.15655	EDDY

Dedicated Acres 320	Infill or Defining Well Infill	Defining Well API	Overlapping Spacing Unit (Y/N) N	Consolidation Code C
Order Numbers. TBD			Well setbacks are under Common Ownership: ☐ Yes ☐ No	

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
A	8	20-S	28-E		796' N	392' E	32.59318	-104.19227	EDDY

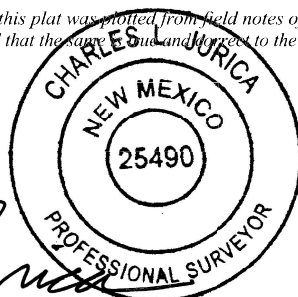
First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
E	9	20-S	28-E		2310' N	100' W	32.58902	-104.19076	EDDY

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
H	10	20-S	28-E		2310' N	100' E	32.58919	-104.15685	EDDY

Unitized Area or Area of Uniform Interest NA	Spacing Unit Type ☒ Horizontal ☐ Vertical	Ground Floor Elevation: TBD
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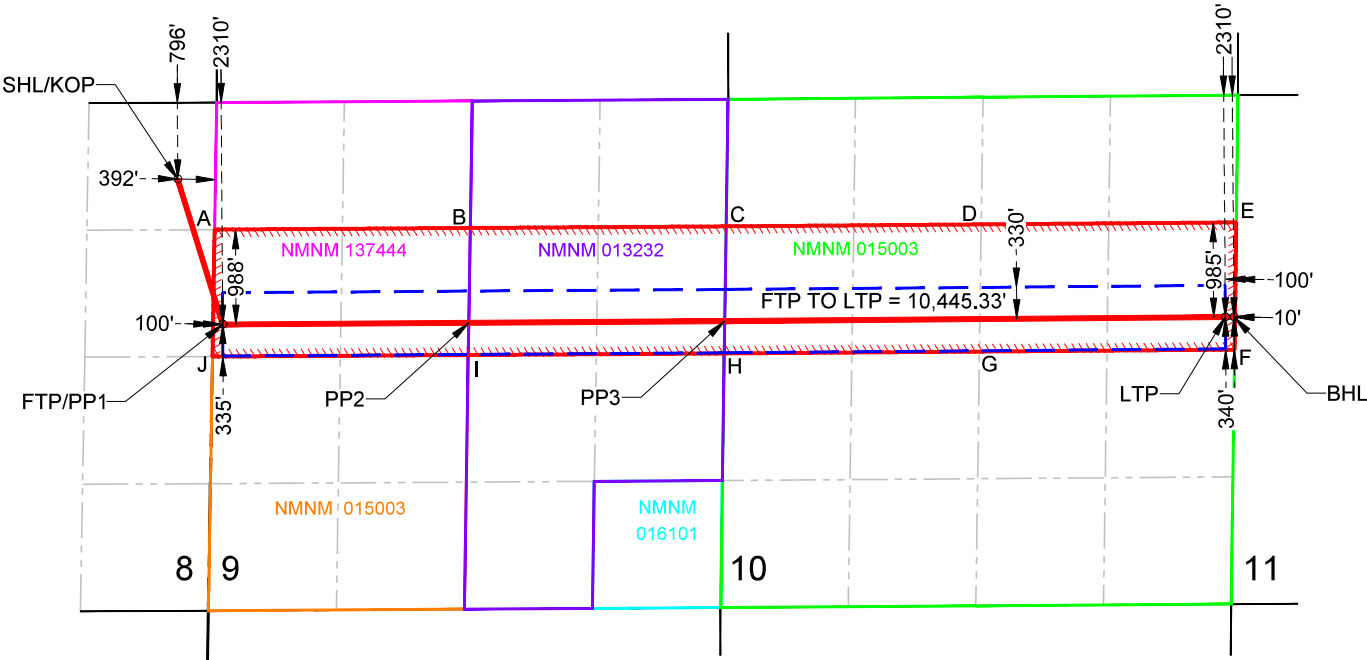
OPERATOR CERTIFICATIONS <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i> <i>If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.</i>		SURVEYOR CERTIFICATIONS <i>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 are true and correct to the best of my beliefs.</i>	
Signature <i>Cassie Evans</i>	Date 12/17/25	Signature and Seal of Professional Surveyor  12/16/2025	
Printed Name Cassie Evans		Certificate Number	Date of Survey
Email Address cassie.evans@permianres.com			

Note: 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.

ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.



HSU COORDINATE TABLE		
POINT	N: (83)	E: (83)
A	579034.15	585164.52
B	579050.93	587828.64
C	579067.72	590493.67
D	579088.27	593150.19
E	579108.83	595806.99
F	577783.78	595789.28
G	577763.96	593131.59
H	577744.14	590473.87
I	577727.91	587808.12
J	577711.68	585143.38

SURFACE HOLE LOCATION (SHL)
KICK OFF POINT (KOP)
NEW MEXICO EAST - NAD 83
X=584780.65 LAT.= 32.59318° N
Y=579559.08 LONG.= 104.19227° W
NEW MEXICO EAST - NAD 27
X=543600.51 LAT.= 32.59306° N
Y=579497.60 LONG.= 104.19177° W
796' FNL, 392' FEL - SECTION 8

FIRST TAKE POINT (FTP)
PENETRATION POINT 1 (PP1)
NEW MEXICO EAST - NAD 83
X=585248.75 LAT.= 32.58902° N
Y=578046.98 LONG.= 104.19076° W
NEW MEXICO EAST - NAD 27
X=544068.59 LAT.= 32.58891° N
Y=577985.53 LONG.= 104.19025° W
2310' FNL, 100' FWL - SECTION 9
335' FSL, 100' FWL - LEASE

PENETRATION POINT 2 (PP2)
NEW MEXICO EAST - NAD 83
X=587813.33 LAT.= 32.58906° N
Y=578063.67 LONG.= 104.18243° W
NEW MEXICO EAST - NAD 27
X=546633.15 LAT.= 32.58894° N
Y=578002.20 LONG.= 104.18193° W
2310' FNL, 2664' FWL - SECTION 9
336' FSL, 0' FEL - LEASE

PENETRATION POINT 3 (PP3)
NEW MEXICO EAST - NAD 83
X=590478.91 LAT.= 32.58910° N
Y=578081.02 LONG.= 104.17378° W
NEW MEXICO EAST - NAD 27
X=549298.73 LAT.= 32.58898° N
Y=578019.53 LONG.= 104.17327° W
2310' FNL, 0' FEL - SECTION 9
337' FSL, 0' FEL - LEASE

LAST TAKE POINT (LTP)
NEW MEXICO EAST - NAD 83
X=595693.80 LAT.= 32.58919° N
Y=578122.76 LONG.= 104.15685° W
NEW MEXICO EAST - NAD 27
X=554513.61 LAT.= 32.58907° N
Y=578061.23 LONG.= 104.15634° W
2310' FNL, 100' FEL - SECTION 10
340' FSL, 100' FEL - LEASE

BOTTOM HOLE LOCATION (BHL)
NEW MEXICO EAST - NAD 83
X=595783.82 LAT.= 32.58919° N
Y=578123.48 LONG.= 104.15655° W
NEW MEXICO EAST - NAD 27
X=554603.63 LAT.= 32.58907° N
Y=578061.95 LONG.= 104.15605° W
2310' FNL, 10' FEL - SECTION 10
340' FSL, 10' FEL - LEASE



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

Drilling Plan Data Report

12/11/2025

APD ID: 10400085979

Submission Date: 06/09/2022

Highlighted data
reflects the most
recent changes

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM

Well Number: 122H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
13132307	RUSTLER	3288	241	241	ANHYDRITE, LIMESTONE, SALT	NONE	N
13132308	TOP SALT	2906	382	382	ANHYDRITE, SALT	NONE	N
13132309	TANSILL	2520	768	768	ANHYDRITE, DOLOMITE	NONE	N
13132312	YATES	2445	843	843	DOLOMITE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
13132310	SEVEN RIVERS	2070	1218	1218	ANHYDRITE, DOLOMITE, SANDSTONE, SHALE	NONE	N
13132311	QUEEN	1479	1809	1809	ANHYDRITE, DOLOMITE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
13132313	GRAYBURG	1270	2018	2018	ANHYDRITE, DOLOMITE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
13132314	SAN ANDRES	870	2418	2418	ANHYDRITE, DOLOMITE	NATURAL GAS, OIL	N
13132315	CHERRY CANYON	295	2993	2993	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
13132303	BRUSHY CANYON	70	3218	3218	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
13132316	BONE SPRING LIME	-1280	4568	4568	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
13132317	BONE SPRING 1ST	-2830	6118	6118	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
13132306	BONE SPRING 2ND	-3905	7193	7193	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	Y
13132304	BONE SPRING 3RD	-4980	8268	8268	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
13132305	WOLFCAMP	-5405	8693	8693	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N

Section 2 - Blowout Prevention

Operator Name: COLGATE OPERATING LLC**Well Name:** KOALA 9 FED COM**Well Number:** 122H**Pressure Rating (PSI):** 5M**Rating Depth:** 7389

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 OP 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_20230717123011.pdf

BOP Diagram Attachment:

BOP_Diagram_Attachment_20230717123015.pdf

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM

Well Number: 122H

Choke_Diagram_Attachment_20230717123011.pdf

BOP_Diagram_Attachment_20230717123015.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	266	0	266	3288	3022	266	J-55	54.5	OTHER - BTC	8.6	3.42	DRY	7.94	DRY	7.45
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	2943	0	2943	3274	345	2943	J-55	36	OTHER - BTC	3.13	1.72	DRY	3.1	DRY	2.74
3	PRODUCTION	8.75	5.5	NEW	NON API	N	0	7799	0	7289	3274	-4001	7799	P-110	17	OTHER - GEOCONN	1.97	2.06	DRY	2.44	DRY	2.44
4	PRODUCTION	7.875	5.5	NEW	NON API	N	7799	18274	7289	7289	-4001	-4001	10475	P-110	17	OTHER - GEOCONN	1.97	2.06	DRY	2.44	DRY	2.44

Casing Attachments

Casing ID: 1

String

SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Assumptions_Worksheet_20230717123428.pdf

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM

Well Number: 122H

Casing Attachments

Casing ID: 2StringINTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Assumptions_Worksheet_20230717123727.pdf

Casing ID: 3StringPRODUCTION

Inspection Document:

Spec Document:

Connection_Data_Sheet_P110RY_GeoConn_SC_20230717123802.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Assumptions_Worksheet_20230717123827.pdf

Casing ID: 4StringPRODUCTION

Inspection Document:

Spec Document:

Connection_Data_Sheet_P110RY_GeoConn_SC_20230717123907.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Assumptions_Worksheet_20230717123922.pdf

Section 4 - Cement

Operator Name: COLGATE OPERATING LLC**Well Name:** KOALA 9 FED COM**Well Number:** 122H

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	266	210	1.34	14.8	280	50	Class C	Accelerator
INTERMEDIATE	Lead		0	2350	520	2.08	12.7	1080	50	Class C	Salt, Extender & LCM Additives
INTERMEDIATE	Tail		2350	2943	210	1.34	14.8	280	50	Class C	Accelerator
PRODUCTION	Lead		2443	6893	640	2.41	11.5	1540	40	Class H	POZ, Extender, Fluid Loss, Dispersant & Retarder
PRODUCTION	Tail		6893	18274	1480	1.73	12.5	2560	25	Class H	POZ, Extender, Fluid Loss, Dispersant & Retarder
PRODUCTION	Lead		2443	6893	640	2.41	11.5	1540	40	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder
PRODUCTION	Tail		6893	18274	1480	1.73	12.5	2560	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 43 CFR 3172:****Diagram of the equipment for the circulating system in accordance with 43 CFR 3172:**

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:** 122H

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	266	WATER-BASED MUD	8.6	9.5							
2943	7799	OTHER : Brine	9	10							
7799	18274	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: 3800

Anticipated Surface Pressure: 2196

Anticipated Bottom Hole Temperature(F): 131

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

Describe:

Contingency Plans geohazards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

Colgate_H2S_Contingency_Plan_20220602142028.pdf

Operator Name: COLGATE OPERATING LLC**Well Name:** KOALA 9 FED COM**Well Number:** 122H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:[_A06__Koala_9_Fed_Com_122H_APD_Rev00_20220609070851.pdf](#)[_A06__Koala_9_Fed_Com_122H_APD_Rev00_AC_20230717125819.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_122H_drilling_packet_20230717130011.pdf](#)**Other Variance request(s)?:** Y**Other Variance attachment:**[Flex_Hose_Data_Sheet_20230717130024.pdf](#)[Multi_well_Pad_Batch_Drilling___Offline_Cement_Procedure_20230717130027.pdf](#)

[illegible]



ContiTech

CONTITECH RUBBER Industrial Kft.	No:QC-DB- 210/ 2014 Page: 9 / 113
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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 temperature					
See attachment. (1 page)					
↑ 10 mm = 10 Min. → 10 mm = 20 MPa					
COUPLINGS Type		Serial N°		Quality	
3" coupling with		9251 9254		AISI 4130	
4 1/16" 10K API b.w. Flange end				AISI 4130	
				Heat N°	
				A0578N	
				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.				ContiTech Rubber Industrial Div. Quality Control Dept.  	

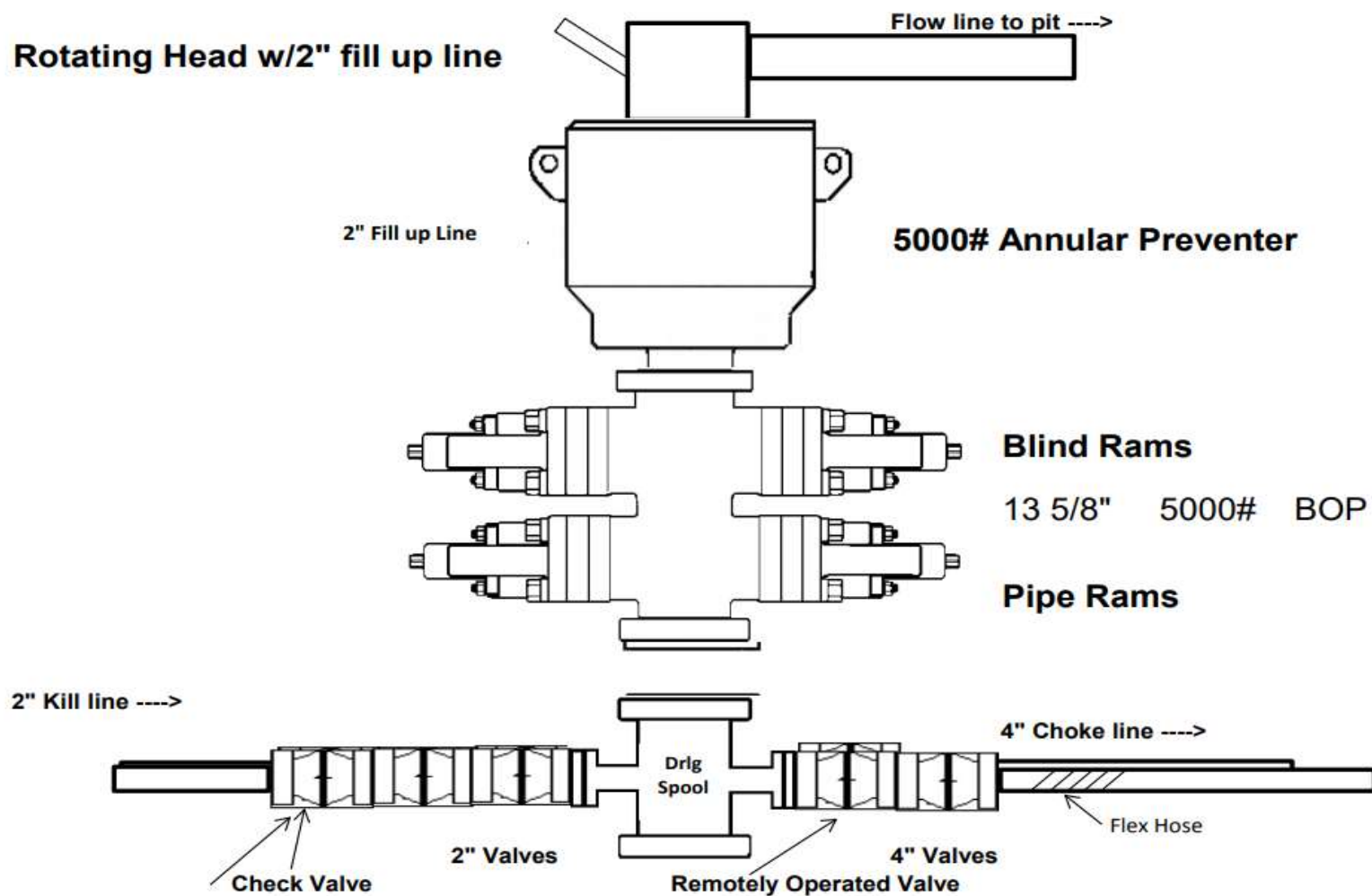
CentTech Rubber Industrial Kft., Budapest 10, H-8728 Szigliget | H-8721 Földvár 552 Szigony, Hungary
Phone: +36 87 584 737 | Fax: +36 82 546 726 | e-mail: info@bud.centtech.hu | Internet: www.centtech-rubber.hu; www.centtech.hu
The Court of Company Law or Registry Court | Registry Court No: Cg.99-09-00293 | EU VAT No: HU11537209
Barna Zsuzsa, Communication Zrt., Budapest | H-120106-20630003

No. 501, 504, 505

Page: 1/1

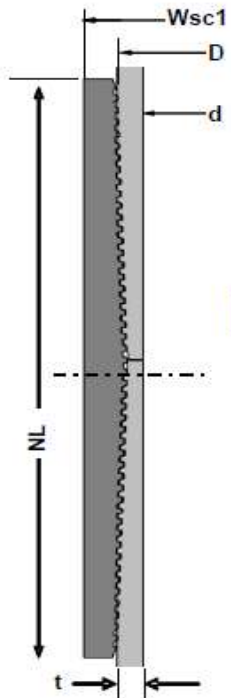


5,000 psi BOP Schematic



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



Geometry		Imperial		S.I.	
Pipe Body					
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		Imperial		S.I.	
Performance Properties for Pipe Body					
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					

Legal Notice

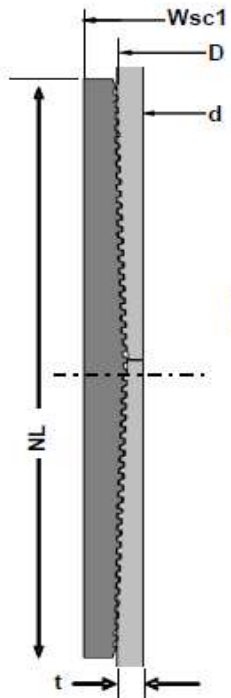
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The products described in this Connection Data Sheet are not recommended for use in deep water offshore applications. For more information, please refer to http://www.mto.co.jp/mto-con/ Images/top/WebsiteTerms_Active_20333287_1.pdf the contents of which are incorporated by reference into this Connection Data Sheet.

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

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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
 - (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 or Intermediate II

- 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
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H₂S Contingency Plan



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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. H₂S 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 (H₂S).

Objective:

Prevent any and all accidents and prevent the uncontrolled release of H₂S 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 H₂S 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 H₂S 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 H₂S.

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 H₂S drilling operations safety. The release of a potentially hazardous quantity of H₂S 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 H₂S 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 H₂S 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 H₂S 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 H₂S. 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 H₂S 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. H₂S Alarm Drills

The Company Man and/ or designee will conduct frequent H₂S alarm drills for each crew by injecting a trace of H₂S 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 H₂S, 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 (H₂S).
 2. Use and limitations of air equipment.
 3. Use of resuscitator.
 4. Organize Buddy System.
 5. First Aid procedures.
 6. Use of H₂S 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 H₂S 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 H₂S 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 H₂S 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 H₂S 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 H₂S 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 H₂S 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 H₂S 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 H₂S gas from the formation, the pH will be increased as necessary for corrosion control.

H₂S Scavengers – If necessary H₂S 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 H₂S zones or when H₂S 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 H₂S (10 PPM) or of SO₂ (5 PPM) is reached. If the concentration of H₂S or SO₂ 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 H₂S or SO₂ 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 H₂S can reasonably be expected.
3. When sampling air in areas to determine if toxic concentrations of H₂S exist.
4. When working in areas where 10 PPM or more of H₂S has been detected.
5. At any time, there is doubt as to the H₂S 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 H₂S 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 H₂S 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 H₂S
 - 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 H₂S.
- 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 H₂S.
- 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 H₂S 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, maintenance and/or surveillance procedures.
- B. If the need is indicated, retrain employees in blowout prevention, H₂S emergency procedures and etc.
- C. Clean up, recharge, restock, repair, and/ or replace H₂S emergency equipment as necessary, and return it to its proper place. (For whatever rental equipment is used, this will be the responsibility of Rental Company).
- D. See that future H₂S 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 (H₂S) 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 (H₂S).
2. Physicals effects of Hydrogen Sulfide on the human body.
3. Toxicity of Hydrogen Sulfide and Sulfur Dioxide.
4. H₂S 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 H₂S, 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 H₂S 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.

Windssocks or Wind Streamers:

- A minimum of two 10" windssocks 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 H₂S 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, H₂S 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 (O₂, LEL H₂S), preferably 4 (O₂, LEL, H₂S, 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 H₂S Provider Safety office.
- Additional personal H₂S 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 1 st Well	Date & Initial 2 nd Well	Date & Initial 3 rd Well	Date & Initial 4 th 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 ₂ S and well control procedures.				
All outside service contractors advised of potential H ₂ S 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 H₂S 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 H₂S 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 H₂S. 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 H₂S 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 H₂S and physical effects are shown in Table 2.

Table 1
Permissible Exposure Limits of Various Gases

<u>Common Name</u>	<u>Symbol</u>	<u>Sp. Gravity</u>	<u>TLV</u>	<u>STEL</u>	<u>IDLH</u>
Hydrogen Cyanide	HCN	.94	4.7 ppm	4.7 ppm	50 ppm
Hydrogen Sulfide	H ₂ S	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 H₂S 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 H₂S 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 H₂S

<u>Percent %</u>	<u>PPM</u>	<u>Physical Effects</u>
.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 H₂S

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, H₂S, 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 H₂S 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, H₂S 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 (SO₂), 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 H₂S is dependent on temperature and pressure, but if conditions are right, simply agitating a fluid containing H₂S 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 H₂S.
- B. When breaking out any line where H₂S can reasonably be expected.
- C. When sampling air in areas where H₂S may be present.
- D. When working in areas where the concentration of H₂S exceeds the Threshold Limit Value for H₂S (10 ppm).
- E. At any time where there is a doubt as to the H₂S level in the area to be entered.

EMERGENCY RESCUE PROCEDURES

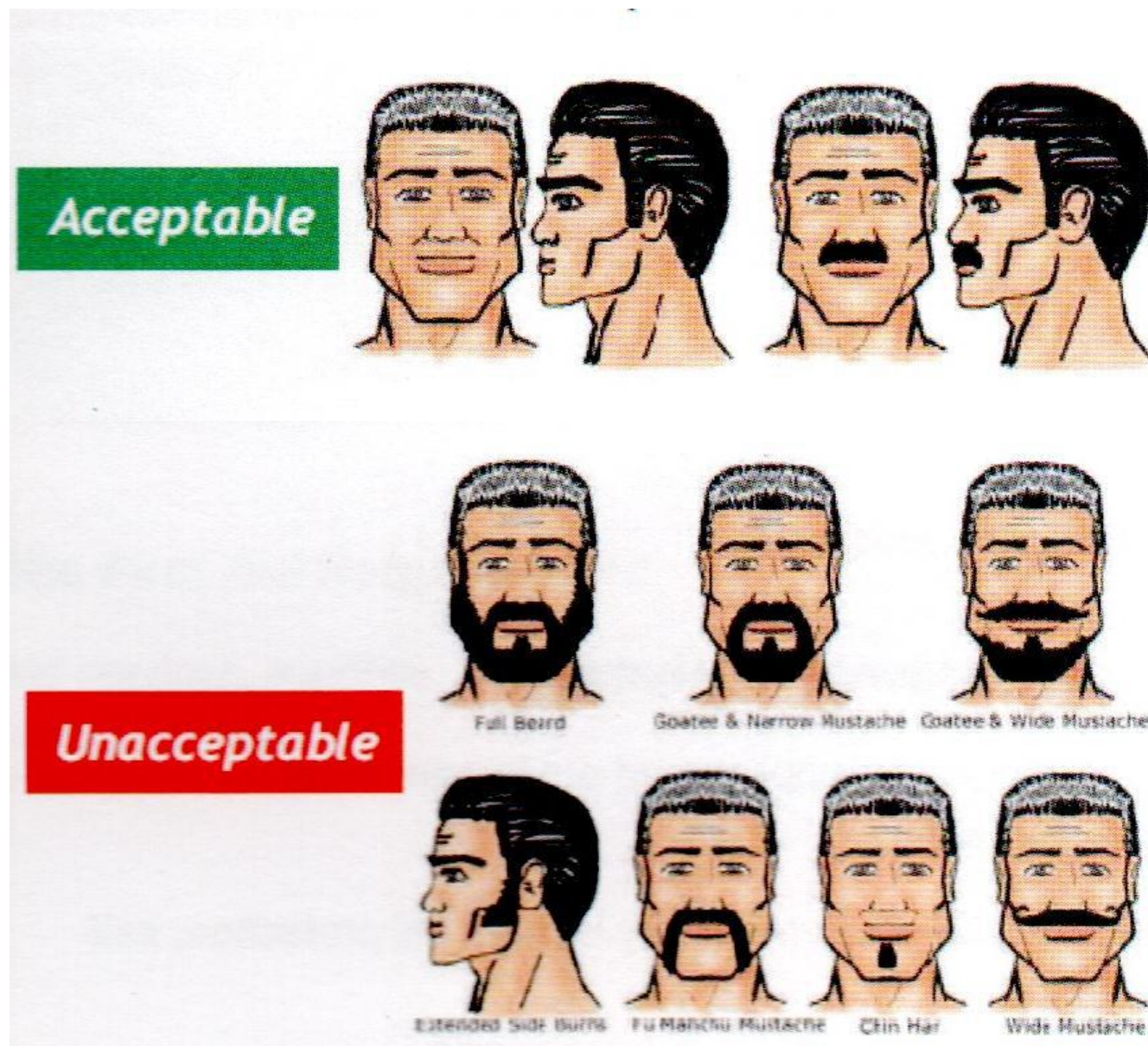
DO NOT PANIC!!!

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 H₂S, 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 H₂S 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 H₂S 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

(A06) Koala 9 Fed Com 122H

Permit

Plan: APD-Rev00

Standard Planning Report

12 May, 2022



Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Site (Permit) Koala 9 Fed Com
Company:	Colgate Energy	TVD Reference:	3288+30 @ 3318.00usft
Project:	(Permit) Eddy County, NM (83-NME)	MD Reference:	3288+30 @ 3318.00usft
Site:	(Permit) Koala 9 Fed Com	North Reference:	Grid
Well:	(A06) Koala 9 Fed Com 122H	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	(A06) Koala 9 Fed Com 122H					
Well Position	+N/-S	-1.50 usft	Northing:	579,559.08 usft	Latitude:	32.59318183
	+E/-W	119.00 usft	Easting:	584,780.65 usft	Longitude:	-104.19227310
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,288.00 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	47,555.81000001

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	-1.50	119.00	89.58

Plan Survey Tool Program	Date	5/12/2022			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	18,274.81	APD-Rev00 (Permit)	MWD+IFR1+SAG+FDIR (SQC OWSG MWD + IFR1 + Sag + F	

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	-1.50	119.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	-1.50	119.00	0.00	0.00	0.00	0.00	
1,743.51	14.15	181.91	1,733.95	-117.37	115.14	1.50	1.50	0.00	181.91	
6,893.78	14.15	181.91	6,727.89	-1,375.95	73.16	0.00	0.00	0.00	0.00	
7,799.47	90.00	89.58	7,289.00	-1,513.16	647.10	10.00	8.37	-10.19	-92.26	LP(K9- 122H)
18,274.81	90.00	89.58	7,289.00	-1,437.10	11,122.17	0.00	0.00	0.00	0.00	PBHL(K9- 122H)



Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Site (Permit) Koala 9 Fed Com
Company:	Colgate Energy	TVD Reference:	3288+30 @ 3318.00usft
Project:	(Permit) Eddy County, NM (83-NME)	MD Reference:	3288+30 @ 3318.00usft
Site:	(Permit) Koala 9 Fed Com	North Reference:	Grid
Well:	(A06) Koala 9 Fed Com 122H	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)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	-1.50	119.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	-1.50	119.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	-1.50	119.00	0.00	0.00	0.00	0.00
241.00	0.00	0.00	241.00	-1.50	119.00	0.00	0.00	0.00	0.00
Rustler									
300.00	0.00	0.00	300.00	-1.50	119.00	0.00	0.00	0.00	0.00
382.00	0.00	0.00	382.00	-1.50	119.00	0.00	0.00	0.00	0.00
T/Salt									
400.00	0.00	0.00	400.00	-1.50	119.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	-1.50	119.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	-1.50	119.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	-1.50	119.00	0.00	0.00	0.00	0.00
768.00	0.00	0.00	768.00	-1.50	119.00	0.00	0.00	0.00	0.00
Tansill									
800.00	0.00	0.00	800.00	-1.50	119.00	0.00	0.00	0.00	0.00
843.00	0.65	181.91	843.00	-1.74	118.99	-0.01	1.50	1.50	0.00
Yates									
900.00	1.50	181.91	899.99	-2.81	118.96	-0.05	1.50	1.50	0.00
1,000.00	3.00	181.91	999.91	-6.73	118.83	-0.21	1.50	1.50	0.00
1,100.00	4.50	181.91	1,099.69	-13.27	118.61	-0.48	1.50	1.50	0.00
1,200.00	6.00	181.91	1,199.27	-22.41	118.30	-0.85	1.50	1.50	0.00
1,218.84	6.28	181.91	1,218.00	-24.43	118.24	-0.93	1.50	1.50	0.00
Seven Rivers									
1,300.00	7.50	181.91	1,298.57	-34.16	117.91	-1.33	1.50	1.50	0.00
1,400.00	9.00	181.91	1,397.54	-48.50	117.43	-1.91	1.50	1.50	0.00
1,500.00	10.50	181.91	1,496.09	-65.43	116.87	-2.60	1.50	1.50	0.00
1,600.00	12.00	181.91	1,594.16	-84.92	116.22	-3.39	1.50	1.50	0.00
1,700.00	13.50	181.91	1,691.70	-106.98	115.48	-4.29	1.50	1.50	0.00
1,743.51	14.15	181.91	1,733.95	-117.37	115.14	-4.71	1.50	1.50	0.00
1,800.00	14.15	181.91	1,788.72	-131.18	114.67	-5.28	0.00	0.00	0.00
1,820.91	14.15	181.91	1,809.00	-136.29	114.50	-5.48	0.00	0.00	0.00
Queen									
1,900.00	14.15	181.91	1,885.68	-155.61	113.86	-6.27	0.00	0.00	0.00
2,000.00	14.15	181.91	1,982.65	-180.05	113.04	-7.26	0.00	0.00	0.00
2,036.46	14.15	181.91	2,018.00	-188.96	112.75	-7.63	0.00	0.00	0.00
Grayburg									
2,100.00	14.15	181.91	2,079.61	-204.49	112.23	-8.26	0.00	0.00	0.00
2,200.00	14.15	181.91	2,176.58	-228.93	111.41	-9.25	0.00	0.00	0.00
2,300.00	14.15	181.91	2,273.54	-253.36	110.60	-10.25	0.00	0.00	0.00
2,400.00	14.15	181.91	2,370.51	-277.80	109.78	-11.24	0.00	0.00	0.00
2,448.98	14.15	181.91	2,418.00	-289.77	109.39	-11.73	0.00	0.00	0.00
San Andres									
2,500.00	14.15	181.91	2,467.47	-302.24	108.97	-12.23	0.00	0.00	0.00
2,600.00	14.15	181.91	2,564.44	-326.67	108.15	-13.23	0.00	0.00	0.00
2,700.00	14.15	181.91	2,661.40	-351.11	107.34	-14.22	0.00	0.00	0.00
2,800.00	14.15	181.91	2,758.37	-375.55	106.52	-15.22	0.00	0.00	0.00
2,900.00	14.15	181.91	2,855.33	-399.99	105.71	-16.21	0.00	0.00	0.00
3,000.00	14.15	181.91	2,952.30	-424.42	104.89	-17.21	0.00	0.00	0.00
3,041.98	14.15	181.91	2,993.00	-434.68	104.55	-17.62	0.00	0.00	0.00
CYCN									
3,100.00	14.15	181.91	3,049.26	-448.86	104.08	-18.20	0.00	0.00	0.00
3,200.00	14.15	181.91	3,146.23	-473.30	103.26	-19.19	0.00	0.00	0.00
3,300.00	14.15	181.91	3,243.19	-497.73	102.45	-20.19	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Site (Permit) Koala 9 Fed Com
Company:	Colgate Energy	TVD Reference:	3288+30 @ 3318.00usft
Project:	(Permit) Eddy County, NM (83-NME)	MD Reference:	3288+30 @ 3318.00usft
Site:	(Permit) Koala 9 Fed Com	North Reference:	Grid
Well:	(A06) Koala 9 Fed Com 122H	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)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,400.00	14.15	181.91	3,340.16	-522.17	101.63	-21.18	0.00	0.00	0.00
3,500.00	14.15	181.91	3,437.12	-546.61	100.82	-22.18	0.00	0.00	0.00
3,600.00	14.15	181.91	3,534.09	-571.05	100.00	-23.17	0.00	0.00	0.00
3,700.00	14.15	181.91	3,631.05	-595.48	99.19	-24.16	0.00	0.00	0.00
3,800.00	14.15	181.91	3,728.02	-619.92	98.37	-25.16	0.00	0.00	0.00
3,900.00	14.15	181.91	3,824.98	-644.36	97.56	-26.15	0.00	0.00	0.00
4,000.00	14.15	181.91	3,921.94	-668.79	96.74	-27.15	0.00	0.00	0.00
4,100.00	14.15	181.91	4,018.91	-693.23	95.93	-28.14	0.00	0.00	0.00
4,200.00	14.15	181.91	4,115.87	-717.67	95.11	-29.13	0.00	0.00	0.00
4,300.00	14.15	181.91	4,212.84	-742.11	94.30	-30.13	0.00	0.00	0.00
4,400.00	14.15	181.91	4,309.80	-766.54	93.48	-31.12	0.00	0.00	0.00
4,500.00	14.15	181.91	4,406.77	-790.98	92.67	-32.12	0.00	0.00	0.00
4,600.00	14.15	181.91	4,503.73	-815.42	91.85	-33.11	0.00	0.00	0.00
4,666.28	14.15	181.91	4,568.00	-831.61	91.31	-33.77	0.00	0.00	0.00
BSGL									
4,700.00	14.15	181.91	4,600.70	-839.85	91.04	-34.11	0.00	0.00	0.00
4,800.00	14.15	181.91	4,697.66	-864.29	90.22	-35.10	0.00	0.00	0.00
4,900.00	14.15	181.91	4,794.63	-888.73	89.41	-36.09	0.00	0.00	0.00
5,000.00	14.15	181.91	4,891.59	-913.17	88.59	-37.09	0.00	0.00	0.00
5,100.00	14.15	181.91	4,988.56	-937.60	87.78	-38.08	0.00	0.00	0.00
5,200.00	14.15	181.91	5,085.52	-962.04	86.96	-39.08	0.00	0.00	0.00
5,300.00	14.15	181.91	5,182.49	-986.48	86.15	-40.07	0.00	0.00	0.00
5,400.00	14.15	181.91	5,279.45	-1,010.91	85.33	-41.06	0.00	0.00	0.00
5,500.00	14.15	181.91	5,376.42	-1,035.35	84.52	-42.06	0.00	0.00	0.00
5,600.00	14.15	181.91	5,473.38	-1,059.79	83.70	-43.05	0.00	0.00	0.00
5,700.00	14.15	181.91	5,570.35	-1,084.23	82.89	-44.05	0.00	0.00	0.00
5,800.00	14.15	181.91	5,667.31	-1,108.66	82.07	-45.04	0.00	0.00	0.00
5,900.00	14.15	181.91	5,764.27	-1,133.10	81.26	-46.04	0.00	0.00	0.00
6,000.00	14.15	181.91	5,861.24	-1,157.54	80.44	-47.03	0.00	0.00	0.00
6,100.00	14.15	181.91	5,958.20	-1,181.97	79.63	-48.02	0.00	0.00	0.00
6,200.00	14.15	181.91	6,055.17	-1,206.41	78.81	-49.02	0.00	0.00	0.00
6,264.80	14.15	181.91	6,118.00	-1,222.25	78.29	-49.66	0.00	0.00	0.00
FBSG									
6,300.00	14.15	181.91	6,152.13	-1,230.85	78.00	-50.01	0.00	0.00	0.00
6,400.00	14.15	181.91	6,249.10	-1,255.28	77.18	-51.01	0.00	0.00	0.00
6,500.00	14.15	181.91	6,346.06	-1,279.72	76.37	-52.00	0.00	0.00	0.00
6,600.00	14.15	181.91	6,443.03	-1,304.16	75.55	-52.99	0.00	0.00	0.00
6,700.00	14.15	181.91	6,539.99	-1,328.60	74.74	-53.99	0.00	0.00	0.00
6,800.00	14.15	181.91	6,636.96	-1,353.03	73.92	-54.98	0.00	0.00	0.00
6,893.78	14.15	181.91	6,727.89	-1,375.95	73.16	-55.91	0.00	0.00	0.00
KOP: 6893.78' MD, -55.91' VS, 6727.89' TVD									
6,900.00	14.14	179.37	6,733.92	-1,377.47	73.14	-55.94	10.00	-0.18	-40.91
6,950.00	15.00	159.69	6,782.34	-1,389.65	75.46	-53.72	10.00	1.72	-39.36
7,000.00	17.29	143.62	6,830.39	-1,401.71	82.12	-47.15	10.00	4.58	-32.14
7,050.00	20.54	131.84	6,877.70	-1,413.55	93.07	-36.28	10.00	6.50	-23.56
7,100.00	24.37	123.38	6,923.92	-1,425.09	108.22	-21.21	10.00	7.66	-16.92
7,150.00	28.54	117.18	6,968.68	-1,436.22	127.48	-2.04	10.00	8.35	-12.40
7,200.00	32.93	112.48	7,011.65	-1,446.88	150.68	21.08	10.00	8.78	-9.40
7,250.00	37.46	108.78	7,052.50	-1,456.98	177.65	47.98	10.00	9.05	-7.39
7,300.00	42.08	105.79	7,090.93	-1,466.44	208.18	78.44	10.00	9.24	-5.99
7,350.00	46.76	103.29	7,126.64	-1,475.19	242.05	112.24	10.00	9.37	-5.00
7,400.00	51.49	101.15	7,159.35	-1,483.17	278.99	149.13	10.00	9.46	-4.28
7,450.00	56.26	99.27	7,188.82	-1,490.30	318.73	188.81	10.00	9.53	-3.75



Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Site (Permit) Koala 9 Fed Com
Company:	Colgate Energy	TVD Reference:	3288+30 @ 3318.00usft
Project:	(Permit) Eddy County, NM (83-NME)	MD Reference:	3288+30 @ 3318.00usft
Site:	(Permit) Koala 9 Fed Com	North Reference:	Grid
Well:	(A06) Koala 9 Fed Com 122H	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)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
7,457.60	56.98	99.01	7,193.00	-1,491.31	324.99	195.07	10.00	9.56	-3.50	
SBSG										
7,500.00	61.05	97.60	7,214.82	-1,496.55	360.95	230.99	10.00	9.58	-3.33	
7,550.00	65.86	96.07	7,237.16	-1,501.85	405.35	275.35	10.00	9.62	-3.06	
7,600.00	70.68	94.65	7,255.67	-1,506.18	451.58	321.54	10.00	9.65	-2.83	
7,650.00	75.52	93.32	7,270.20	-1,509.50	499.29	369.23	10.00	9.67	-2.67	
7,700.00	80.36	92.04	7,280.65	-1,511.77	548.12	418.04	10.00	9.68	-2.56	
7,739.38	84.17	91.06	7,285.95	-1,512.83	587.12	457.03	10.00	9.69	-2.49	
100'FWL										
7,739.66	84.20	91.05	7,285.98	-1,512.83	587.39	457.30	10.00	9.69	-2.47	
FTP(K9- 122H)										
7,750.00	85.20	90.80	7,286.93	-1,513.00	597.69	467.60	10.00	9.69	-2.46	
7,757.74	85.95	90.61	7,287.53	-1,513.09	605.41	475.32	10.00	9.70	-2.46	
20" Casing										
7,799.47	90.00	89.58	7,289.00	-1,513.16	647.10	517.00	10.00	9.70	-2.45	
EOC: 7799.47' MD, 517.01' VS, 7289.00' TVD - LP(K9- 122H)										
7,900.00	90.00	89.58	7,289.00	-1,512.43	747.63	617.54	0.00	0.00	0.00	
8,000.00	90.00	89.58	7,289.00	-1,511.70	847.63	717.54	0.00	0.00	0.00	
8,100.00	90.00	89.58	7,289.00	-1,510.98	947.63	817.54	0.00	0.00	0.00	
8,200.00	90.00	89.58	7,289.00	-1,510.25	1,047.62	917.54	0.00	0.00	0.00	
8,300.00	90.00	89.58	7,289.00	-1,509.53	1,147.62	1,017.54	0.00	0.00	0.00	
8,400.00	90.00	89.58	7,289.00	-1,508.80	1,247.62	1,117.54	0.00	0.00	0.00	
8,500.00	90.00	89.58	7,289.00	-1,508.07	1,347.61	1,217.54	0.00	0.00	0.00	
8,600.00	90.00	89.58	7,289.00	-1,507.35	1,447.61	1,317.54	0.00	0.00	0.00	
8,700.00	90.00	89.58	7,289.00	-1,506.62	1,547.61	1,417.54	0.00	0.00	0.00	
8,800.00	90.00	89.58	7,289.00	-1,505.90	1,647.61	1,517.54	0.00	0.00	0.00	
8,900.00	90.00	89.58	7,289.00	-1,505.17	1,747.60	1,617.54	0.00	0.00	0.00	
9,000.00	90.00	89.58	7,289.00	-1,504.44	1,847.60	1,717.54	0.00	0.00	0.00	
9,100.00	90.00	89.58	7,289.00	-1,503.72	1,947.60	1,817.54	0.00	0.00	0.00	
9,200.00	90.00	89.58	7,289.00	-1,502.99	2,047.60	1,917.54	0.00	0.00	0.00	
9,300.00	90.00	89.58	7,289.00	-1,502.26	2,147.59	2,017.54	0.00	0.00	0.00	
9,400.00	90.00	89.58	7,289.00	-1,501.54	2,247.59	2,117.54	0.00	0.00	0.00	
9,500.00	90.00	89.58	7,289.00	-1,500.81	2,347.59	2,217.54	0.00	0.00	0.00	
9,600.00	90.00	89.58	7,289.00	-1,500.09	2,447.59	2,317.54	0.00	0.00	0.00	
9,700.00	90.00	89.58	7,289.00	-1,499.36	2,547.58	2,417.54	0.00	0.00	0.00	
9,800.00	90.00	89.58	7,289.00	-1,498.63	2,647.58	2,517.54	0.00	0.00	0.00	
9,900.00	90.00	89.58	7,289.00	-1,497.91	2,747.58	2,617.54	0.00	0.00	0.00	
10,000.00	90.00	89.58	7,289.00	-1,497.18	2,847.58	2,717.54	0.00	0.00	0.00	
10,100.00	90.00	89.58	7,289.00	-1,496.46	2,947.57	2,817.54	0.00	0.00	0.00	
10,200.00	90.00	89.58	7,289.00	-1,495.73	3,047.57	2,917.54	0.00	0.00	0.00	
10,300.00	90.00	89.58	7,289.00	-1,495.00	3,147.57	3,017.54	0.00	0.00	0.00	
10,304.63	90.00	89.58	7,289.00	-1,494.97	3,152.20	3,022.17	0.00	0.00	0.00	
Exit NM 137444 - Enter NM 013232										
10,400.00	90.00	89.58	7,289.00	-1,494.28	3,247.56	3,117.54	0.00	0.00	0.00	
10,500.00	90.00	89.58	7,289.00	-1,493.55	3,347.56	3,217.54	0.00	0.00	0.00	
10,600.00	90.00	89.58	7,289.00	-1,492.83	3,447.56	3,317.54	0.00	0.00	0.00	
10,700.00	90.00	89.58	7,289.00	-1,492.10	3,547.56	3,417.54	0.00	0.00	0.00	
10,800.00	90.00	89.58	7,289.00	-1,491.37	3,647.55	3,517.54	0.00	0.00	0.00	
10,900.00	90.00	89.58	7,289.00	-1,490.65	3,747.55	3,617.54	0.00	0.00	0.00	
11,000.00	90.00	89.58	7,289.00	-1,489.92	3,847.55	3,717.54	0.00	0.00	0.00	
11,100.00	90.00	89.58	7,289.00	-1,489.20	3,947.55	3,817.54	0.00	0.00	0.00	
11,200.00	90.00	89.58	7,289.00	-1,488.47	4,047.54	3,917.54	0.00	0.00	0.00	
11,300.00	90.00	89.58	7,289.00	-1,487.74	4,147.54	4,017.54	0.00	0.00	0.00	



Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Site (Permit) Koala 9 Fed Com
Company:	Colgate Energy	TVD Reference:	3288+30 @ 3318.00usft
Project:	(Permit) Eddy County, NM (83-NME)	MD Reference:	3288+30 @ 3318.00usft
Site:	(Permit) Koala 9 Fed Com	North Reference:	Grid
Well:	(A06) Koala 9 Fed Com 122H	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)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
11,400.00	90.00	89.58	7,289.00	-1,487.02	4,247.54	4,117.54	0.00	0.00	0.00	
11,500.00	90.00	89.58	7,289.00	-1,486.29	4,347.54	4,217.54	0.00	0.00	0.00	
11,600.00	90.00	89.58	7,289.00	-1,485.56	4,447.53	4,317.54	0.00	0.00	0.00	
11,700.00	90.00	89.58	7,289.00	-1,484.84	4,547.53	4,417.54	0.00	0.00	0.00	
11,800.00	90.00	89.58	7,289.00	-1,484.11	4,647.53	4,517.54	0.00	0.00	0.00	
11,900.00	90.00	89.58	7,289.00	-1,483.39	4,747.53	4,617.54	0.00	0.00	0.00	
12,000.00	90.00	89.58	7,289.00	-1,482.66	4,847.52	4,717.54	0.00	0.00	0.00	
12,100.00	90.00	89.58	7,289.00	-1,481.93	4,947.52	4,817.54	0.00	0.00	0.00	
12,200.00	90.00	89.58	7,289.00	-1,481.21	5,047.52	4,917.54	0.00	0.00	0.00	
12,300.00	90.00	89.58	7,289.00	-1,480.48	5,147.51	5,017.54	0.00	0.00	0.00	
12,400.00	90.00	89.58	7,289.00	-1,479.76	5,247.51	5,117.54	0.00	0.00	0.00	
12,500.00	90.00	89.58	7,289.00	-1,479.03	5,347.51	5,217.54	0.00	0.00	0.00	
12,600.00	90.00	89.58	7,289.00	-1,478.30	5,447.51	5,317.54	0.00	0.00	0.00	
12,700.00	90.00	89.58	7,289.00	-1,477.58	5,547.50	5,417.54	0.00	0.00	0.00	
12,800.00	90.00	89.58	7,289.00	-1,476.85	5,647.50	5,517.54	0.00	0.00	0.00	
12,900.00	90.00	89.58	7,289.00	-1,476.13	5,747.50	5,617.54	0.00	0.00	0.00	
12,969.83	90.00	89.58	7,289.00	-1,475.62	5,817.33	5,687.37	0.00	0.00	0.00	
Exit NM 013232 - Enter NM 015003										
13,000.00	90.00	89.58	7,289.00	-1,475.40	5,847.50	5,717.54	0.00	0.00	0.00	
13,100.00	90.00	89.58	7,289.00	-1,474.67	5,947.49	5,817.54	0.00	0.00	0.00	
13,200.00	90.00	89.58	7,289.00	-1,473.95	6,047.49	5,917.54	0.00	0.00	0.00	
13,300.00	90.00	89.58	7,289.00	-1,473.22	6,147.49	6,017.54	0.00	0.00	0.00	
13,400.00	90.00	89.58	7,289.00	-1,472.50	6,247.49	6,117.54	0.00	0.00	0.00	
13,500.00	90.00	89.58	7,289.00	-1,471.77	6,347.48	6,217.54	0.00	0.00	0.00	
13,600.00	90.00	89.58	7,289.00	-1,471.04	6,447.48	6,317.54	0.00	0.00	0.00	
13,700.00	90.00	89.58	7,289.00	-1,470.32	6,547.48	6,417.54	0.00	0.00	0.00	
13,800.00	90.00	89.58	7,289.00	-1,469.59	6,647.48	6,517.54	0.00	0.00	0.00	
13,900.00	90.00	89.58	7,289.00	-1,468.86	6,747.47	6,617.54	0.00	0.00	0.00	
14,000.00	90.00	89.58	7,289.00	-1,468.14	6,847.47	6,717.54	0.00	0.00	0.00	
14,100.00	90.00	89.58	7,289.00	-1,467.41	6,947.47	6,817.54	0.00	0.00	0.00	
14,200.00	90.00	89.58	7,289.00	-1,466.69	7,047.46	6,917.54	0.00	0.00	0.00	
14,300.00	90.00	89.58	7,289.00	-1,465.96	7,147.46	7,017.54	0.00	0.00	0.00	
14,400.00	90.00	89.58	7,289.00	-1,465.23	7,247.46	7,117.54	0.00	0.00	0.00	
14,500.00	90.00	89.58	7,289.00	-1,464.51	7,347.46	7,217.54	0.00	0.00	0.00	
14,600.00	90.00	89.58	7,289.00	-1,463.78	7,447.45	7,317.54	0.00	0.00	0.00	
14,700.00	90.00	89.58	7,289.00	-1,463.06	7,547.45	7,417.54	0.00	0.00	0.00	
14,800.00	90.00	89.58	7,289.00	-1,462.33	7,647.45	7,517.54	0.00	0.00	0.00	
14,900.00	90.00	89.58	7,289.00	-1,461.60	7,747.45	7,617.54	0.00	0.00	0.00	
15,000.00	90.00	89.58	7,289.00	-1,460.88	7,847.44	7,717.54	0.00	0.00	0.00	
15,100.00	90.00	89.58	7,289.00	-1,460.15	7,947.44	7,817.54	0.00	0.00	0.00	
15,200.00	90.00	89.58	7,289.00	-1,459.43	8,047.44	7,917.54	0.00	0.00	0.00	
15,300.00	90.00	89.58	7,289.00	-1,458.70	8,147.44	8,017.54	0.00	0.00	0.00	
15,400.00	90.00	89.58	7,289.00	-1,457.97	8,247.43	8,117.54	0.00	0.00	0.00	
15,500.00	90.00	89.58	7,289.00	-1,457.25	8,347.43	8,217.54	0.00	0.00	0.00	
15,600.00	90.00	89.58	7,289.00	-1,456.52	8,447.43	8,317.54	0.00	0.00	0.00	
15,700.00	90.00	89.58	7,289.00	-1,455.80	8,547.42	8,417.54	0.00	0.00	0.00	
15,800.00	90.00	89.58	7,289.00	-1,455.07	8,647.42	8,517.54	0.00	0.00	0.00	
15,900.00	90.00	89.58	7,289.00	-1,454.34	8,747.42	8,617.54	0.00	0.00	0.00	
16,000.00	90.00	89.58	7,289.00	-1,453.62	8,847.42	8,717.54	0.00	0.00	0.00	
16,100.00	90.00	89.58	7,289.00	-1,452.89	8,947.41	8,817.54	0.00	0.00	0.00	
16,200.00	90.00	89.58	7,289.00	-1,452.16	9,047.41	8,917.54	0.00	0.00	0.00	
16,300.00	90.00	89.58	7,289.00	-1,451.44	9,147.41	9,017.54	0.00	0.00	0.00	
16,400.00	90.00	89.58	7,289.00	-1,450.71	9,247.41	9,117.54	0.00	0.00	0.00	
16,500.00	90.00	89.58	7,289.00	-1,449.99	9,347.40	9,217.54	0.00	0.00	0.00	



Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Site (Permit) Koala 9 Fed Com
Company:	Colgate Energy	TVD Reference:	3288+30 @ 3318.00usft
Project:	(Permit) Eddy County, NM (83-NME)	MD Reference:	3288+30 @ 3318.00usft
Site:	(Permit) Koala 9 Fed Com	North Reference:	Grid
Well:	(A06) Koala 9 Fed Com 122H	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)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
16,600.00	90.00	89.58	7,289.00	-1,449.26	9,447.40	9,317.54	0.00	0.00	0.00	
16,700.00	90.00	89.58	7,289.00	-1,448.53	9,547.40	9,417.54	0.00	0.00	0.00	
16,800.00	90.00	89.58	7,289.00	-1,447.81	9,647.40	9,517.54	0.00	0.00	0.00	
16,900.00	90.00	89.58	7,289.00	-1,447.08	9,747.39	9,617.54	0.00	0.00	0.00	
17,000.00	90.00	89.58	7,289.00	-1,446.36	9,847.39	9,717.54	0.00	0.00	0.00	
17,100.00	90.00	89.58	7,289.00	-1,445.63	9,947.39	9,817.54	0.00	0.00	0.00	
17,200.00	90.00	89.58	7,289.00	-1,444.90	10,047.39	9,917.54	0.00	0.00	0.00	
17,300.00	90.00	89.58	7,289.00	-1,444.18	10,147.38	10,017.54	0.00	0.00	0.00	
17,400.00	90.00	89.58	7,289.00	-1,443.45	10,247.38	10,117.54	0.00	0.00	0.00	
17,500.00	90.00	89.58	7,289.00	-1,442.73	10,347.38	10,217.54	0.00	0.00	0.00	
17,600.00	90.00	89.58	7,289.00	-1,442.00	10,447.37	10,317.54	0.00	0.00	0.00	
17,700.00	90.00	89.58	7,289.00	-1,441.27	10,547.37	10,417.54	0.00	0.00	0.00	
17,800.00	90.00	89.58	7,289.00	-1,440.55	10,647.37	10,517.54	0.00	0.00	0.00	
17,900.00	90.00	89.58	7,289.00	-1,439.82	10,747.37	10,617.54	0.00	0.00	0.00	
18,000.00	90.00	89.58	7,289.00	-1,439.10	10,847.36	10,717.54	0.00	0.00	0.00	
18,100.00	90.00	89.58	7,289.00	-1,438.37	10,947.36	10,817.54	0.00	0.00	0.00	
18,184.79	90.00	89.58	7,289.00	-1,437.75	11,032.15	10,902.33	0.00	0.00	0.00	
100'FEL - LTP(K9- 122H)										
18,200.00	90.00	89.58	7,289.00	-1,437.64	11,047.36	10,917.54	0.00	0.00	0.00	
18,274.81	90.00	89.58	7,289.00	-1,437.10	11,122.17	10,992.35	0.00	0.00	0.00	
TD: 18274.81' MD, 10992.35' VS, 7289.00' TVD - PBHL(K9- 122H)										

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
LP(K9- 122H) - plan hits target center - Point	0.00	0.00	7,289.00	-1,513.16	647.10	578,047.42	585,308.75	32.58902473	-104.19056495
PBHL(K9- 122H) - plan hits target center - Point	0.00	0.00	7,289.00	-1,437.10	11,122.17	578,123.48	595,783.82	32.58919055	-104.15655361
FTP(K9- 122H) - plan misses target center by 3.13usft at 7739.66usft MD (7285.98 TVD, -1512.83 N, 587.39 E) - Point	0.00	0.00	7,289.00	-1,513.60	587.10	578,046.98	585,248.75	32.58902374	-104.19075977
LTP(K9- 122H) - plan misses target center by 0.07usft at 18184.79usft MD (7289.00 TVD, -1437.75 N, 11032.15 E) - Point	0.00	0.00	7,289.00	-1,437.82	11,032.15	578,122.76	595,693.80	32.58918899	-104.15684589

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
7,757.74	7,287.53	20" Casing	20	24	



Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Site (Permit) Koala 9 Fed Com
Company:	Colgate Energy	TVD Reference:	3288+30 @ 3318.00usft
Project:	(Permit) Eddy County, NM (83-NME)	MD Reference:	3288+30 @ 3318.00usft
Site:	(Permit) Koala 9 Fed Com	North Reference:	Grid
Well:	(A06) Koala 9 Fed Com 122H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Permit		
Design:	APD-Rev00		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
241.00	241.00	Rustler				
382.00	382.00	T/Salt				
768.00	768.00	Tansill				
843.00	843.00	Yates				
1,218.84	1,218.00	Seven Rivers				
1,820.91	1,809.00	Queen				
2,036.46	2,018.00	Grayburg				
2,448.98	2,418.00	San Andres				
3,041.98	2,993.00	CYCN				
4,666.28	4,568.00	BSGL				
6,264.80	6,118.00	FBSG				
7,457.60	7,193.00	SBSG				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
6,893.78	6,727.89	-1,375.95	73.16	KOP: 6893.78' MD, -55.91' VS, 6727.89' TVD	
7,739.38	7,285.95	-1,512.83	587.12	100'FWL	
7,799.47	7,289.00	-1,513.16	647.10	EOC: 7799.47' MD, 517.01' VS, 7289.00' TVD	
10,304.63	7,289.00	-1,494.97	3,152.20	Exit NM 137444	
10,304.63	7,289.00	-1,494.97	3,152.20	Enter NM 013232	
12,969.83	7,289.00	-1,475.62	5,817.33	Exit NM 013232	
12,969.83	7,289.00	-1,475.62	5,817.33	Enter NM 015003	
18,184.79	7,289.00	-1,437.75	11,032.15	100'FEL	
18,274.81	7,289.00	-1,437.10	11,122.17	TD: 18274.81' MD, 10992.35' VS, 7289.00' TVD	



Colgate Energy

(Permit) Eddy County, NM (83-NME)

(Permit) Koala 9 Fed Com

(A06) Koala 9 Fed Com 122H

Permit

APD-Rev00

Anticollision Report

13 May, 2022



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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	18,274.81	APD-Rev00 (Permit)	MWD+IFR1+SAG+FDIR	(SQ OWSG MWD + IFR1 + Sag + FDIR Correction)

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
(Permit) Koala 9 Fed Com						
(A01) Koala 9 Fed Com 201H - Permit - APD-Rev00	938.23	939.20	149.98	143.75	24.056	CC
(A01) Koala 9 Fed Com 201H - Permit - APD-Rev00	1,100.00	1,100.69	150.27	142.92	20.444	ES
(A01) Koala 9 Fed Com 201H - Permit - APD-Rev00	18,274.81	19,681.18	2,513.95	2,304.13	11.982	SF
(A02) Koala 9 Fed Com 202H - Permit - APD-Rev00	923.64	924.62	119.99	113.86	19.560	CC
(A02) Koala 9 Fed Com 202H - Permit - APD-Rev00	1,100.00	1,100.69	120.39	113.04	16.379	ES
(A02) Koala 9 Fed Com 202H - Permit - APD-Rev00	2,200.00	2,201.17	171.46	156.50	11.459	SF
(A03) Koala 9 Fed Com 131H - Permit - APD-Rev00	907.02	907.01	89.99	83.97	14.957	CC
(A03) Koala 9 Fed Com 131H - Permit - APD-Rev00	1,100.00	1,099.69	90.57	83.23	12.329	ES
(A03) Koala 9 Fed Com 131H - Permit - APD-Rev00	18,274.81	19,328.62	1,787.31	1,586.83	8.915	SF
(A04) Koala 9 Fed Com 132H - Permit - APD-Rev00	1,683.27	1,683.07	59.93	48.56	5.270	CC
(A04) Koala 9 Fed Com 132H - Permit - APD-Rev00	1,900.00	1,899.62	60.56	47.59	4.669	ES
(A04) Koala 9 Fed Com 132H - Permit - APD-Rev00	3,000.00	2,998.65	81.30	60.27	3.865	SF
(A05) Koala 9 Fed Com 121H - Permit - APD-Rev00	861.82	861.82	30.00	24.30	5.262	CC
(A05) Koala 9 Fed Com 121H - Permit - APD-Rev00	1,000.00	999.91	30.37	23.72	4.564	ES
(A05) Koala 9 Fed Com 121H - Permit - APD-Rev00	1,100.00	1,099.69	32.05	24.70	4.362	SF
(A07) Koala 9 Fed Com 111H - Permit - APD-Rev00	800.00	800.00	29.99	24.72	5.692	CC
(A07) Koala 9 Fed Com 111H - Permit - APD-Rev00	1,000.00	999.91	30.53	23.88	4.588	ES
(A07) Koala 9 Fed Com 111H - Permit - APD-Rev00	1,100.00	1,099.69	32.40	25.06	4.411	SF
(A08) Koala 9 Fed Com 112H - Permit - APD-Rev00	800.00	800.00	60.00	54.73	11.386	CC
(A08) Koala 9 Fed Com 112H - Permit - APD-Rev00	2,000.00	1,999.80	62.47	48.72	4.545	ES
(A08) Koala 9 Fed Com 112H - Permit - APD-Rev00	2,500.00	2,498.98	73.13	55.68	4.191	SF
(B01) Koala 9 Fed Com 203H - Permit - APD-Rev00	7,457.24	7,405.32	830.74	779.19	16.115	CC, ES
(B01) Koala 9 Fed Com 203H - Permit - APD-Rev00	18,274.81	19,710.50	1,717.96	1,577.83	12.261	SF
(B02) Koala 9 Fed Com 204H - Permit - APD-Rev00	12,400.00	13,748.11	2,543.83	2,440.50	24.619	CC
(B02) Koala 9 Fed Com 204H - Permit - APD-Rev00	18,274.81	19,583.50	2,547.05	2,340.07	12.306	ES, SF
(B03) Koala 9 Fed Com 133H - Permit - APD-Rev00	7,475.15	7,223.07	1,285.89	1,234.41	24.977	CC, ES
(B03) Koala 9 Fed Com 133H - Permit - APD-Rev00	18,274.81	19,009.61	1,830.62	1,633.56	9.290	SF
(B04) Koala 9 Fed Com 134H - Permit - APD-Rev00	12,600.00	13,614.62	2,934.01	2,816.11	24.884	CC
(B04) Koala 9 Fed Com 134H - Permit - APD-Rev00	18,274.81	19,235.87	2,937.74	2,707.87	12.780	ES, SF
(B05) Koala 9 Fed Com 123H - Permit - APD-Rev00	7,750.00	7,173.63	1,267.96	1,217.06	24.912	CC
(B05) Koala 9 Fed Com 123H - Permit - APD-Rev00	18,274.81	17,763.11	1,340.32	1,090.92	5.374	ES, SF
(B06) Koala 9 Fed Com 124H - Permit - APD-Rev00	11,600.00	11,371.89	2,655.24	2,547.82	24.718	CC
(B06) Koala 9 Fed Com 124H - Permit - APD-Rev00	18,274.81	17,993.15	2,660.00	2,411.01	10.683	ES, SF
(B07) Koala 9 Fed Com 113H - Permit - APD-Rev00	10,100.00	8,773.89	1,650.53	1,583.42	24.594	CC
(B07) Koala 9 Fed Com 113H - Permit - APD-Rev00	18,274.81	16,922.61	1,654.81	1,444.89	7.883	ES, SF
(B08) Koala 9 Fed Com 114H - Permit - APD-Rev00	12,200.00	10,868.76	2,827.36	2,713.93	24.927	CC
(B08) Koala 9 Fed Com 114H - Permit - APD-Rev00	18,274.81	16,890.04	2,831.53	2,595.23	11.983	ES, SF

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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	7,010.81	6,815.38	3,859.07	3,641.05	17.701	CC
W02_GOVERNMENT AO COM #001_1524032 - Inc Only	7,050.00	6,852.39	3,860.15	3,640.02	17.536	ES
W02_GOVERNMENT AO COM #001_1524032 - Inc Only	7,350.00	7,094.53	3,939.14	3,706.78	16.952	SF
W03_PRE-ONGARD WELL #001_1525793 - Inc Only - In						Out of range
W04_FEDERAL V #001_1526451 - Inc Only - Inc Only	6,376.75	6,202.34	1,796.22	1,626.03	10.554	CC
W04_FEDERAL V #001_1526451 - Inc Only - Inc Only	6,900.00	6,710.09	1,800.81	1,616.95	9.795	ES
W04_FEDERAL V #001_1526451 - Inc Only - Inc Only	7,050.00	6,855.13	1,824.62	1,636.82	9.716	SF
W05_FEDERAL V #002_1526702 - Inc Only - Inc Only	3,100.00	3,024.78	1,899.60	1,823.26	24.883	CC, ES
W05_FEDERAL V #002_1526702 - Inc Only - Inc Only	6,500.00	6,322.03	2,271.56	2,112.44	14.276	SF
W06_FEDERAL V #003_1526867 - Depth Only - Depth O	6,485.19	6,300.00	4,250.51	3,827.73	10.054	CC
W06_FEDERAL V #003_1526867 - Depth Only - Depth O	6,500.00	6,300.00	4,250.53	3,827.71	10.053	ES
W06_FEDERAL V #003_1526867 - Depth Only - Depth O	6,600.00	6,300.00	4,252.06	3,829.00	10.051	SF
W07_PRE-ONGARD WELL #001_1527282 - Depth Only	7,105.00	6,881.46	2,870.20	2,410.06	6.238	CC
W07_PRE-ONGARD WELL #001_1527282 - Depth Only	7,150.00	6,921.68	2,871.30	2,408.44	6.203	ES
W07_PRE-ONGARD WELL #001_1527282 - Depth Only	7,350.00	7,079.64	2,903.54	2,429.90	6.130	SF
W08_FEDERAL V COM #004_1535127 - Inc Only - Inc O	6,000.00	5,820.33	4,010.96	3,848.39	24.672	CC
W08_FEDERAL V COM #004_1535127 - Inc Only - Inc O	6,893.78	6,686.10	4,028.75	3,841.82	21.552	ES
W08_FEDERAL V COM #004_1535127 - Inc Only - Inc O	7,200.00	6,966.66	4,115.76	3,920.47	21.075	SF
W09_GOVERNMENT AB #002_1521480 - Inc Only - Inc	17,589.54	7,238.03	1,010.33	723.50	3.522	CC
W09_GOVERNMENT AB #002_1521480 - Inc Only - Inc	17,600.00	7,238.03	1,010.38	723.38	3.520	ES, SF
W10_GOVERNMENT AB #003_1521774 - Inc Only - Inc	14,917.73	7,246.43	1,009.10	782.31	4.449	CC, ES
W10_GOVERNMENT AB #003_1521774 - Inc Only - Inc	15,000.00	7,246.43	1,012.45	784.57	4.443	SF
W11_GOVERNMENT AB #006_1527846 - Inc Only - Inc	13,654.64	6,554.00	1,789.09	1,566.86	8.051	CC, ES
W11_GOVERNMENT AB #006_1527846 - Inc Only - Inc	13,700.00	6,554.00	1,789.67	1,567.13	8.042	SF
W12_GOVERNMENT AB #007_1527847 - Inc Only - Inc	14,975.17	6,590.00	1,774.19	1,525.10	7.122	CC, ES
W12_GOVERNMENT AB #007_1527847 - Inc Only - Inc	15,100.00	6,590.00	1,778.58	1,528.70	7.118	SF
W13_GOVERNMENT AB #008_1527863 - Inc Only - Inc	16,320.72	6,630.00	1,620.72	1,381.09	6.764	CC, ES
W13_GOVERNMENT AB #008_1527863 - Inc Only - Inc	16,400.00	6,630.00	1,622.66	1,382.55	6.758	SF
W14_GOVERNMENT AB #009_1527964 - MWD/Inc - M	17,646.88	6,678.00	1,667.07	1,542.44	13.376	CC, ES
W14_GOVERNMENT AB #009_1527964 - MWD/Inc - M	17,700.00	6,678.00	1,667.92	1,542.98	13.350	SF
W15_GOVERNMENT AB FEDERAL #011_1540853 - MW	14,731.34	6,684.00	624.71	567.14	10.852	CC, ES, SF
W16_GOVERNMENT AB FEDERAL #014_1540854 - MW	13,710.91	6,555.00	808.61	752.04	14.296	CC, ES, SF
W17_GOVERNMENT AB FEDERAL #013_1540920 - MW	17,569.87	6,652.00	707.94	619.50	8.005	CC, ES
W17_GOVERNMENT AB FEDERAL #013_1540920 - MW	17,600.00	6,652.00	708.58	620.05	8.003	SF
W18_GOVERNMENT AB FEDERAL #012_1541049 - MW	16,493.92	6,784.00	738.92	655.13	8.818	CC, ES, SF

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		Semi Major Axis		Offset Wellbore Centre			Rule Assigned: Distance				Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
938.23	938.20	939.20	939.20	3.10	3.13	90.00	2.50	-149.98	149.98	143.75	6.23	24.056	CC	
1,000.00	999.91	1,000.91	1,000.91	3.31	3.35	91.04	2.50	-149.98	150.00	143.35	6.66	22.529		
1,100.00	1,099.69	1,100.69	1,100.69	3.64	3.71	93.53	2.50	-149.98	150.27	142.92	7.35	20.444	ES	
1,200.00	1,199.27	1,200.27	1,200.27	3.98	4.07	96.97	2.50	-149.98	151.11	143.06	8.05	18.780		
1,300.00	1,298.57	1,299.35	1,299.34	4.32	4.42	101.75	3.77	-149.75	153.06	144.31	8.74	17.502		
1,400.00	1,397.54	1,397.23	1,397.15	4.67	4.78	108.09	7.51	-149.06	157.25	147.80	9.44	16.653		
1,500.00	1,496.09	1,493.54	1,493.25	5.02	5.12	115.49	13.59	-147.94	165.17	155.04	10.14	16.296		

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
1,600.00	1,594.16	1,587.93	1,587.26	5.38	5.46	123.30	21.86	-146.42	178.26	167.44	10.82	16.478	
1,700.00	1,691.70	1,680.09	1,678.82	5.75	5.79	130.87	32.13	-144.52	197.51	186.03	11.48	17.202	
1,743.51	1,733.95	1,719.96	1,718.36	5.91	5.93	134.00	37.21	-143.59	207.93	196.16	11.77	17.669	
1,800.00	1,788.72	1,772.46	1,770.41	6.12	6.12	137.91	43.99	-142.34	222.67	210.53	12.14	18.340	
1,900.00	1,885.68	1,865.41	1,862.55	6.49	6.45	143.72	56.00	-140.13	250.90	238.10	12.80	19.603	
2,000.00	1,982.65	1,958.36	1,954.70	6.87	6.78	148.38	68.00	-137.92	281.14	267.68	13.46	20.892	
2,100.00	2,079.61	2,051.31	2,046.84	7.26	7.11	152.16	80.00	-135.71	312.81	298.69	14.11	22.162	
2,200.00	2,176.58	2,144.26	2,138.99	7.64	7.44	155.25	92.01	-133.50	345.51	330.74	14.77	23.387	
2,300.00	2,273.54	2,237.21	2,231.14	8.03	7.77	157.82	104.01	-131.28	378.99	363.55	15.43	24.556	
12,000.00	7,289.00	13,406.36	8,839.00	58.89	61.95	-128.04	498.22	4,713.96	2,513.48	2,412.10	101.37	24.794	
12,100.00	7,289.00	13,506.36	8,839.00	59.89	62.91	-128.04	498.96	4,813.96	2,513.48	2,410.50	102.98	24.408	
12,200.00	7,289.00	13,606.36	8,839.00	60.90	63.89	-128.04	499.69	4,913.96	2,513.49	2,408.90	104.59	24.031	
12,300.00	7,289.00	13,706.36	8,839.00	61.91	64.87	-128.04	500.43	5,013.95	2,513.50	2,407.28	106.21	23.664	
12,400.00	7,289.00	13,806.36	8,839.00	62.92	65.85	-128.04	501.16	5,113.95	2,513.51	2,405.66	107.84	23.307	
12,500.00	7,289.00	13,906.36	8,839.00	63.94	66.84	-128.04	501.90	5,213.95	2,513.51	2,404.04	109.48	22.959	
12,600.00	7,289.00	14,006.36	8,839.00	64.96	67.83	-128.04	502.63	5,313.95	2,513.52	2,402.40	111.12	22.620	
12,700.00	7,289.00	14,106.36	8,839.00	65.98	68.82	-128.04	503.37	5,413.94	2,513.53	2,400.76	112.77	22.290	
12,800.00	7,289.00	14,206.36	8,839.00	67.01	69.82	-128.04	504.11	5,513.94	2,513.54	2,399.11	114.42	21.967	
12,900.00	7,289.00	14,306.36	8,839.00	68.04	70.82	-128.04	504.84	5,613.94	2,513.54	2,397.46	116.08	21.653	
13,000.00	7,289.00	14,406.36	8,839.00	69.08	71.83	-128.04	505.58	5,713.93	2,513.55	2,395.81	117.75	21.347	
13,100.00	7,289.00	14,506.36	8,839.00	70.11	72.84	-128.04	506.31	5,813.93	2,513.56	2,394.14	119.42	21.049	
13,200.00	7,289.00	14,606.36	8,839.00	71.15	73.85	-128.04	507.05	5,913.93	2,513.57	2,392.48	121.09	20.758	
13,300.00	7,289.00	14,706.36	8,839.00	72.19	74.87	-128.04	507.78	6,013.93	2,513.57	2,390.80	122.77	20.474	
13,400.00	7,289.00	14,806.36	8,839.00	73.24	75.89	-128.04	508.52	6,113.92	2,513.58	2,389.13	124.45	20.197	
13,500.00	7,289.00	14,906.36	8,839.00	74.28	76.91	-128.04	509.26	6,213.92	2,513.59	2,387.44	126.14	19.926	
13,600.00	7,289.00	15,006.36	8,839.00	75.33	77.94	-128.04	509.99	6,313.92	2,513.60	2,385.76	127.84	19.663	
13,700.00	7,289.00	15,106.36	8,839.00	76.38	78.96	-128.04	510.73	6,413.92	2,513.60	2,384.07	129.53	19.405	
13,800.00	7,289.00	15,206.36	8,839.00	77.43	79.99	-128.04	511.46	6,513.91	2,513.61	2,382.38	131.24	19.153	
13,900.00	7,289.00	15,306.36	8,839.00	78.49	81.03	-128.04	512.20	6,613.91	2,513.62	2,380.68	132.94	18.908	
14,000.00	7,289.00	15,406.36	8,839.00	79.54	82.06	-128.04	512.93	6,713.91	2,513.63	2,378.98	134.65	18.668	
14,100.00	7,289.00	15,506.36	8,839.00	80.60	83.10	-128.04	513.67	6,813.90	2,513.63	2,377.27	136.36	18.434	
14,200.00	7,289.00	15,606.36	8,839.00	81.66	84.14	-128.04	514.40	6,913.90	2,513.64	2,375.56	138.08	18.205	
14,300.00	7,289.00	15,706.36	8,839.00	82.72	85.18	-128.04	515.14	7,013.90	2,513.65	2,373.85	139.79	17.981	
14,400.00	7,289.00	15,806.36	8,839.00	83.78	86.22	-128.04	515.88	7,113.90	2,513.66	2,372.14	141.52	17.762	
14,500.00	7,289.00	15,906.36	8,839.00	84.85	87.27	-128.04	516.61	7,213.89	2,513.66	2,370.42	143.24	17.548	
14,600.00	7,289.00	16,006.36	8,839.00	85.91	88.31	-128.04	517.35	7,313.89	2,513.67	2,368.70	144.97	17.339	
14,700.00	7,289.00	16,106.36	8,839.00	86.98	89.36	-128.04	518.08	7,413.89	2,513.68	2,366.98	146.70	17.135	
14,800.00	7,289.00	16,206.36	8,839.00	88.05	90.41	-128.04	518.82	7,513.89	2,513.69	2,365.25	148.43	16.935	
14,900.00	7,289.00	16,306.36	8,839.00	89.12	91.47	-128.04	519.55	7,613.88	2,513.69	2,363.53	150.17	16.739	
15,000.00	7,289.00	16,406.36	8,839.00	90.19	92.52	-128.04	520.29	7,713.88	2,513.70	2,361.80	151.91	16.548	
15,100.00	7,289.00	16,506.36	8,839.00	91.26	93.57	-128.04	521.02	7,813.88	2,513.71	2,360.06	153.65	16.360	
15,200.00	7,289.00	16,606.36	8,839.00	92.34	94.63	-128.04	521.76	7,913.88	2,513.72	2,358.33	155.39	16.177	
15,300.00	7,289.00	16,706.36	8,839.00	93.41	95.69	-128.04	522.50	8,013.87	2,513.72	2,356.59	157.13	15.997	
15,400.00	7,289.00	16,806.36	8,839.00	94.49	96.75	-128.04	523.23	8,113.87	2,513.73	2,354.85	158.88	15.821	
15,500.00	7,289.00	16,906.36	8,839.00	95.56	97.81	-128.04	523.97	8,213.87	2,513.74	2,353.11	160.63	15.649	
15,600.00	7,289.00	17,006.36	8,839.00	96.64	98.87	-128.04	524.70	8,313.86	2,513.75	2,351.36	162.38	15.480	
15,700.00	7,289.00	17,106.36	8,839.00	97.72	99.94	-128.04	525.44	8,413.86	2,513.75	2,349.62	164.14	15.315	
15,800.00	7,289.00	17,206.36	8,839.00	98.80	101.00	-128.04	526.17	8,513.86	2,513.76	2,347.87	165.89	15.153	
15,900.00	7,289.00	17,306.36	8,839.00	99.88	102.07	-128.04	526.91	8,613.86	2,513.77	2,346.12	167.65	14.994	
16,000.00	7,289.00	17,406.36	8,839.00	100.96	103.14	-128.04	527.64	8,713.85	2,513.78	2,344.37	169.41	14.839	
16,100.00	7,289.00	17,506.36	8,839.00	102.05	104.21	-128.04	528.38	8,813.85	2,513.78	2,342.61	171.17	14.686	
16,200.00	7,289.00	17,606.36	8,839.00	103.13	105.28	-128.04	529.12	8,913.85	2,513.79	2,340.86	172.93	14.536	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
16,300.00	7,289.00	17,706.36	8,839.00	104.21	106.35	-128.04	529.85	9,013.85	2,513.80	2,339.10	174.70	14.389	
16,400.00	7,289.00	17,806.36	8,839.00	105.30	107.42	-128.04	530.59	9,113.84	2,513.81	2,337.34	176.46	14.246	
16,500.00	7,289.00	17,906.36	8,839.00	106.39	108.49	-128.04	531.32	9,213.84	2,513.81	2,335.58	178.23	14.104	
16,600.00	7,289.00	18,006.36	8,839.00	107.47	109.57	-128.04	532.06	9,313.84	2,513.82	2,333.82	180.00	13.966	
16,700.00	7,289.00	18,106.36	8,839.00	108.56	110.64	-128.04	532.79	9,413.83	2,513.83	2,332.06	181.77	13.830	
16,800.00	7,289.00	18,206.36	8,839.00	109.65	111.72	-128.04	533.53	9,513.83	2,513.84	2,330.29	183.54	13.696	
16,900.00	7,289.00	18,306.36	8,839.00	110.74	112.80	-128.04	534.27	9,613.83	2,513.84	2,328.53	185.31	13.565	
17,000.00	7,289.00	18,406.36	8,839.00	111.83	113.87	-128.04	535.00	9,713.83	2,513.85	2,326.76	187.09	13.437	
17,100.00	7,289.00	18,506.36	8,839.00	112.92	114.95	-128.04	535.74	9,813.82	2,513.86	2,324.99	188.86	13.310	
17,200.00	7,289.00	18,606.36	8,839.00	114.01	116.03	-128.04	536.47	9,913.82	2,513.87	2,323.22	190.64	13.186	
17,300.00	7,289.00	18,706.36	8,839.00	115.10	117.11	-128.04	537.21	10,013.82	2,513.87	2,321.45	192.42	13.064	
17,400.00	7,289.00	18,806.36	8,839.00	116.19	118.19	-128.04	537.94	10,113.82	2,513.88	2,319.68	194.20	12.945	
17,500.00	7,289.00	18,906.36	8,839.00	117.28	119.27	-128.04	538.68	10,213.81	2,513.89	2,317.91	195.98	12.827	
17,600.00	7,289.00	19,006.36	8,839.00	118.37	120.36	-128.04	539.41	10,313.81	2,513.90	2,316.13	197.76	12.712	
17,700.00	7,289.00	19,106.36	8,839.00	119.47	121.44	-128.04	540.15	10,413.81	2,513.90	2,314.36	199.55	12.598	
17,800.00	7,289.00	19,206.36	8,839.00	120.56	122.52	-128.04	540.89	10,513.80	2,513.91	2,312.58	201.33	12.487	
17,900.00	7,289.00	19,306.36	8,839.00	121.66	123.61	-128.04	541.62	10,613.80	2,513.92	2,310.80	203.11	12.377	
18,000.00	7,289.00	19,406.36	8,839.00	122.75	124.69	-128.04	542.36	10,713.80	2,513.93	2,309.03	204.90	12.269	
18,100.00	7,289.00	19,506.36	8,839.00	123.85	125.78	-128.04	543.09	10,813.80	2,513.93	2,307.25	206.69	12.163	
18,200.00	7,289.00	19,606.36	8,839.00	124.94	126.87	-128.04	543.83	10,913.79	2,513.94	2,305.47	208.48	12.059	
18,274.81	7,289.00	19,681.18	8,839.00	125.76	127.68	-128.04	544.38	10,988.60	2,513.95	2,304.13	209.81	11.982 SF	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
800.00	800.00	801.00	801.00	2.63	2.64	-89.05	2.00	-119.99	120.01	114.73	5.27	22.758	
900.00	899.99	900.99	900.99	2.98	3.00	89.67	2.00	-119.99	119.99	114.02	5.97	20.092	
923.64	923.62	924.62	924.62	3.05	3.08	90.00	2.00	-119.99	119.99	113.86	6.13	19.560	CC
1,000.00	999.91	1,000.91	1,000.91	3.31	3.35	91.54	2.00	-119.99	120.03	113.38	6.66	18.027	
1,100.00	1,099.69	1,100.69	1,100.69	3.64	3.71	94.64	2.00	-119.99	120.39	113.04	7.35	16.379	ES
1,200.00	1,199.27	1,200.27	1,200.27	3.98	4.07	98.91	2.00	-119.99	121.47	113.43	8.05	15.097	
1,300.00	1,298.57	1,300.56	1,300.55	4.32	4.41	103.70	0.68	-119.95	123.45	114.72	8.73	14.139	
1,400.00	1,397.54	1,401.13	1,401.04	4.67	4.74	108.33	-3.29	-119.82	126.10	116.69	9.41	13.406	
1,500.00	1,496.09	1,501.98	1,501.66	5.02	5.07	112.77	-9.92	-119.61	129.38	119.29	10.09	12.824	
1,600.00	1,594.16	1,603.10	1,602.35	5.38	5.41	117.00	-19.24	-119.31	133.23	122.46	10.78	12.364	
1,700.00	1,691.70	1,704.51	1,703.04	5.75	5.75	121.01	-31.25	-118.93	137.61	126.14	11.47	12.001	
1,743.51	1,733.95	1,747.74	1,745.89	5.91	5.90	122.72	-36.93	-118.75	139.82	128.05	11.77	11.880	
1,800.00	1,788.72	1,803.84	1,801.52	6.12	6.09	125.01	-44.30	-118.52	143.06	130.90	12.16	11.763	
1,900.00	1,885.68	1,903.17	1,899.98	6.49	6.43	128.80	-57.35	-118.10	149.33	136.47	12.86	11.612	
2,000.00	1,982.65	2,002.50	1,998.45	6.87	6.78	132.28	-70.40	-117.68	156.20	142.64	13.56	11.520	
2,100.00	2,079.61	2,101.83	2,096.92	7.26	7.13	135.46	-83.45	-117.27	163.60	149.34	14.26	11.472	
2,200.00	2,176.58	2,201.17	2,195.39	7.64	7.48	138.35	-96.50	-116.85	171.46	156.50	14.96	11.459	SF
2,300.00	2,273.54	2,300.50	2,293.86	8.03	7.83	140.99	-109.55	-116.44	179.72	164.05	15.67	11.472	
2,400.00	2,370.51	2,399.83	2,392.33	8.42	8.19	143.39	-122.60	-116.02	188.32	171.95	16.37	11.505	
2,500.00	2,467.47	2,499.16	2,490.80	8.81	8.54	145.58	-135.65	-115.61	197.23	180.16	17.07	11.552	
2,600.00	2,564.44	2,598.49	2,589.27	9.20	8.90	147.58	-148.70	-115.19	206.40	188.62	17.78	11.610	
2,700.00	2,661.40	2,697.82	2,687.73	9.59	9.26	149.41	-161.74	-114.77	215.80	197.31	18.48	11.675	
2,800.00	2,758.37	2,797.15	2,786.20	9.99	9.62	151.09	-174.79	-114.36	225.39	206.21	19.19	11.746	
2,900.00	2,855.33	2,896.48	2,884.67	10.39	9.98	152.62	-187.84	-113.94	235.17	215.27	19.90	11.820	
3,000.00	2,952.30	2,995.81	2,983.14	10.78	10.34	154.04	-200.89	-113.53	245.10	224.50	20.60	11.897	
3,100.00	3,049.26	3,095.14	3,081.61	11.18	10.70	155.34	-213.94	-113.11	255.16	233.85	21.31	11.974	
3,200.00	3,146.23	3,194.47	3,180.08	11.58	11.07	156.54	-226.99	-112.70	265.35	243.33	22.02	12.052	
3,300.00	3,243.19	3,293.80	3,278.55	11.98	11.43	157.66	-240.04	-112.28	275.65	252.92	22.73	12.129	
3,400.00	3,340.16	3,393.13	3,377.02	12.38	11.79	158.69	-253.09	-111.86	286.04	262.60	23.44	12.205	
3,500.00	3,437.12	3,492.46	3,475.48	12.78	12.16	159.66	-266.14	-111.45	296.51	272.37	24.15	12.280	
3,600.00	3,534.09	3,591.79	3,573.95	13.18	12.52	160.55	-279.19	-111.03	307.07	282.21	24.86	12.354	
3,700.00	3,631.05	3,691.12	3,672.42	13.58	12.89	161.39	-292.24	-110.62	317.69	292.12	25.57	12.426	
3,800.00	3,728.02	3,790.45	3,770.89	13.98	13.25	162.17	-305.28	-110.20	328.38	302.10	26.28	12.496	
3,900.00	3,824.98	3,889.78	3,869.36	14.38	13.62	162.90	-318.33	-109.79	339.12	312.13	26.99	12.565	
4,000.00	3,921.94	3,989.11	3,967.83	14.78	13.99	163.59	-331.38	-109.37	349.91	322.21	27.70	12.631	
4,100.00	4,018.91	4,088.44	4,066.30	15.19	14.35	164.24	-344.43	-108.95	360.76	332.34	28.41	12.696	
4,200.00	4,115.87	4,187.77	4,164.76	15.59	14.72	164.85	-357.48	-108.54	371.64	342.51	29.13	12.759	
4,300.00	4,212.84	4,287.10	4,263.23	15.99	15.09	165.42	-370.53	-108.12	382.56	352.72	29.84	12.820	
4,400.00	4,309.80	4,386.44	4,361.70	16.40	15.46	165.96	-383.58	-107.71	393.52	362.97	30.56	12.879	
4,500.00	4,406.77	4,485.77	4,460.17	16.80	15.82	166.48	-396.63	-107.29	404.52	373.25	31.27	12.936	
4,600.00	4,503.73	4,585.10	4,558.64	17.20	16.19	166.96	-409.68	-106.88	415.54	383.55	31.98	12.992	
4,700.00	4,600.70	4,684.43	4,657.11	17.61	16.56	167.42	-422.73	-106.46	426.59	393.89	32.70	13.046	
4,800.00	4,697.66	4,783.76	4,755.58	18.01	16.93	167.86	-435.78	-106.04	437.67	404.25	33.41	13.098	
4,900.00	4,794.63	4,883.09	4,854.05	18.42	17.30	168.28	-448.83	-105.63	448.77	414.64	34.13	13.149	
5,000.00	4,891.59	4,982.42	4,952.51	18.82	17.66	168.67	-461.87	-105.21	459.89	425.04	34.85	13.198	
5,100.00	4,988.56	5,081.75	5,050.98	19.23	18.03	169.05	-474.92	-104.80	471.03	435.47	35.56	13.246	
5,200.00	5,085.52	5,181.08	5,149.45	19.63	18.40	169.41	-487.97	-104.38	482.20	445.92	36.28	13.292	
5,300.00	5,182.49	5,280.41	5,247.92	20.03	18.77	169.75	-501.02	-103.97	493.38	456.38	36.99	13.336	
5,400.00	5,279.45	5,379.74	5,346.39	20.44	19.14	170.08	-514.07	-103.55	504.58	466.86	37.71	13.380	
5,500.00	5,376.42	5,479.07	5,444.86	20.84	19.51	170.40	-527.12	-103.13	515.79	477.36	38.43	13.422	
5,600.00	5,473.38	5,578.40	5,543.33	21.25	19.88	170.70	-540.17	-102.72	527.02	487.87	39.15	13.463	
5,700.00	5,570.35	5,677.73	5,641.80	21.66	20.25	170.99	-553.22	-102.30	538.26	498.40	39.86	13.503	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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
Rule Assigned:													
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,800.00	5,667.31	5,777.06	5,740.26	22.06	20.62	171.26	-566.27	-101.89	549.51	508.93	40.58	13.541	
5,900.00	5,764.27	5,876.39	5,838.73	22.47	20.99	171.53	-579.32	-101.47	560.78	519.48	41.30	13.579	
6,000.00	5,861.24	5,975.72	5,937.20	22.87	21.36	171.78	-592.37	-101.06	572.06	530.04	42.02	13.615	
6,100.00	5,958.20	6,075.05	6,035.67	23.28	21.73	172.03	-605.41	-100.64	583.35	540.61	42.73	13.650	
6,200.00	6,055.17	6,174.38	6,134.14	23.68	22.10	172.26	-618.46	-100.22	594.65	551.19	43.45	13.685	
6,300.00	6,152.13	6,273.71	6,232.61	24.09	22.47	172.49	-631.51	-99.81	605.95	561.78	44.17	13.718	
6,400.00	6,249.10	6,373.04	6,331.08	24.50	22.84	172.71	-644.56	-99.39	617.27	572.38	44.89	13.751	
6,500.00	6,346.06	6,472.37	6,429.55	24.90	23.21	172.92	-657.61	-98.98	628.60	582.99	45.61	13.782	
6,600.00	6,443.03	6,571.70	6,528.01	25.31	23.58	173.12	-670.66	-98.56	639.93	593.60	46.33	13.813	
6,700.00	6,539.99	6,671.04	6,626.48	25.71	23.95	173.32	-683.71	-98.15	651.27	604.23	47.05	13.843	
6,800.00	6,636.96	6,770.37	6,724.95	26.12	24.32	173.51	-696.76	-97.73	662.62	614.86	47.77	13.872	
6,893.78	6,727.89	6,863.52	6,817.30	26.50	24.67	173.68	-709.00	-97.34	673.27	624.83	48.44	13.899	
6,900.00	6,733.92	6,869.70	6,823.42	26.53	24.69	176.23	-709.81	-97.31	673.98	625.50	48.49	13.901	
6,950.00	6,782.34	6,919.31	6,872.60	26.73	24.87	-164.27	-716.33	-97.11	679.85	631.00	48.85	13.918	
7,000.00	6,830.39	6,968.55	6,921.42	26.93	25.06	-148.70	-722.79	-96.90	686.00	636.80	49.20	13.942	
7,050.00	6,877.70	7,017.05	6,969.50	27.12	25.24	-137.73	-729.17	-96.70	692.52	642.96	49.56	13.974	
7,100.00	6,923.92	7,064.44	7,016.48	27.30	25.41	-130.33	-735.39	-96.50	699.53	649.62	49.91	14.017	
7,150.00	6,968.68	7,110.36	7,062.00	27.47	25.59	-125.39	-741.42	-96.31	707.23	656.98	50.25	14.075	
7,200.00	7,011.65	7,154.46	7,105.71	27.63	25.75	-122.08	-747.22	-96.12	715.84	665.26	50.58	14.152	
7,250.00	7,052.50	7,196.40	7,147.29	27.78	25.91	-119.82	-752.73	-95.95	725.64	674.74	50.91	14.255	
7,300.00	7,090.93	7,235.86	7,186.41	27.91	26.05	-118.23	-757.91	-95.78	736.90	685.69	51.22	14.387	
7,350.00	7,126.64	7,272.55	7,222.78	28.04	26.19	-117.01	-762.73	-95.63	749.89	698.37	51.52	14.554	
7,400.00	7,159.35	7,306.18	7,256.11	28.15	26.32	-115.94	-767.15	-95.49	764.84	713.02	51.81	14.761	
7,450.00	7,188.82	7,336.50	7,286.17	28.24	26.43	-114.86	-771.13	-95.36	781.93	729.84	52.09	15.011	
7,500.00	7,214.82	7,363.27	7,312.71	28.33	26.53	-113.61	-774.65	-95.25	801.29	748.94	52.35	15.306	
7,550.00	7,237.16	7,386.30	7,335.54	28.40	26.62	-112.09	-777.68	-95.15	822.98	770.39	52.59	15.649	
7,600.00	7,255.67	7,405.41	7,354.49	28.46	26.69	-110.19	-780.19	-95.07	846.97	794.16	52.81	16.039	
7,650.00	7,270.20	7,420.45	7,369.40	28.52	26.74	-107.83	-782.16	-95.01	873.15	820.16	53.00	16.476	
7,700.00	7,280.65	7,431.31	7,380.16	28.57	26.78	-104.97	-783.59	-94.96	901.36	848.20	53.16	16.956	
7,750.00	7,286.93	7,437.91	7,386.70	28.62	26.81	-101.57	-784.45	-94.94	931.34	878.05	53.29	17.477	
7,799.47	7,289.00	7,440.19	7,388.96	28.66	26.82	-97.71	-784.75	-94.93	962.47	909.08	53.39	18.026	
7,900.00	7,289.00	7,440.51	7,389.28	28.76	26.82	-97.73	-784.80	-94.93	1,029.88	976.32	53.56	19.227	
8,000.00	7,289.00	7,440.83	7,389.60	28.89	26.82	-97.76	-784.84	-94.92	1,101.96	1,048.24	53.71	20.515	
8,100.00	7,289.00	7,441.16	7,389.92	29.06	26.82	-97.78	-784.88	-94.92	1,178.12	1,124.27	53.85	21.879	
8,200.00	7,289.00	7,441.48	7,390.24	29.28	26.82	-97.81	-784.92	-94.92	1,257.62	1,203.66	53.96	23.305	
8,300.00	7,289.00	7,441.80	7,390.56	29.55	26.82	-97.83	-784.97	-94.92	1,339.88	1,285.81	54.06	24.783	
11,600.00	7,289.00	13,064.45	8,839.00	54.93	57.93	-156.92	-824.10	4,323.74	1,683.74	1,616.37	67.37	24.993	
11,700.00	7,289.00	13,164.45	8,839.00	55.91	58.88	-156.92	-823.37	4,423.74	1,683.74	1,615.37	68.36	24.629	
11,800.00	7,289.00	13,264.45	8,839.00	56.90	59.84	-156.92	-822.64	4,523.73	1,683.74	1,614.37	69.37	24.273	
11,900.00	7,289.00	13,364.45	8,839.00	57.89	60.80	-156.92	-821.92	4,623.73	1,683.74	1,613.36	70.37	23.925	
12,000.00	7,289.00	13,464.45	8,839.00	58.89	61.76	-156.92	-821.19	4,723.73	1,683.74	1,612.35	71.39	23.586	
12,100.00	7,289.00	13,564.45	8,839.00	59.89	62.73	-156.92	-820.46	4,823.73	1,683.74	1,611.33	72.41	23.253	
12,200.00	7,289.00	13,664.45	8,839.00	60.90	63.71	-156.92	-819.74	4,923.72	1,683.74	1,610.31	73.43	22.929	
12,300.00	7,289.00	13,764.45	8,839.00	61.91	64.69	-156.92	-819.01	5,023.72	1,683.74	1,609.28	74.46	22.612	
12,400.00	7,289.00	13,864.45	8,839.00	62.92	65.68	-156.92	-818.29	5,123.72	1,683.74	1,608.24	75.50	22.302	
12,500.00	7,289.00	13,964.45	8,839.00	63.94	66.67	-156.92	-817.56	5,223.71	1,683.74	1,607.20	76.54	21.998	
12,600.00	7,289.00	14,064.45	8,839.00	64.96	67.66	-156.92	-816.83	5,323.71	1,683.74	1,606.16	77.58	21.702	
12,700.00	7,289.00	14,164.45	8,839.00	65.98	68.66	-156.92	-816.11	5,423.71	1,683.74	1,605.11	78.63	21.413	
12,800.00	7,289.00	14,264.45	8,839.00	67.01	69.66	-156.92	-815.38	5,523.71	1,683.74	1,604.05	79.69	21.130	
12,900.00	7,289.00	14,364.45	8,839.00	68.04	70.66	-156.92	-814.65	5,623.70	1,683.74	1,603.00	80.74	20.853	
13,000.00	7,289.00	14,464.45	8,839.00	69.08	71.67	-156.92	-813.93	5,723.70	1,683.74	1,601.94	81.80	20.582	
13,100.00	7,289.00	14,564.45	8,839.00	70.11	72.68	-156.92	-813.20	5,823.70	1,683.74	1,600.87	82.87	20.318	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
13,200.00	7,289.00	14,664.45	8,839.00	71.15	73.70	-156.92	-812.47	5,923.70	1,683.74	1,599.80	83.94	20.059	
13,300.00	7,289.00	14,764.45	8,839.00	72.19	74.72	-156.92	-811.75	6,023.69	1,683.74	1,598.73	85.01	19.806	
13,400.00	7,289.00	14,864.45	8,839.00	73.24	75.74	-156.92	-811.02	6,123.69	1,683.74	1,597.66	86.09	19.559	
13,500.00	7,289.00	14,964.45	8,839.00	74.28	76.76	-156.92	-810.29	6,223.69	1,683.74	1,596.58	87.17	19.317	
13,600.00	7,289.00	15,064.45	8,839.00	75.33	77.79	-156.92	-809.57	6,323.69	1,683.74	1,595.49	88.25	19.080	
13,700.00	7,289.00	15,164.45	8,839.00	76.38	78.82	-156.92	-808.84	6,423.68	1,683.74	1,594.41	89.33	18.848	
13,800.00	7,289.00	15,264.45	8,839.00	77.43	79.85	-156.92	-808.12	6,523.68	1,683.74	1,593.32	90.42	18.621	
13,900.00	7,289.00	15,364.45	8,839.00	78.49	80.88	-156.92	-807.39	6,623.68	1,683.74	1,592.23	91.51	18.399	
14,000.00	7,289.00	15,464.45	8,839.00	79.54	81.92	-156.92	-806.66	6,723.68	1,683.74	1,591.14	92.60	18.182	
14,100.00	7,289.00	15,564.45	8,839.00	80.60	82.96	-156.92	-805.94	6,823.67	1,683.74	1,590.04	93.70	17.969	
14,200.00	7,289.00	15,664.45	8,839.00	81.66	84.00	-156.92	-805.21	6,923.67	1,683.74	1,588.94	94.80	17.761	
14,300.00	7,289.00	15,764.45	8,839.00	82.72	85.04	-156.92	-804.48	7,023.67	1,683.74	1,587.84	95.90	17.557	
14,400.00	7,289.00	15,864.45	8,839.00	83.78	86.09	-156.92	-803.76	7,123.66	1,683.74	1,586.74	97.00	17.358	
14,500.00	7,289.00	15,964.45	8,839.00	84.85	87.13	-156.92	-803.03	7,223.66	1,683.74	1,585.63	98.11	17.162	
14,600.00	7,289.00	16,064.45	8,839.00	85.91	88.18	-156.92	-802.30	7,323.66	1,683.74	1,584.53	99.22	16.970	
14,700.00	7,289.00	16,164.45	8,839.00	86.98	89.23	-156.92	-801.58	7,423.66	1,683.74	1,583.42	100.33	16.783	
14,800.00	7,289.00	16,264.45	8,839.00	88.05	90.29	-156.92	-800.85	7,523.65	1,683.74	1,582.31	101.44	16.599	
14,900.00	7,289.00	16,364.45	8,839.00	89.12	91.34	-156.92	-800.12	7,623.65	1,683.74	1,581.19	102.55	16.418	
15,000.00	7,289.00	16,464.45	8,839.00	90.19	92.39	-156.92	-799.40	7,723.65	1,683.74	1,580.08	103.67	16.242	
15,100.00	7,289.00	16,564.45	8,839.00	91.26	93.45	-156.92	-798.67	7,823.65	1,683.74	1,578.96	104.79	16.068	
15,200.00	7,289.00	16,664.45	8,839.00	92.34	94.51	-156.92	-797.95	7,923.64	1,683.74	1,577.84	105.91	15.899	
15,300.00	7,289.00	16,764.45	8,839.00	93.41	95.57	-156.92	-797.22	8,023.64	1,683.74	1,576.72	107.03	15.732	
15,400.00	7,289.00	16,864.45	8,839.00	94.49	96.63	-156.92	-796.49	8,123.64	1,683.75	1,575.60	108.15	15.569	
15,500.00	7,289.00	16,964.45	8,839.00	95.56	97.69	-156.92	-795.77	8,223.64	1,683.75	1,574.47	109.27	15.408	
15,600.00	7,289.00	17,064.45	8,839.00	96.64	98.76	-156.92	-795.04	8,323.63	1,683.75	1,573.35	110.40	15.251	
15,700.00	7,289.00	17,164.45	8,839.00	97.72	99.82	-156.92	-794.31	8,423.63	1,683.75	1,572.22	111.53	15.097	
15,800.00	7,289.00	17,264.45	8,839.00	98.80	100.89	-156.92	-793.59	8,523.63	1,683.75	1,571.09	112.66	14.946	
15,900.00	7,289.00	17,364.45	8,839.00	99.88	101.96	-156.92	-792.86	8,623.62	1,683.75	1,569.96	113.79	14.797	
16,000.00	7,289.00	17,464.45	8,839.00	100.96	103.03	-156.92	-792.13	8,723.62	1,683.75	1,568.83	114.92	14.652	
16,100.00	7,289.00	17,564.45	8,839.00	102.05	104.10	-156.92	-791.41	8,823.62	1,683.75	1,567.69	116.05	14.508	
16,200.00	7,289.00	17,664.45	8,839.00	103.13	105.17	-156.92	-790.68	8,923.62	1,683.75	1,566.56	117.19	14.368	
16,300.00	7,289.00	17,764.45	8,839.00	104.21	106.24	-156.92	-789.95	9,023.61	1,683.75	1,565.42	118.32	14.230	
16,400.00	7,289.00	17,864.45	8,839.00	105.30	107.31	-156.92	-789.23	9,123.61	1,683.75	1,564.29	119.46	14.095	
16,500.00	7,289.00	17,964.45	8,839.00	106.39	108.39	-156.92	-788.50	9,223.61	1,683.75	1,563.15	120.60	13.962	
16,600.00	7,289.00	18,064.45	8,839.00	107.47	109.46	-156.92	-787.78	9,323.61	1,683.75	1,562.01	121.74	13.831	
16,700.00	7,289.00	18,164.45	8,839.00	108.56	110.54	-156.92	-787.05	9,423.60	1,683.75	1,560.87	122.88	13.702	
16,800.00	7,289.00	18,264.45	8,839.00	109.65	111.61	-156.92	-786.32	9,523.60	1,683.75	1,559.73	124.02	13.576	
16,900.00	7,289.00	18,364.45	8,839.00	110.74	112.69	-156.92	-785.60	9,623.60	1,683.75	1,558.58	125.16	13.452	
17,000.00	7,289.00	18,464.45	8,839.00	111.83	113.77	-156.92	-784.87	9,723.60	1,683.75	1,557.44	126.31	13.330	
17,100.00	7,289.00	18,564.45	8,839.00	112.92	114.85	-156.92	-784.14	9,823.59	1,683.75	1,556.29	127.45	13.211	
17,200.00	7,289.00	18,664.45	8,839.00	114.01	115.93	-156.92	-783.42	9,923.59	1,683.75	1,555.15	128.60	13.093	
17,300.00	7,289.00	18,764.45	8,839.00	115.10	117.01	-156.92	-782.69	10,023.59	1,683.75	1,554.00	129.75	12.977	
17,400.00	7,289.00	18,864.45	8,839.00	116.19	118.09	-156.92	-781.96	10,123.59	1,683.75	1,552.85	130.89	12.863	
17,500.00	7,289.00	18,964.45	8,839.00	117.28	119.18	-156.92	-781.24	10,223.58	1,683.75	1,551.70	132.04	12.751	
17,600.00	7,289.00	19,064.45	8,839.00	118.37	120.26	-156.92	-780.51	10,323.58	1,683.75	1,550.56	133.19	12.641	
17,700.00	7,289.00	19,164.45	8,839.00	119.47	121.34	-156.92	-779.78	10,423.58	1,683.75	1,549.40	134.34	12.533	
17,800.00	7,289.00	19,264.45	8,839.00	120.56	122.43	-156.92	-779.06	10,523.57	1,683.75	1,548.25	135.50	12.427	
17,900.00	7,289.00	19,364.45	8,839.00	121.66	123.51	-156.92	-778.33	10,623.57	1,683.75	1,547.10	136.65	12.322	
18,000.00	7,289.00	19,464.45	8,839.00	122.75	124.60	-156.92	-777.61	10,723.57	1,683.75	1,545.95	137.80	12.219	
18,100.00	7,289.00	19,564.45	8,839.00	123.85	125.69	-156.92	-776.88	10,823.57	1,683.75	1,544.79	138.96	12.117	
18,200.00	7,289.00	19,664.45	8,839.00	124.94	126.77	-156.92	-776.15	10,923.56	1,683.75	1,543.64	140.11	12.017	
18,274.81	7,289.00	19,739.27	8,839.00	125.76	127.59	-156.92	-775.61	10,998.38	1,683.75	1,542.78	140.97	11.944	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
600.00	600.00	600.00	600.00	1.92	1.92	-89.05	1.50	-89.99	90.00	86.17	3.84	23.465	
700.00	700.00	700.00	700.00	2.28	2.28	-89.05	1.50	-89.99	90.00	85.45	4.55	19.770	
800.00	800.00	800.00	800.00	2.63	2.63	-89.05	1.50	-89.99	90.00	84.73	5.27	17.080	
900.00	899.99	899.99	899.99	2.98	2.99	89.88	1.50	-89.99	89.99	84.02	5.97	15.077	
907.02	907.01	907.01	907.01	3.00	3.02	90.00	1.50	-89.99	89.99	83.97	6.02	14.957 CC	
1,000.00	999.91	999.91	999.91	3.31	3.35	92.37	1.50	-89.99	90.07	83.41	6.65	13.534	
1,100.00	1,099.69	1,099.69	1,099.69	3.64	3.71	96.49	1.50	-89.99	90.57	83.23	7.35	12.329 ES	
1,200.00	1,199.27	1,199.27	1,199.27	3.98	4.07	102.12	1.50	-89.99	92.06	84.02	8.04	11.447	
1,300.00	1,298.57	1,298.57	1,298.57	4.32	4.42	108.96	1.50	-89.99	95.24	86.50	8.74	10.893	
1,400.00	1,397.54	1,397.54	1,397.54	4.67	4.78	116.55	1.50	-89.99	100.85	91.41	9.45	10.677	
1,500.00	1,496.09	1,496.09	1,496.09	5.02	5.13	124.31	1.50	-89.99	109.54	99.39	10.15	10.793	
1,600.00	1,594.16	1,594.16	1,594.16	5.38	5.48	131.70	1.50	-89.99	121.73	110.87	10.85	11.218	
1,700.00	1,691.70	1,691.70	1,691.70	5.75	5.83	138.35	1.50	-89.99	137.56	126.01	11.55	11.909	
1,743.51	1,733.95	1,733.95	1,733.95	5.91	5.98	140.96	1.50	-89.99	145.58	133.73	11.85	12.281	
1,800.00	1,788.72	1,788.72	1,788.72	6.12	6.18	144.11	1.50	-89.99	156.67	144.43	12.25	12.794	
1,900.00	1,885.68	1,885.68	1,885.68	6.49	6.53	148.71	1.50	-89.99	177.24	164.31	12.94	13.701	
2,000.00	1,982.65	1,982.65	1,982.65	6.87	6.87	152.35	1.50	-89.99	198.70	185.07	13.63	14.581	
2,100.00	2,079.61	2,079.61	2,079.61	7.26	7.22	155.28	1.50	-89.99	220.77	206.46	14.32	15.419	
2,200.00	2,176.58	2,176.58	2,176.58	7.64	7.57	157.68	1.50	-89.99	243.31	228.30	15.01	16.210	
2,300.00	2,273.54	2,273.54	2,273.54	8.03	7.92	159.67	1.50	-89.99	266.18	250.47	15.70	16.952	
2,400.00	2,370.51	2,370.51	2,370.51	8.42	8.26	161.35	1.50	-89.99	289.30	272.91	16.40	17.646	
2,500.00	2,467.47	2,467.47	2,467.47	8.81	8.61	162.78	1.50	-89.99	312.64	295.55	17.09	18.294	
2,600.00	2,564.44	2,570.63	2,570.63	9.20	8.97	164.07	0.86	-89.88	335.53	317.72	17.81	18.843	
2,700.00	2,661.40	2,678.03	2,677.97	9.59	9.32	165.22	-2.59	-89.30	355.99	337.47	18.52	19.221	
2,800.00	2,758.37	2,779.14	2,778.93	9.99	9.65	166.15	-7.94	-88.39	374.47	355.26	19.20	19.500	
2,900.00	2,855.33	2,877.28	2,876.92	10.39	9.97	166.98	-13.25	-87.49	392.91	373.03	19.88	19.766	
3,000.00	2,952.30	2,975.41	2,974.91	10.78	10.30	167.73	-18.57	-86.60	411.42	390.86	20.56	20.015	
3,100.00	3,049.26	3,073.55	3,072.89	11.18	10.62	168.41	-23.89	-85.70	429.99	408.76	21.24	20.249	
3,200.00	3,146.23	3,171.68	3,170.88	11.58	10.95	169.04	-29.21	-84.80	448.62	426.71	21.92	20.470	
3,300.00	3,243.19	3,269.82	3,268.86	11.98	11.28	169.62	-34.52	-83.90	467.30	444.70	22.60	20.677	
3,400.00	3,340.16	3,367.95	3,366.85	12.38	11.61	170.16	-39.84	-83.00	486.02	462.74	23.28	20.873	
3,500.00	3,437.12	3,466.09	3,464.84	12.78	11.94	170.65	-45.16	-82.10	504.78	480.81	23.97	21.057	
3,600.00	3,534.09	3,564.22	3,562.82	13.18	12.27	171.11	-50.48	-81.20	523.57	498.91	24.66	21.232	
3,700.00	3,631.05	3,662.36	3,660.81	13.58	12.61	171.54	-55.79	-80.30	542.40	517.05	25.35	21.397	
3,800.00	3,728.02	3,760.49	3,758.80	13.98	12.94	171.94	-61.11	-79.40	561.24	535.20	26.04	21.553	
3,900.00	3,824.98	3,849.83	3,848.03	14.38	13.25	172.27	-65.52	-78.65	580.62	553.94	26.69	21.758	
4,000.00	3,921.94	3,934.39	3,932.55	14.78	13.54	172.56	-67.91	-78.25	602.08	574.78	27.30	22.055	
4,100.00	4,018.91	4,020.76	4,018.91	15.19	13.84	172.82	-68.50	-78.15	625.66	597.74	27.92	22.409	
4,200.00	4,115.87	4,117.72	4,115.87	15.59	14.19	173.09	-68.50	-78.15	649.94	621.32	28.62	22.712	
4,300.00	4,212.84	4,214.69	4,212.84	15.99	14.53	173.34	-68.50	-78.15	674.23	644.91	29.31	23.001	
4,400.00	4,309.80	4,311.65	4,309.80	16.40	14.87	173.57	-68.50	-78.15	698.53	668.52	30.01	23.276	
4,500.00	4,406.77	4,408.61	4,406.77	16.80	15.21	173.79	-68.50	-78.15	722.84	692.13	30.71	23.539	
4,600.00	4,503.73	4,505.58	4,503.73	17.20	15.56	173.99	-68.50	-78.15	747.16	715.75	31.41	23.790	
4,700.00	4,600.70	4,602.54	4,600.70	17.61	15.90	174.18	-68.50	-78.15	771.49	739.38	32.11	24.030	
4,800.00	4,697.66	4,699.51	4,697.66	18.01	16.25	174.36	-68.50	-78.15	795.82	763.02	32.80	24.260	
4,900.00	4,794.63	4,796.47	4,794.63	18.42	16.59	174.53	-68.50	-78.15	820.17	786.66	33.50	24.480	
5,000.00	4,891.59	4,893.44	4,891.59	18.82	16.93	174.69	-68.50	-78.15	844.52	810.31	34.20	24.691	
5,100.00	4,988.56	4,990.40	4,988.56	19.23	17.28	174.84	-68.50	-78.15	868.87	833.97	34.90	24.894	
10,300.00	7,289.00	11,353.81	8,494.00	42.80	45.25	-132.41	-174.16	3,018.88	1,786.83	1,714.19	72.65	24.597	
10,400.00	7,289.00	11,453.81	8,494.00	43.68	46.09	-132.41	-173.43	3,118.88	1,786.84	1,712.86	73.98	24.153	
10,500.00	7,289.00	11,553.81	8,494.00	44.57	46.96	-132.41	-172.69	3,218.87	1,786.85	1,711.52	75.33	23.720	
10,600.00	7,289.00	11,653.81	8,494.00	45.47	47.83	-132.41	-171.96	3,318.87	1,786.85	1,710.16	76.70	23.298	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
10,700.00	7,289.00	11,753.81	8,494.00	46.38	48.71	-132.40	-171.22	3,418.87	1,786.86	1,708.78	78.08	22.885			
10,800.00	7,289.00	11,853.81	8,494.00	47.30	49.60	-132.40	-170.49	3,518.87	1,786.86	1,707.39	79.48	22.483			
10,900.00	7,289.00	11,953.81	8,494.00	48.23	50.50	-132.40	-169.76	3,618.86	1,786.87	1,705.98	80.89	22.091			
11,000.00	7,289.00	12,053.81	8,494.00	49.16	51.41	-132.40	-169.02	3,718.86	1,786.88	1,704.57	82.31	21.709			
11,100.00	7,289.00	12,153.81	8,494.00	50.11	52.33	-132.40	-168.29	3,818.86	1,786.88	1,703.14	83.75	21.337			
11,200.00	7,289.00	12,253.81	8,494.00	51.06	53.25	-132.40	-167.55	3,918.86	1,786.89	1,701.69	85.19	20.974			
11,300.00	7,289.00	12,353.81	8,494.00	52.02	54.19	-132.40	-166.82	4,018.85	1,786.89	1,700.24	86.65	20.621			
11,400.00	7,289.00	12,453.81	8,494.00	52.98	55.13	-132.40	-166.09	4,118.85	1,786.90	1,698.78	88.12	20.277			
11,500.00	7,289.00	12,553.81	8,494.00	53.95	56.07	-132.40	-165.35	4,218.85	1,786.91	1,697.30	89.61	19.942			
11,600.00	7,289.00	12,653.81	8,494.00	54.93	57.03	-132.40	-164.62	4,318.84	1,786.91	1,695.82	91.10	19.616			
11,700.00	7,289.00	12,753.81	8,494.00	55.91	57.99	-132.40	-163.88	4,418.84	1,786.92	1,694.32	92.60	19.298			
11,800.00	7,289.00	12,853.81	8,494.00	56.90	58.95	-132.40	-163.15	4,518.84	1,786.92	1,692.82	94.10	18.989			
11,900.00	7,289.00	12,953.81	8,494.00	57.89	59.92	-132.40	-162.41	4,618.84	1,786.93	1,691.31	95.62	18.688			
12,000.00	7,289.00	13,053.81	8,494.00	58.89	60.90	-132.40	-161.68	4,718.83	1,786.94	1,689.79	97.15	18.394			
12,100.00	7,289.00	13,153.81	8,494.00	59.89	61.88	-132.40	-160.95	4,818.83	1,786.94	1,688.26	98.68	18.109			
12,200.00	7,289.00	13,253.81	8,494.00	60.90	62.86	-132.40	-160.21	4,918.83	1,786.95	1,686.73	100.22	17.831			
12,300.00	7,289.00	13,353.81	8,494.00	61.91	63.85	-132.40	-159.48	5,018.83	1,786.95	1,685.19	101.76	17.560			
12,400.00	7,289.00	13,453.81	8,494.00	62.92	64.85	-132.40	-158.74	5,118.82	1,786.96	1,683.64	103.32	17.296			
12,500.00	7,289.00	13,553.81	8,494.00	63.94	65.84	-132.40	-158.01	5,218.82	1,786.97	1,682.09	104.88	17.039			
12,600.00	7,289.00	13,653.81	8,494.00	64.96	66.85	-132.40	-157.27	5,318.82	1,786.97	1,680.53	106.44	16.788			
12,700.00	7,289.00	13,753.81	8,494.00	65.98	67.85	-132.40	-156.54	5,418.82	1,786.98	1,678.96	108.01	16.544			
12,800.00	7,289.00	13,853.81	8,494.00	67.01	68.86	-132.40	-155.81	5,518.81	1,786.98	1,677.39	109.59	16.306			
12,900.00	7,289.00	13,953.81	8,494.00	68.04	69.87	-132.40	-155.07	5,618.81	1,786.99	1,675.82	111.17	16.074			
13,000.00	7,289.00	14,053.81	8,494.00	69.08	70.89	-132.40	-154.34	5,718.81	1,787.00	1,674.23	112.76	15.848			
13,100.00	7,289.00	14,153.81	8,494.00	70.11	71.91	-132.40	-153.60	5,818.80	1,787.00	1,672.65	114.35	15.627			
13,200.00	7,289.00	14,253.81	8,494.00	71.15	72.93	-132.40	-152.87	5,918.80	1,787.01	1,671.06	115.95	15.412			
13,300.00	7,289.00	14,353.81	8,494.00	72.19	73.96	-132.40	-152.14	6,018.80	1,787.01	1,669.46	117.55	15.202			
13,400.00	7,289.00	14,453.81	8,494.00	73.24	74.99	-132.40	-151.40	6,118.80	1,787.02	1,667.86	119.16	14.997			
13,500.00	7,289.00	14,553.81	8,494.00	74.28	76.02	-132.40	-150.67	6,218.79	1,787.03	1,666.26	120.77	14.797			
13,600.00	7,289.00	14,653.81	8,494.00	75.33	77.05	-132.40	-149.93	6,318.79	1,787.03	1,664.65	122.38	14.602			
13,700.00	7,289.00	14,753.81	8,494.00	76.38	78.09	-132.40	-149.20	6,418.79	1,787.04	1,663.04	124.00	14.412			
13,800.00	7,289.00	14,853.81	8,494.00	77.43	79.12	-132.40	-148.46	6,518.79	1,787.04	1,661.42	125.62	14.226			
13,900.00	7,289.00	14,953.81	8,494.00	78.49	80.16	-132.40	-147.73	6,618.78	1,787.05	1,659.80	127.25	14.044			
14,000.00	7,289.00	15,053.81	8,494.00	79.54	81.21	-132.40	-147.00	6,718.78	1,787.06	1,658.18	128.87	13.867			
14,100.00	7,289.00	15,153.81	8,494.00	80.60	82.25	-132.40	-146.26	6,818.78	1,787.06	1,656.56	130.51	13.693			
14,200.00	7,289.00	15,253.81	8,494.00	81.66	83.30	-132.40	-145.53	6,918.77	1,787.07	1,654.93	132.14	13.524			
14,300.00	7,289.00	15,353.81	8,494.00	82.72	84.35	-132.40	-144.79	7,018.77	1,787.07	1,653.30	133.78	13.358			
14,400.00	7,289.00	15,453.81	8,494.00	83.78	85.40	-132.40	-144.06	7,118.77	1,787.08	1,651.66	135.42	13.197			
14,500.00	7,289.00	15,553.81	8,494.00	84.85	86.45	-132.40	-143.33	7,218.77	1,787.09	1,650.02	137.06	13.038			
14,600.00	7,289.00	15,653.81	8,494.00	85.91	87.50	-132.40	-142.59	7,318.76	1,787.09	1,648.38	138.71	12.884			
14,700.00	7,289.00	15,753.81	8,494.00	86.98	88.56	-132.40	-141.86	7,418.76	1,787.10	1,646.74	140.36	12.732			
14,800.00	7,289.00	15,853.81	8,494.00	88.05	89.62	-132.40	-141.12	7,518.76	1,787.10	1,645.10	142.01	12.584			
14,900.00	7,289.00	15,953.81	8,494.00	89.12	90.67	-132.40	-140.39	7,618.76	1,787.11	1,643.45	143.66	12.440			
15,000.00	7,289.00	16,053.81	8,494.00	90.19	91.73	-132.40	-139.65	7,718.75	1,787.12	1,641.80	145.32	12.298			
15,100.00	7,289.00	16,153.81	8,494.00	91.26	92.80	-132.40	-138.92	7,818.75	1,787.12	1,640.15	146.98	12.159			
15,200.00	7,289.00	16,253.81	8,494.00	92.34	93.86	-132.40	-138.19	7,918.75	1,787.13	1,638.49	148.64	12.023			
15,300.00	7,289.00	16,353.81	8,494.00	93.41	94.92	-132.40	-137.45	8,018.75	1,787.13	1,636.83	150.30	11.890			
15,400.00	7,289.00	16,453.81	8,494.00	94.49	95.99	-132.40	-136.72	8,118.74	1,787.14	1,635.18	151.97	11.760			
15,500.00	7,289.00	16,553.81	8,494.00	95.56	97.06	-132.40	-135.98	8,218.74	1,787.15	1,633.51	153.63	11.633			
15,600.00	7,289.00	16,653.81	8,494.00	96.64	98.13	-132.40	-135.25	8,318.74	1,787.15	1,631.85	155.30	11.508			
15,700.00	7,289.00	16,753.81	8,494.00	97.72	99.20	-132.40	-134.51	8,418.73	1,787.16	1,630.19	156.97	11.385			
15,800.00	7,289.00	16,853.81	8,494.00	98.80	100.27	-132.40	-133.78	8,518.73	1,787.16	1,628.52	158.64	11.265			

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,900.00	7,289.00	16,953.81	8,494.00	99.88	101.34	-132.40	-133.05	8,618.73	1,787.17	1,626.85	160.32	11.148	
16,000.00	7,289.00	17,053.81	8,494.00	100.96	102.41	-132.40	-132.31	8,718.73	1,787.18	1,625.18	161.99	11.032	
16,100.00	7,289.00	17,153.81	8,494.00	102.05	103.48	-132.40	-131.58	8,818.72	1,787.18	1,623.51	163.67	10.919	
16,200.00	7,289.00	17,253.81	8,494.00	103.13	104.56	-132.40	-130.84	8,918.72	1,787.19	1,621.84	165.35	10.808	
16,300.00	7,289.00	17,353.81	8,494.00	104.21	105.64	-132.40	-130.11	9,018.72	1,787.20	1,620.16	167.03	10.700	
16,400.00	7,289.00	17,453.81	8,494.00	105.30	106.71	-132.40	-129.38	9,118.72	1,787.20	1,618.49	168.71	10.593	
16,500.00	7,289.00	17,553.81	8,494.00	106.39	107.79	-132.39	-128.64	9,218.71	1,787.21	1,616.81	170.40	10.488	
16,600.00	7,289.00	17,653.81	8,494.00	107.47	108.87	-132.39	-127.91	9,318.71	1,787.21	1,615.13	172.08	10.386	
16,700.00	7,289.00	17,753.81	8,494.00	108.56	109.95	-132.39	-127.17	9,418.71	1,787.22	1,613.45	173.77	10.285	
16,800.00	7,289.00	17,853.81	8,494.00	109.65	111.03	-132.39	-126.44	9,518.70	1,787.23	1,611.77	175.46	10.186	
16,900.00	7,289.00	17,953.81	8,494.00	110.74	112.11	-132.39	-125.70	9,618.70	1,787.23	1,610.08	177.15	10.089	
17,000.00	7,289.00	18,053.81	8,494.00	111.83	113.19	-132.39	-124.97	9,718.70	1,787.24	1,608.40	178.84	9.994	
17,100.00	7,289.00	18,153.81	8,494.00	112.92	114.27	-132.39	-124.24	9,818.70	1,787.24	1,606.71	180.53	9.900	
17,200.00	7,289.00	18,253.81	8,494.00	114.01	115.36	-132.39	-123.50	9,918.69	1,787.25	1,605.03	182.22	9.808	
17,300.00	7,289.00	18,353.81	8,494.00	115.10	116.44	-132.39	-122.77	10,018.69	1,787.26	1,603.34	183.92	9.718	
17,400.00	7,289.00	18,453.81	8,494.00	116.19	117.53	-132.39	-122.03	10,118.69	1,787.26	1,601.65	185.61	9.629	
17,500.00	7,289.00	18,553.81	8,494.00	117.28	118.61	-132.39	-121.30	10,218.69	1,787.27	1,599.96	187.31	9.542	
17,600.00	7,289.00	18,653.81	8,494.00	118.37	119.70	-132.39	-120.57	10,318.68	1,787.27	1,598.27	189.00	9.456	
17,700.00	7,289.00	18,753.81	8,494.00	119.47	120.79	-132.39	-119.83	10,418.68	1,787.28	1,596.58	190.70	9.372	
17,800.00	7,289.00	18,853.81	8,494.00	120.56	121.87	-132.39	-119.10	10,518.68	1,787.29	1,594.88	192.40	9.289	
17,900.00	7,289.00	18,953.81	8,494.00	121.66	122.96	-132.39	-118.36	10,618.68	1,787.29	1,593.19	194.10	9.208	
18,000.00	7,289.00	19,053.81	8,494.00	122.75	124.05	-132.39	-117.63	10,718.67	1,787.30	1,591.49	195.80	9.128	
18,100.00	7,289.00	19,153.81	8,494.00	123.85	125.14	-132.39	-116.89	10,818.67	1,787.30	1,589.80	197.51	9.049	
18,200.00	7,289.00	19,253.81	8,494.00	124.94	126.23	-132.39	-116.16	10,918.67	1,787.31	1,588.10	199.21	8.972	
18,274.81	7,289.00	19,328.62	8,494.00	125.76	127.05	-132.39	-115.61	10,993.48	1,787.31	1,586.83	200.48	8.915 SF	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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	Offset	Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
400.00	400.00	400.00	400.00	1.20	1.20	-89.05	1.00	-60.00	60.01	57.61	2.40	24.985	
500.00	500.00	500.00	500.00	1.56	1.56	-89.05	1.00	-60.00	60.01	56.89	3.12	19.241	
600.00	600.00	600.00	600.00	1.92	1.92	-89.05	1.00	-60.00	60.01	56.17	3.84	15.645	
700.00	700.00	700.00	700.00	2.28	2.28	-89.05	1.00	-60.00	60.01	55.46	4.55	13.181	
800.00	800.00	800.00	800.00	2.63	2.63	-89.05	1.00	-60.00	60.01	54.74	5.27	11.388	
900.00	899.99	899.97	899.96	2.98	2.98	89.04	-0.31	-60.04	60.01	54.06	5.95	10.084	
1,000.00	999.91	999.95	999.86	3.31	3.31	89.05	-4.23	-60.17	60.00	53.40	6.61	9.082	
1,100.00	1,099.69	1,099.92	1,099.62	3.64	3.64	89.05	-10.76	-60.38	60.00	52.73	7.27	8.248	
1,200.00	1,199.27	1,199.90	1,199.17	3.98	3.98	89.05	-19.90	-60.68	59.99	52.04	7.95	7.544	
1,300.00	1,298.57	1,299.88	1,298.45	4.32	4.32	89.05	-31.64	-61.07	59.98	51.34	8.64	6.942	
1,400.00	1,397.54	1,399.85	1,397.39	4.67	4.67	89.06	-45.98	-61.53	59.97	50.64	9.34	6.422	
1,500.00	1,496.09	1,499.83	1,495.92	5.02	5.02	89.06	-62.90	-62.09	59.96	49.92	10.05	5.969	
1,600.00	1,594.16	1,599.81	1,593.98	5.38	5.38	89.10	-82.35	-62.72	59.95	49.18	10.76	5.569	
1,683.27	1,675.42	1,683.07	1,675.50	5.69	5.68	90.32	-99.29	-63.27	59.93	48.56	11.37	5.270 CC	
1,700.00	1,691.70	1,699.79	1,691.87	5.75	5.75	90.77	-102.69	-63.38	59.93	48.44	11.49	5.215	
1,743.51	1,733.95	1,743.27	1,734.44	5.91	5.91	92.28	-111.54	-63.67	59.97	48.15	11.81	5.076	
1,800.00	1,788.72	1,799.71	1,789.70	6.12	6.11	94.54	-123.02	-64.05	60.10	47.87	12.23	4.915	
1,900.00	1,885.68	1,899.62	1,887.52	6.49	6.48	98.50	-143.35	-64.71	60.56	47.59	12.97	4.669 ES	
2,000.00	1,982.65	1,999.53	1,985.34	6.87	6.86	102.38	-163.68	-65.37	61.31	47.60	13.71	4.471	
2,100.00	2,079.61	2,099.44	2,083.16	7.26	7.23	106.16	-184.01	-66.04	62.33	47.88	14.46	4.312	
2,200.00	2,176.58	2,199.36	2,180.98	7.64	7.61	109.79	-204.34	-66.70	63.62	48.42	15.20	4.186	
2,300.00	2,273.54	2,299.27	2,278.80	8.03	7.99	113.27	-224.67	-67.36	65.15	49.21	15.94	4.087	
2,400.00	2,370.51	2,399.18	2,376.62	8.42	8.37	116.58	-244.99	-68.03	66.90	50.23	16.67	4.012	
2,500.00	2,467.47	2,499.09	2,474.44	8.81	8.75	119.71	-265.32	-68.69	68.87	51.47	17.41	3.956	
2,600.00	2,564.44	2,599.00	2,572.25	9.20	9.13	122.66	-285.65	-69.35	71.04	52.90	18.14	3.916	
2,700.00	2,661.40	2,698.91	2,670.07	9.59	9.51	125.42	-305.98	-70.02	73.38	54.51	18.87	3.890	
2,800.00	2,758.37	2,798.83	2,767.89	9.99	9.90	128.01	-326.31	-70.68	75.88	56.29	19.59	3.873	
2,900.00	2,855.33	2,898.74	2,865.71	10.39	10.28	130.43	-346.64	-71.34	78.53	58.21	20.31	3.866	
3,000.00	2,952.30	2,998.65	2,963.53	10.78	10.67	132.69	-366.97	-72.01	81.30	60.27	21.03	3.865 SF	
3,100.00	3,049.26	3,098.56	3,061.35	11.18	11.05	134.80	-387.29	-72.67	84.20	62.44	21.75	3.871	
3,200.00	3,146.23	3,198.47	3,159.17	11.58	11.44	136.76	-407.62	-73.33	87.20	64.73	22.47	3.881	
3,300.00	3,243.19	3,298.39	3,256.99	11.98	11.83	138.59	-427.95	-74.00	90.29	67.11	23.19	3.894	
3,400.00	3,340.16	3,398.30	3,354.81	12.38	12.22	140.30	-448.28	-74.66	93.48	69.57	23.90	3.911	
3,500.00	3,437.12	3,498.21	3,452.63	12.78	12.60	141.90	-468.61	-75.32	96.74	72.12	24.62	3.930	
3,600.00	3,534.09	3,598.12	3,550.45	13.18	12.99	143.39	-488.94	-75.99	100.07	74.73	25.33	3.950	
3,700.00	3,631.05	3,698.03	3,648.27	13.58	13.38	144.78	-509.27	-76.65	103.46	77.41	26.05	3.972	
3,800.00	3,728.02	3,797.94	3,746.09	13.98	13.77	146.08	-529.60	-77.31	106.91	80.15	26.76	3.995	
3,900.00	3,824.98	3,897.86	3,843.91	14.38	14.16	147.31	-549.92	-77.98	110.41	82.94	27.48	4.018	
4,000.00	3,921.94	3,997.77	3,941.73	14.78	14.55	148.45	-570.25	-78.64	113.96	85.77	28.19	4.042	
4,100.00	4,018.91	4,097.68	4,039.55	15.19	14.94	149.53	-590.58	-79.30	117.56	88.65	28.91	4.066	
4,200.00	4,115.87	4,197.59	4,137.37	15.59	15.33	150.54	-610.91	-79.97	121.19	91.56	29.63	4.091	
4,300.00	4,212.84	4,297.50	4,235.19	15.99	15.72	151.50	-631.24	-80.63	124.86	94.51	30.34	4.115	
4,400.00	4,309.80	4,397.41	4,333.01	16.40	16.11	152.39	-651.57	-81.29	128.55	97.50	31.06	4.139	
4,500.00	4,406.77	4,497.33	4,430.83	16.80	16.50	153.24	-671.90	-81.96	132.28	100.51	31.78	4.163	
4,600.00	4,503.73	4,597.24	4,528.65	17.20	16.89	154.04	-692.22	-82.62	136.04	103.55	32.49	4.187	
4,700.00	4,600.70	4,697.15	4,626.47	17.61	17.28	154.80	-712.55	-83.28	139.82	106.61	33.21	4.210	
4,800.00	4,697.66	4,797.06	4,724.29	18.01	17.67	155.52	-732.88	-83.95	143.63	109.70	33.93	4.233	
4,900.00	4,794.63	4,896.97	4,822.11	18.42	18.06	156.20	-753.21	-84.61	147.46	112.81	34.65	4.256	
5,000.00	4,891.59	4,996.89	4,919.93	18.82	18.45	156.85	-773.54	-85.27	151.30	115.94	35.37	4.278	
5,100.00	4,988.56	5,096.80	5,017.74	19.23	18.84	157.46	-793.87	-85.94	155.17	119.08	36.09	4.300	
5,200.00	5,085.52	5,196.71	5,115.56	19.63	19.23	158.05	-814.20	-86.60	159.05	122.24	36.80	4.321	
5,300.00	5,182.49	5,296.62	5,213.38	20.03	19.62	158.60	-834.52	-87.26	162.95	125.42	37.52	4.342	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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	Offset	Semi Major Axis		Offset Wellbore Centre		Distance						Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,400.00	5,279.45	5,396.53	5,311.20	20.44	20.02	159.13	-854.85	-87.93	166.86	128.61	38.24	4.363		
5,500.00	5,376.42	5,496.44	5,409.02	20.84	20.41	159.64	-875.18	-88.59	170.78	131.82	38.96	4.383		
5,600.00	5,473.38	5,596.36	5,506.84	21.25	20.80	160.12	-895.51	-89.25	174.72	135.04	39.69	4.403		
5,700.00	5,570.35	5,696.27	5,604.66	21.66	21.19	160.59	-915.84	-89.92	178.67	138.27	40.41	4.422		
5,800.00	5,667.31	5,796.18	5,702.48	22.06	21.58	161.03	-936.17	-90.58	182.63	141.51	41.13	4.441		
5,900.00	5,764.27	5,896.09	5,800.30	22.47	21.97	161.45	-956.50	-91.24	186.61	144.76	41.85	4.459		
6,000.00	5,861.24	5,996.00	5,898.12	22.87	22.37	161.86	-976.83	-91.91	190.59	148.02	42.57	4.477		
6,100.00	5,958.20	6,095.92	5,995.94	23.28	22.76	162.25	-997.15	-92.57	194.58	151.28	43.29	4.494		
6,200.00	6,055.17	6,195.83	6,093.76	23.68	23.15	162.62	-1,017.48	-93.23	198.58	154.56	44.02	4.512		
6,300.00	6,152.13	6,295.74	6,191.58	24.09	23.54	162.98	-1,037.81	-93.90	202.58	157.85	44.74	4.528		
6,400.00	6,249.10	6,395.65	6,289.40	24.50	23.93	163.32	-1,058.14	-94.56	206.60	161.14	45.46	4.545		
6,500.00	6,346.06	6,495.56	6,387.22	24.90	24.33	163.66	-1,078.47	-95.23	210.62	164.44	46.18	4.561		
6,600.00	6,443.03	6,595.47	6,485.04	25.31	24.72	163.97	-1,098.80	-95.89	214.65	167.74	46.91	4.576		
6,700.00	6,539.99	6,695.39	6,582.86	25.71	25.11	164.28	-1,119.13	-96.55	218.69	171.06	47.63	4.591		
6,800.00	6,636.96	6,795.30	6,680.68	26.12	25.50	164.58	-1,139.45	-97.22	222.73	174.37	48.35	4.606		
6,893.78	6,727.89	6,889.00	6,772.41	26.50	25.87	164.85	-1,158.52	-97.84	226.52	177.49	49.03	4.620		
6,900.00	6,733.92	6,895.21	6,778.50	26.53	25.89	167.35	-1,159.78	-97.88	226.78	177.71	49.08	4.621		
6,950.00	6,782.34	6,945.08	6,827.32	26.73	26.09	-173.86	-1,169.93	-98.21	229.42	179.96	49.46	4.639		
7,000.00	6,830.39	6,994.53	6,875.74	26.93	26.28	-159.59	-1,179.99	-98.54	233.14	183.27	49.87	4.675		
7,050.00	6,877.70	7,043.19	6,923.38	27.12	26.48	-150.39	-1,189.89	-98.86	238.24	187.93	50.32	4.735		
7,100.00	6,923.92	7,090.68	6,969.87	27.30	26.66	-145.10	-1,199.55	-99.18	245.19	194.39	50.80	4.827		
7,150.00	6,968.68	7,136.64	7,014.88	27.47	26.84	-142.43	-1,208.91	-99.48	254.53	203.21	51.32	4.960		
7,200.00	7,011.65	7,180.73	7,058.04	27.63	27.02	-141.37	-1,217.88	-99.77	266.82	214.95	51.86	5.145		
7,250.00	7,052.50	7,222.60	7,099.04	27.78	27.18	-141.19	-1,226.40	-100.05	282.54	230.12	52.42	5.390		
7,300.00	7,090.93	7,261.95	7,137.56	27.91	27.33	-141.38	-1,234.40	-100.31	302.04	249.07	52.98	5.702		
7,350.00	7,126.64	7,298.46	7,173.30	28.04	27.48	-141.57	-1,241.83	-100.56	325.48	271.98	53.50	6.083		
7,400.00	7,159.35	7,331.86	7,206.01	28.15	27.61	-141.48	-1,248.63	-100.78	352.82	298.84	53.98	6.536		
7,450.00	7,188.82	7,361.91	7,235.42	28.24	27.73	-140.89	-1,254.74	-100.98	383.90	329.49	54.41	7.055		
7,500.00	7,214.82	7,388.36	7,261.32	28.33	27.83	-139.60	-1,260.12	-101.15	418.42	363.64	54.78	7.638		
7,550.00	7,237.16	7,411.01	7,283.50	28.40	27.92	-137.39	-1,264.73	-101.30	456.01	400.92	55.09	8.278		
7,600.00	7,255.67	7,429.71	7,301.80	28.46	27.99	-133.95	-1,268.53	-101.43	496.24	440.91	55.34	8.968		
7,650.00	7,270.20	7,444.29	7,316.08	28.52	28.05	-128.92	-1,271.50	-101.52	538.69	483.15	55.53	9.700		
7,700.00	7,280.65	7,454.66	7,326.23	28.57	28.09	-121.85	-1,273.61	-101.59	582.87	527.19	55.68	10.468		
7,750.00	7,286.93	7,460.73	7,332.18	28.62	28.12	-112.33	-1,274.85	-101.63	628.35	572.56	55.79	11.263		
7,799.47	7,289.00	7,462.46	7,333.87	28.66	28.12	-100.55	-1,275.20	-101.64	674.17	618.31	55.86	12.070		
7,900.00	7,289.00	7,461.65	7,333.07	28.76	28.12	-100.35	-1,275.03	-101.64	768.69	712.75	55.94	13.741		
8,000.00	7,289.00	7,460.83	7,332.28	28.89	28.12	-100.17	-1,274.87	-101.63	864.05	808.06	56.00	15.430		
8,100.00	7,289.00	7,460.02	7,331.48	29.06	28.11	-99.98	-1,274.70	-101.63	960.36	904.32	56.04	17.137		
8,200.00	7,289.00	7,459.21	7,330.69	29.28	28.11	-99.79	-1,274.54	-101.62	1,057.36	1,001.28	56.07	18.856		
8,300.00	7,289.00	7,458.40	7,329.89	29.55	28.11	-99.60	-1,274.37	-101.62	1,154.86	1,098.76	56.10	20.585		
11,400.00	7,289.00	12,634.96	8,494.00	52.98	55.74	180.00	-1,485.52	4,128.54	1,205.00	1,156.10	48.90	24.644		
11,500.00	7,289.00	12,734.96	8,494.00	53.95	56.68	180.00	-1,484.79	4,228.54	1,205.00	1,155.36	49.64	24.272		
11,600.00	7,289.00	12,834.96	8,494.00	54.93	57.62	180.00	-1,484.07	4,328.53	1,205.00	1,154.60	50.40	23.910		
11,700.00	7,289.00	12,934.96	8,494.00	55.91	58.57	180.00	-1,483.34	4,428.53	1,205.00	1,153.84	51.16	23.555		
11,800.00	7,289.00	13,034.96	8,494.00	56.90	59.53	180.00	-1,482.62	4,528.53	1,205.00	1,153.08	51.92	23.209		
11,900.00	7,289.00	13,134.96	8,494.00	57.89	60.49	180.00	-1,481.89	4,628.53	1,205.00	1,152.31	52.69	22.871		
12,000.00	7,289.00	13,234.96	8,494.00	58.89	61.46	180.00	-1,481.16	4,728.52	1,205.00	1,151.54	53.46	22.541		
12,100.00	7,289.00	13,334.96	8,494.00	59.89	62.43	180.00	-1,480.44	4,828.52	1,205.00	1,150.76	54.24	22.218		
12,200.00	7,289.00	13,434.96	8,494.00	60.90	63.41	180.00	-1,479.71	4,928.52	1,205.00	1,149.98	55.02	21.903		
12,300.00	7,289.00	13,534.96	8,494.00	61.91	64.39	180.00	-1,478.98	5,028.51	1,205.00	1,149.20	55.80	21.595		
12,400.00	7,289.00	13,634.96	8,494.00	62.92	65.38	180.00	-1,478.26	5,128.51	1,205.00	1,148.41	56.59	21.294		
12,500.00	7,289.00	13,734.96	8,494.00	63.94	66.37	180.00	-1,477.53	5,228.51	1,205.00	1,147.62	57.38	21.001		

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
12,600.00	7,289.00	13,834.96	8,494.00	64.96	67.36	180.00	-1,476.81	5,328.51	1,205.00	1,146.83	58.17	20.714	
12,700.00	7,289.00	13,934.96	8,494.00	65.98	68.36	180.00	-1,476.08	5,428.50	1,205.00	1,146.03	58.97	20.434	
12,800.00	7,289.00	14,034.96	8,494.00	67.01	69.37	180.00	-1,475.35	5,528.50	1,205.00	1,145.23	59.77	20.160	
12,900.00	7,289.00	14,134.96	8,494.00	68.04	70.37	180.00	-1,474.63	5,628.50	1,205.00	1,144.42	60.58	19.892	
13,000.00	7,289.00	14,234.96	8,494.00	69.08	71.38	180.00	-1,473.90	5,728.50	1,205.00	1,143.62	61.38	19.630	
13,100.00	7,289.00	14,334.96	8,494.00	70.11	72.40	180.00	-1,473.18	5,828.49	1,205.00	1,142.81	62.19	19.375	
13,200.00	7,289.00	14,434.96	8,494.00	71.15	73.41	180.00	-1,472.45	5,928.49	1,205.00	1,141.99	63.01	19.125	
13,300.00	7,289.00	14,534.96	8,494.00	72.19	74.43	180.00	-1,471.72	6,028.49	1,205.00	1,141.18	63.82	18.881	
13,400.00	7,289.00	14,634.96	8,494.00	73.24	75.46	180.00	-1,471.00	6,128.49	1,205.00	1,140.36	64.64	18.642	
13,500.00	7,289.00	14,734.96	8,494.00	74.28	76.48	180.00	-1,470.27	6,228.48	1,205.00	1,139.54	65.46	18.408	
13,600.00	7,289.00	14,834.96	8,494.00	75.33	77.51	180.00	-1,469.55	6,328.48	1,205.00	1,138.72	66.28	18.180	
13,700.00	7,289.00	14,934.96	8,494.00	76.38	78.54	180.00	-1,468.82	6,428.48	1,205.00	1,137.89	67.11	17.956	
13,800.00	7,289.00	15,034.96	8,494.00	77.43	79.57	180.00	-1,468.09	6,528.48	1,205.00	1,137.07	67.93	17.738	
13,900.00	7,289.00	15,134.96	8,494.00	78.49	80.61	180.00	-1,467.37	6,628.47	1,205.00	1,136.24	68.76	17.524	
14,000.00	7,289.00	15,234.96	8,494.00	79.54	81.65	180.00	-1,466.64	6,728.47	1,205.00	1,135.41	69.59	17.315	
14,100.00	7,289.00	15,334.96	8,494.00	80.60	82.69	180.00	-1,465.91	6,828.47	1,205.00	1,134.57	70.43	17.110	
14,200.00	7,289.00	15,434.96	8,494.00	81.66	83.73	180.00	-1,465.19	6,928.46	1,205.00	1,133.74	71.26	16.910	
14,300.00	7,289.00	15,534.96	8,494.00	82.72	84.77	180.00	-1,464.46	7,028.46	1,205.00	1,132.90	72.10	16.714	
14,400.00	7,289.00	15,634.96	8,494.00	83.78	85.82	180.00	-1,463.74	7,128.46	1,205.00	1,132.06	72.94	16.521	
14,500.00	7,289.00	15,734.96	8,494.00	84.85	86.87	180.00	-1,463.01	7,228.46	1,205.00	1,131.22	73.78	16.333	
14,600.00	7,289.00	15,834.96	8,494.00	85.91	87.92	180.00	-1,462.28	7,328.45	1,205.00	1,130.38	74.62	16.149	
14,700.00	7,289.00	15,934.96	8,494.00	86.98	88.97	180.00	-1,461.56	7,428.45	1,205.00	1,129.54	75.46	15.969	
14,800.00	7,289.00	16,034.96	8,494.00	88.05	90.02	180.00	-1,460.83	7,528.45	1,205.00	1,128.70	76.30	15.792	
14,900.00	7,289.00	16,134.96	8,494.00	89.12	91.08	180.00	-1,460.11	7,628.45	1,205.00	1,127.85	77.15	15.619	
15,000.00	7,289.00	16,234.96	8,494.00	90.19	92.13	180.00	-1,459.38	7,728.44	1,205.00	1,127.00	78.00	15.449	
15,100.00	7,289.00	16,334.96	8,494.00	91.26	93.19	180.00	-1,458.65	7,828.44	1,205.00	1,126.15	78.85	15.283	
15,200.00	7,289.00	16,434.96	8,494.00	92.34	94.25	180.00	-1,457.93	7,928.44	1,205.00	1,125.30	79.70	15.120	
15,300.00	7,289.00	16,534.96	8,494.00	93.41	95.31	180.00	-1,457.20	8,028.44	1,205.00	1,124.45	80.55	14.960	
15,400.00	7,289.00	16,634.96	8,494.00	94.49	96.37	-180.00	-1,456.47	8,128.43	1,205.00	1,123.60	81.40	14.803	
15,500.00	7,289.00	16,734.96	8,494.00	95.56	97.44	-180.00	-1,455.75	8,228.43	1,205.00	1,122.75	82.25	14.650	
15,600.00	7,289.00	16,834.96	8,494.00	96.64	98.50	-180.00	-1,455.02	8,328.43	1,205.00	1,121.89	83.11	14.499	
15,700.00	7,289.00	16,934.96	8,494.00	97.72	99.57	-180.00	-1,454.30	8,428.42	1,205.00	1,121.04	83.96	14.351	
15,800.00	7,289.00	17,034.96	8,494.00	98.80	100.64	-180.00	-1,453.57	8,528.42	1,205.00	1,120.18	84.82	14.206	
15,900.00	7,289.00	17,134.96	8,494.00	99.88	101.71	-180.00	-1,452.84	8,628.42	1,205.00	1,119.32	85.68	14.064	
16,000.00	7,289.00	17,234.96	8,494.00	100.96	102.78	-180.00	-1,452.12	8,728.42	1,205.00	1,118.46	86.54	13.924	
16,100.00	7,289.00	17,334.96	8,494.00	102.05	103.85	-180.00	-1,451.39	8,828.41	1,205.00	1,117.60	87.40	13.787	
16,200.00	7,289.00	17,434.96	8,494.00	103.13	104.92	-180.00	-1,450.67	8,928.41	1,205.00	1,116.74	88.26	13.653	
16,300.00	7,289.00	17,534.96	8,494.00	104.21	105.99	-180.00	-1,449.94	9,028.41	1,205.00	1,115.88	89.12	13.521	
16,400.00	7,289.00	17,634.96	8,494.00	105.30	107.07	-180.00	-1,449.21	9,128.41	1,205.00	1,115.01	89.99	13.391	
16,500.00	7,289.00	17,734.96	8,494.00	106.39	108.14	-180.00	-1,448.49	9,228.40	1,205.00	1,114.15	90.85	13.264	
16,600.00	7,289.00	17,834.96	8,494.00	107.47	109.22	-180.00	-1,447.76	9,328.40	1,205.00	1,113.29	91.71	13.139	
16,700.00	7,289.00	17,934.96	8,494.00	108.56	110.29	-180.00	-1,447.04	9,428.40	1,205.00	1,112.42	92.58	13.016	
16,800.00	7,289.00	18,034.96	8,494.00	109.65	111.37	-180.00	-1,446.31	9,528.40	1,205.00	1,111.55	93.45	12.895	
16,900.00	7,289.00	18,134.96	8,494.00	110.74	112.45	-180.00	-1,445.58	9,628.39	1,205.00	1,110.69	94.31	12.777	
17,000.00	7,289.00	18,234.96	8,494.00	111.83	113.53	-180.00	-1,444.86	9,728.39	1,205.00	1,109.82	95.18	12.660	
17,100.00	7,289.00	18,334.96	8,494.00	112.92	114.61	-180.00	-1,444.13	9,828.39	1,205.00	1,108.95	96.05	12.545	
17,200.00	7,289.00	18,434.96	8,494.00	114.01	115.69	-180.00	-1,443.40	9,928.39	1,205.00	1,108.08	96.92	12.433	
17,300.00	7,289.00	18,534.96	8,494.00	115.10	116.77	-180.00	-1,442.68	10,028.38	1,205.00	1,107.21	97.79	12.322	
17,400.00	7,289.00	18,634.96	8,494.00	116.19	117.86	-180.00	-1,441.95	10,128.38	1,205.00	1,106.34	98.66	12.214	
17,500.00	7,289.00	18,734.96	8,494.00	117.28	118.94	-180.00	-1,441.23	10,228.38	1,205.00	1,105.47	99.53	12.107	
17,600.00	7,289.00	18,834.96	8,494.00	118.37	120.02	-180.00	-1,440.50	10,328.37	1,205.00	1,104.59	100.41	12.001	
17,700.00	7,289.00	18,934.96	8,494.00	119.47	121.11	-180.00	-1,439.77	10,428.37	1,205.00	1,103.72	101.28	11.898	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
17,800.00	7,289.00	19,034.96	8,494.00	120.56	122.19	-180.00	-1,439.05	10,528.37	1,205.00	1,102.85	102.15	11.796	
17,900.00	7,289.00	19,134.96	8,494.00	121.66	123.28	-180.00	-1,438.32	10,628.37	1,205.00	1,101.97	103.03	11.696	
18,000.00	7,289.00	19,234.96	8,494.00	122.75	124.37	-180.00	-1,437.60	10,728.36	1,205.00	1,101.10	103.90	11.598	
18,100.00	7,289.00	19,334.96	8,494.00	123.85	125.45	-180.00	-1,436.87	10,828.36	1,205.00	1,100.22	104.78	11.501	
18,200.00	7,289.00	19,434.96	8,494.00	124.94	126.54	-180.00	-1,436.14	10,928.36	1,205.00	1,099.35	105.65	11.405	
18,233.83	7,289.00	19,468.79	8,494.00	125.31	126.91	180.00	-1,435.90	10,962.19	1,205.00	1,099.05	105.95	11.374	
18,274.81	7,289.00	19,509.78	8,494.00	125.76	127.36	180.00	-1,435.60	11,003.17	1,205.00	1,098.69	106.31	11.335	



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
300.00	300.00	300.00	300.00	0.84	0.84	-89.05	0.50	-30.00	30.00	28.32	1.68	17.809	
400.00	400.00	400.00	400.00	1.20	1.20	-89.05	0.50	-30.00	30.00	27.60	2.40	12.493	
500.00	500.00	500.00	500.00	1.56	1.56	-89.05	0.50	-30.00	30.00	26.89	3.12	9.621	
600.00	600.00	600.00	600.00	1.92	1.92	-89.05	0.50	-30.00	30.00	26.17	3.84	7.822	
700.00	700.00	700.00	700.00	2.28	2.28	-89.05	0.50	-30.00	30.00	25.45	4.55	6.591	
800.00	800.00	800.00	800.00	2.63	2.63	-89.05	0.50	-30.00	30.00	24.73	5.27	5.694	
861.82	861.82	861.82	861.82	2.85	2.86	90.00	0.50	-30.00	30.00	24.30	5.70	5.262 CC	
900.00	899.99	899.99	899.99	2.98	2.99	91.54	0.50	-30.00	30.01	24.04	5.97	5.028	
1,000.00	999.91	999.91	999.91	3.31	3.35	98.96	0.50	-30.00	30.37	23.72	6.65	4.564 ES	
1,100.00	1,099.69	1,099.69	1,099.69	3.64	3.71	110.54	0.50	-30.00	32.05	24.70	7.35	4.362 SF	
1,200.00	1,199.27	1,199.27	1,199.27	3.98	4.07	124.10	0.50	-30.00	36.29	28.25	8.04	4.512	
1,300.00	1,298.57	1,299.13	1,299.12	4.32	4.41	135.36	-0.72	-30.41	43.36	34.63	8.73	4.968	
1,400.00	1,397.54	1,399.24	1,399.15	4.67	4.74	142.68	-4.43	-31.64	52.15	42.75	9.40	5.549	
1,500.00	1,496.09	1,498.52	1,498.29	5.02	5.06	148.11	-9.38	-33.30	62.86	52.79	10.07	6.240	
1,600.00	1,594.16	1,597.44	1,597.08	5.38	5.40	152.83	-14.31	-34.94	76.28	65.53	10.75	7.095	
1,700.00	1,691.70	1,695.95	1,695.45	5.75	5.73	156.75	-19.23	-36.58	92.45	81.02	11.43	8.087	
1,743.51	1,733.95	1,738.67	1,738.11	5.91	5.87	158.23	-21.36	-37.30	100.34	88.61	11.73	8.555	
1,800.00	1,788.72	1,794.06	1,793.43	6.12	6.06	159.93	-24.12	-38.22	110.96	98.85	12.11	9.161	
1,900.00	1,885.68	1,892.13	1,891.35	6.49	6.40	162.26	-29.01	-39.85	129.95	117.16	12.79	10.159	
2,000.00	1,982.65	1,990.19	1,989.28	6.87	6.74	164.00	-33.90	-41.48	149.09	135.62	13.47	11.065	
2,100.00	2,079.61	2,088.25	2,087.21	7.26	7.08	165.34	-38.80	-43.12	168.34	154.18	14.16	11.888	
2,200.00	2,176.58	2,186.32	2,185.14	7.64	7.42	166.41	-43.69	-44.75	187.65	172.81	14.85	12.638	
2,300.00	2,273.54	2,284.38	2,283.06	8.03	7.76	167.28	-48.58	-46.38	207.02	191.48	15.54	13.322	
2,400.00	2,370.51	2,382.44	2,380.99	8.42	8.10	167.99	-53.47	-48.01	226.42	210.19	16.23	13.950	
2,500.00	2,467.47	2,480.51	2,478.92	8.81	8.45	168.60	-58.36	-49.65	245.86	228.93	16.93	14.526	
2,600.00	2,564.44	2,578.57	2,576.85	9.20	8.79	169.12	-63.25	-51.28	265.31	247.69	17.62	15.057	
2,700.00	2,661.40	2,676.63	2,674.77	9.59	9.14	169.56	-68.14	-52.91	284.79	266.47	18.32	15.547	
2,800.00	2,758.37	2,774.70	2,772.70	9.99	9.49	169.95	-73.04	-54.54	304.28	285.26	19.02	16.001	
2,900.00	2,855.33	2,872.76	2,870.63	10.39	9.83	170.29	-77.93	-56.18	323.78	304.06	19.72	16.423	
3,000.00	2,952.30	2,970.82	2,968.56	10.78	10.18	170.60	-82.82	-57.81	343.29	322.87	20.42	16.815	
3,100.00	3,049.26	3,068.88	3,066.48	11.18	10.53	170.87	-87.71	-59.44	362.80	341.69	21.12	17.182	
3,200.00	3,146.23	3,166.95	3,164.41	11.58	10.88	171.11	-92.60	-61.07	382.33	360.51	21.82	17.524	
3,300.00	3,243.19	3,265.01	3,262.34	11.98	11.23	171.33	-97.49	-62.71	401.86	379.34	22.52	17.845	
3,400.00	3,340.16	3,363.07	3,360.27	12.38	11.58	171.53	-102.39	-64.34	421.40	398.17	23.22	18.146	
3,500.00	3,437.12	3,461.14	3,458.19	12.78	11.93	171.71	-107.28	-65.97	440.94	417.01	23.93	18.429	
3,600.00	3,534.09	3,559.20	3,556.12	13.18	12.28	171.87	-112.17	-67.60	460.48	435.85	24.63	18.695	
3,700.00	3,631.05	3,657.26	3,654.05	13.58	12.63	172.03	-117.06	-69.24	480.03	454.69	25.34	18.947	
3,800.00	3,728.02	3,755.33	3,751.98	13.98	12.98	172.17	-121.95	-70.87	499.58	473.54	26.04	19.185	
3,900.00	3,824.98	3,853.39	3,849.90	14.38	13.33	172.30	-126.84	-72.50	519.13	492.39	26.75	19.410	
4,000.00	3,921.94	3,951.45	3,947.83	14.78	13.68	172.42	-131.73	-74.13	538.69	511.24	27.45	19.623	
4,100.00	4,018.91	4,049.52	4,045.76	15.19	14.03	172.53	-136.63	-75.77	558.25	530.09	28.16	19.825	
4,200.00	4,115.87	4,147.58	4,143.69	15.59	14.39	172.63	-141.52	-77.40	577.81	548.94	28.86	20.018	
4,300.00	4,212.84	4,245.64	4,241.61	15.99	14.74	172.73	-146.41	-79.03	597.37	567.80	29.57	20.201	
4,400.00	4,309.80	4,343.70	4,339.54	16.40	15.09	172.82	-151.30	-80.66	616.93	586.65	30.28	20.375	
4,500.00	4,406.77	4,441.77	4,437.47	16.80	15.44	172.91	-156.19	-82.30	636.50	605.51	30.99	20.541	
4,600.00	4,503.73	4,539.83	4,535.40	17.20	15.79	172.99	-161.08	-83.93	656.06	624.37	31.69	20.699	
4,700.00	4,600.70	4,637.89	4,633.32	17.61	16.15	173.07	-165.97	-85.56	675.63	643.23	32.40	20.851	
4,800.00	4,697.66	4,735.96	4,731.25	18.01	16.50	173.14	-170.87	-87.20	695.20	662.09	33.11	20.996	
4,900.00	4,794.63	4,829.61	4,824.77	18.42	16.83	173.21	-175.46	-88.73	714.86	681.07	33.79	21.154	
5,000.00	4,891.59	4,912.80	4,907.92	18.82	17.13	173.31	-178.22	-89.65	736.02	701.62	34.40	21.396	
5,100.00	4,988.56	4,995.22	4,990.33	19.23	17.42	173.46	-179.26	-90.00	759.12	724.14	34.98	21.700	
5,200.00	5,085.52	5,090.42	5,085.52	19.63	17.74	173.66	-179.27	-90.00	783.42	747.76	35.65	21.973	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,300.00	5,182.49	5,187.38	5,182.49	20.03	18.06	173.85	-179.27	-90.00	807.73	771.40	36.34	22.230	
5,400.00	5,279.45	5,284.34	5,279.45	20.44	18.39	174.03	-179.27	-90.00	832.05	795.03	37.02	22.476	
5,500.00	5,376.42	5,381.31	5,376.42	20.84	18.72	174.20	-179.27	-90.00	856.38	818.68	37.70	22.713	
5,600.00	5,473.38	5,478.27	5,473.38	21.25	19.04	174.36	-179.27	-90.00	880.72	842.33	38.39	22.941	
5,700.00	5,570.35	5,575.24	5,570.35	21.66	19.37	174.51	-179.27	-90.00	905.06	865.98	39.08	23.161	
5,800.00	5,667.31	5,672.20	5,667.31	22.06	19.70	174.65	-179.27	-90.00	929.41	889.65	39.76	23.373	
5,900.00	5,764.27	5,769.17	5,764.27	22.47	20.03	174.79	-179.27	-90.00	953.76	913.31	40.45	23.578	
6,000.00	5,861.24	5,866.13	5,861.24	22.87	20.36	174.92	-179.27	-90.00	978.12	936.98	41.14	23.776	
6,100.00	5,958.20	5,963.10	5,958.20	23.28	20.69	175.05	-179.27	-90.00	1,002.48	960.65	41.83	23.966	
6,200.00	6,055.17	6,060.06	6,055.17	23.68	21.03	175.16	-179.27	-90.00	1,026.85	984.33	42.52	24.151	
6,300.00	6,152.13	6,157.03	6,152.13	24.09	21.36	175.28	-179.27	-90.00	1,051.22	1,008.01	43.21	24.329	
6,400.00	6,249.10	6,253.99	6,249.10	24.50	21.69	175.38	-179.27	-90.00	1,075.59	1,031.69	43.90	24.501	
6,500.00	6,346.06	6,350.96	6,346.06	24.90	22.02	175.49	-179.27	-90.00	1,099.97	1,055.38	44.59	24.668	
6,600.00	6,443.03	6,447.92	6,443.03	25.31	22.36	175.58	-179.27	-90.00	1,124.35	1,079.07	45.28	24.829	
6,700.00	6,539.99	6,544.89	6,539.99	25.71	22.69	175.68	-179.27	-90.00	1,148.74	1,102.76	45.98	24.986	
6,800.00	6,636.96	6,641.85	6,636.96	26.12	23.02	175.78	-179.27	-90.00	1,173.12	1,126.97	46.67	25.143	
6,900.00	6,733.92	6,738.81	6,733.92	26.52	23.35	175.88	-179.27	-90.00	1,197.50	1,151.17	47.36	25.299	
7,000.00	6,830.89	6,835.78	6,830.89	26.93	23.68	175.98	-179.27	-90.00	1,221.88	1,175.37	48.05	25.455	
7,100.00	6,927.85	6,932.74	6,927.85	27.33	24.01	176.08	-179.27	-90.00	1,246.26	1,199.55	48.74	25.611	
7,200.00	7,024.82	7,029.71	7,024.82	27.74	24.34	176.18	-179.27	-90.00	1,270.64	1,223.73	49.43	25.767	
7,300.00	7,121.78	7,126.67	7,121.78	28.14	24.67	176.28	-179.27	-90.00	1,295.02	1,247.91	50.12	25.923	
7,400.00	7,218.75	7,223.64	7,218.75	28.55	25.00	176.38	-179.27	-90.00	1,319.40	1,272.09	50.81	26.079	
7,500.00	7,315.71	7,320.60	7,315.71	28.95	25.33	176.48	-179.27	-90.00	1,343.78	1,296.27	51.50	26.235	
7,600.00	7,412.68	7,417.57	7,412.68	29.36	25.66	176.58	-179.27	-90.00	1,368.16	1,320.45	52.19	26.391	
7,700.00	7,509.64	7,514.53	7,509.64	29.76	25.99	176.68	-179.27	-90.00	1,392.54	1,344.63	52.88	26.547	
7,800.00	7,606.61	7,611.50	7,606.61	30.17	26.32	176.78	-179.27	-90.00	1,416.92	1,368.81	53.57	26.703	
7,900.00	7,703.57	7,708.46	7,703.57	30.57	26.65	176.88	-179.27	-90.00	1,441.30	1,392.99	54.26	26.859	
8,000.00	7,800.54	7,805.43	7,800.54	30.98	26.98	176.98	-179.27	-90.00	1,465.68	1,417.17	54.95	27.015	
8,100.00	7,897.50	7,902.39	7,897.50	31.38	27.31	177.08	-179.27	-90.00	1,490.06	1,441.35	55.64	27.171	
8,200.00	7,994.47	7,999.36	7,994.47	31.79	27.64	177.18	-179.27	-90.00	1,514.44	1,465.53	56.33	27.327	
8,300.00	8,091.43	8,096.32	8,091.43	32.19	27.97	177.28	-179.27	-90.00	1,538.82	1,489.71	57.02	27.483	
8,400.00	8,188.40	8,193.29	8,188.40	32.60	28.30	177.38	-179.27	-90.00	1,563.20	1,513.89	57.71	27.639	
8,500.00	8,285.36	8,290.25	8,285.36	33.00	28.63	177.48	-179.27	-90.00	1,587.58	1,538.07	58.40	27.795	
8,600.00	8,382.33	8,387.22	8,382.33	33.41	28.96	177.58	-179.27	-90.00	1,611.96	1,562.25	59.09	27.951	
8,700.00	8,479.29	8,484.18	8,479.29	33.81	29.29	177.68	-179.27	-90.00	1,636.34	1,586.43	59.78	28.107	
8,800.00	8,576.26	8,581.15	8,576.26	34.22	29.62	177.78	-179.27	-90.00	1,660.72	1,610.61	60.47	28.263	
8,900.00	8,673.22	8,678.11	8,673.22	34.62	29.95	177.88	-179.27	-90.00	1,685.10	1,634.79	61.16	28.419	
9,000.00	8,770.19	8,775.08	8,770.19	35.03	30.28	177.98	-179.27	-90.00	1,709.48	1,658.97	61.85	28.575	
9,100.00	8,867.15	8,872.04	8,867.15	35.43	30.61	178.08	-179.27	-90.00	1,733.86	1,683.15	62.54	28.731	
9,200.00	8,964.12	8,969.01	8,964.12	35.84	30.94	178.18	-179.27	-90.00	1,758.24	1,707.33	63.23	28.887	
9,300.00	9,061.08	9,065.97	9,061.08	36.24	31.27	178.28	-179.27	-90.00	1,782.62	1,731.51	63.92	29.043	
9,400.00	9,158.05	9,162.94	9,158.05	36.65	31.60	178.38	-179.27	-90.00	1,807.00	1,755.69	64.61	29.199	
9,500.00	9,255.01	9,259.90	9,255.01	37.05	31.93	178.48	-179.27	-90.00	1,831.38	1,779.87	65.30	29.355	
9,600.00	9,352.00	9,356.88	9,352.00	37.46	32.26	178.58	-179.27	-90.00	1,855.76	1,804.05	65.99	29.511	
9,700.00	9,448.96	9,453.85	9,448.96	37.86	32.59	178.68	-179.27	-90.00	1,880.14	1,828.23	66.68	29.667	
9,800.00	9,545.93	9,550.82	9,545.93	38.27	32.92	178.78	-179.27	-90.00	1,904.52	1,852.41	67.37	29.823	
9,900.00	9,642.89	9,647.78	9,642.89	38.67	33.25	178.88	-179.27	-90.00	1,928.90	1,876.59	68.06	29.979	
10,000.00	9,739.86	9,744.75	9,739.86	39.08	33.58	178.98	-179.27	-90.00	1,953.28	1,900.77	68.75	30.135	
10,100.00	9,836.82	9,841.71	9,836.82	39.48	33.91	179.08	-179.27	-90.00	1,977.66	1,924.95	69.44	30.291	
10,200.00	9,933.79	9,938.68	9,933.79	39.89	34.24	179.18	-179.27	-90.00	2,002.04	1,949.13	70.13	30.447	
10,300.00	10,030.75	10,035.64	10,030.75	40.29	34.57	179.28	-179.27	-90.00	2,026.42	1,973.31	70.82	30.603	
10,400.00	10,127.72	10,132.61	10,127.72	40.70	34.90	179.38	-179.27	-90.00	2,050.80	1,997.49	71.51	30.759	
10,500.00	10,224.68	10,229.57	10,224.68	41.10	35.23	179.48	-179.27	-90.00	2,075.18	2,021.67	72.20	30.915	
10,600.00	10,321.65	10,326.54	10,321.65	41.51	35.56	179.58	-179.27	-90.00	2,099.56	2,045.85	72.89	31.071	
10,700.00	10,418.61	10,423.50	10,418.61	41.91	35.89	179.68	-179.27	-90.00	2,123.94	2,070.03	73.58	31.227	
10,800.00	10,515.58	10,520.47	10,515.58	42.32	36.22	179.78	-179.27	-90.00	2,148.32	2,094.21	74.27	31.383	
10,900.00	10,612.54	10,617.43	10,612.54	42.72	36.55	179.88	-179.27	-90.00	2,172.70	2,118.39	74.96	31.539	
11,000.00	10,709.51	10,714.40	10,709.51	43.13	36.88	179.98	-179.27	-90.00	2,197.08	2,142.57	75.65	31.695	
11,100.00	10,806.47	10,811.36	10,806.47	43.53	37.21	180.08	-179.27	-90.00	2,221.46	2,166.75	76.34	31.851	
11,200.00	10,903.44	10,908.33	10,903.44	43.94	37.54	180.18	-179.27	-90.00	2,245.84	2,190.93	77.03	32.007	
11,300.00	11,000.40	11,005.29	11,000.40	44.34	37.87	180.28	-179.27	-90.00	2,270.22	2,215.11	77.72	32.163	
11,400.00	11,097.37	11,102.26	11,097.37	44.75	38.20	180.38	-179.27	-90.00	2,294.60	2,239.29	78.41	32.319	
11,500.00	11,194.33	11,199.22	11,194.33	45.15	38.53	180.48	-179.27	-90.00	2,318.98	2,263.47	79.10	32.475	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
11,600.00	7,289.00	11,457.10	7,289.00	54.93	54.70	-90.00	-164.38	4,318.89	1,319.72	1,210.44	109.28	12.077	
11,700.00	7,289.00	11,557.10	7,289.00	55.91	55.70	-90.00	-163.65	4,418.89	1,319.72	1,208.46	111.26	11.861	
11,800.00	7,289.00	11,657.10	7,289.00	56.90	56.70	-90.00	-162.92	4,518.88	1,319.73	1,206.47	113.26	11.652	
11,900.00	7,289.00	11,757.10	7,289.00	57.89	57.71	-90.00	-162.19	4,618.88	1,319.73	1,204.47	115.27	11.449	
12,000.00	7,289.00	11,857.10	7,289.00	58.89	58.72	-90.00	-161.46	4,718.88	1,319.74	1,202.46	117.28	11.253	
12,100.00	7,289.00	11,957.10	7,289.00	59.89	59.74	-90.00	-160.73	4,818.88	1,319.74	1,200.44	119.30	11.062	
12,200.00	7,289.00	12,057.10	7,289.00	60.90	60.75	-90.00	-160.00	4,918.87	1,319.75	1,198.41	121.33	10.877	
12,300.00	7,289.00	12,157.10	7,289.00	61.91	61.78	-90.00	-159.27	5,018.87	1,319.75	1,196.38	123.37	10.697	
12,400.00	7,289.00	12,257.10	7,289.00	62.92	62.80	-90.00	-158.54	5,118.87	1,319.76	1,194.34	125.42	10.523	
12,500.00	7,289.00	12,357.10	7,289.00	63.94	63.83	-90.00	-157.81	5,218.87	1,319.76	1,192.29	127.47	10.354	
12,600.00	7,289.00	12,457.10	7,289.00	64.96	64.86	-90.00	-157.07	5,318.86	1,319.76	1,190.24	129.53	10.189	
12,700.00	7,289.00	12,557.10	7,289.00	65.98	65.90	-90.00	-156.34	5,418.86	1,319.77	1,188.18	131.59	10.029	
12,800.00	7,289.00	12,657.10	7,289.00	67.01	66.94	-90.00	-155.61	5,518.86	1,319.77	1,186.11	133.66	9.874	
12,900.00	7,289.00	12,757.10	7,289.00	68.04	67.98	-90.00	-154.88	5,618.86	1,319.78	1,184.04	135.74	9.723	
13,000.00	7,289.00	12,857.10	7,289.00	69.08	69.02	-90.00	-154.15	5,718.85	1,319.78	1,181.97	137.82	9.576	
13,100.00	7,289.00	12,957.10	7,289.00	70.11	70.06	-90.00	-153.42	5,818.85	1,319.79	1,179.88	139.90	9.434	
13,200.00	7,289.00	13,057.10	7,289.00	71.15	71.11	-90.00	-152.69	5,918.85	1,319.79	1,177.80	141.99	9.295	
13,300.00	7,289.00	13,157.10	7,289.00	72.19	72.16	-90.00	-151.96	6,018.84	1,319.80	1,175.71	144.09	9.160	
13,400.00	7,289.00	13,257.10	7,289.00	73.24	73.21	-90.00	-151.23	6,118.84	1,319.80	1,173.61	146.19	9.028	
13,500.00	7,289.00	13,357.10	7,289.00	74.28	74.27	-90.00	-150.50	6,218.84	1,319.81	1,171.51	148.29	8.900	
13,600.00	7,289.00	13,457.10	7,289.00	75.33	75.32	-90.00	-149.77	6,318.84	1,319.81	1,169.41	150.40	8.775	
13,700.00	7,289.00	13,557.10	7,289.00	76.38	76.38	-90.00	-149.04	6,418.83	1,319.82	1,167.30	152.51	8.654	
13,800.00	7,289.00	13,657.10	7,289.00	77.43	77.44	-90.00	-148.31	6,518.83	1,319.82	1,165.19	154.63	8.535	
13,900.00	7,289.00	13,757.10	7,289.00	78.49	78.50	-90.00	-147.58	6,618.83	1,319.82	1,163.08	156.75	8.420	
14,000.00	7,289.00	13,857.10	7,289.00	79.54	79.57	-90.00	-146.85	6,718.83	1,319.83	1,160.96	158.87	8.308	
14,100.00	7,289.00	13,957.10	7,289.00	80.60	80.63	-90.00	-146.11	6,818.82	1,319.83	1,158.84	161.00	8.198	
14,200.00	7,289.00	14,057.10	7,289.00	81.66	81.70	-90.00	-145.38	6,918.82	1,319.84	1,156.71	163.13	8.091	
14,300.00	7,289.00	14,157.10	7,289.00	82.72	82.76	-90.00	-144.65	7,018.82	1,319.84	1,154.59	165.26	7.987	
14,400.00	7,289.00	14,257.10	7,289.00	83.78	83.83	-90.00	-143.92	7,118.82	1,319.85	1,152.46	167.39	7.885	
14,500.00	7,289.00	14,357.10	7,289.00	84.85	84.90	-90.00	-143.19	7,218.81	1,319.85	1,150.32	169.53	7.785	
14,600.00	7,289.00	14,457.10	7,289.00	85.91	85.98	-90.00	-142.46	7,318.81	1,319.86	1,148.19	171.67	7.688	
14,700.00	7,289.00	14,557.10	7,289.00	86.98	87.05	-90.00	-141.73	7,418.81	1,319.86	1,146.05	173.81	7.594	
14,800.00	7,289.00	14,657.10	7,289.00	88.05	88.12	-90.00	-141.00	7,518.80	1,319.87	1,143.91	175.96	7.501	
14,900.00	7,289.00	14,757.10	7,289.00	89.12	89.20	-90.00	-140.27	7,618.80	1,319.87	1,141.76	178.11	7.411	
15,000.00	7,289.00	14,857.10	7,289.00	90.19	90.28	-90.00	-139.54	7,718.80	1,319.88	1,139.62	180.26	7.322	
15,100.00	7,289.00	14,957.10	7,289.00	91.26	91.35	-90.00	-138.81	7,818.80	1,319.88	1,137.47	182.41	7.236	
15,200.00	7,289.00	15,057.10	7,289.00	92.34	92.43	-90.00	-138.08	7,918.79	1,319.88	1,135.32	184.57	7.151	
15,300.00	7,289.00	15,157.10	7,289.00	93.41	93.51	-90.00	-137.35	8,018.79	1,319.89	1,133.17	186.72	7.069	
15,400.00	7,289.00	15,257.10	7,289.00	94.49	94.59	-90.00	-136.62	8,118.79	1,319.89	1,131.01	188.88	6.988	
15,500.00	7,289.00	15,357.10	7,289.00	95.56	95.67	-90.00	-135.88	8,218.79	1,319.90	1,128.86	191.04	6.909	
15,600.00	7,289.00	15,457.10	7,289.00	96.64	96.76	-90.00	-135.15	8,318.78	1,319.90	1,126.70	193.21	6.832	
15,700.00	7,289.00	15,557.10	7,289.00	97.72	97.84	-90.00	-134.42	8,418.78	1,319.91	1,124.54	195.37	6.756	
15,800.00	7,289.00	15,657.10	7,289.00	98.80	98.93	-90.00	-133.69	8,518.78	1,319.91	1,122.38	197.54	6.682	
15,900.00	7,289.00	15,757.10	7,289.00	99.88	100.01	-90.00	-132.96	8,618.78	1,319.92	1,120.21	199.70	6.609	
16,000.00	7,289.00	15,857.10	7,289.00	100.96	101.10	-90.00	-132.23	8,718.77	1,319.92	1,118.05	201.87	6.538	
16,100.00	7,289.00	15,957.10	7,289.00	102.05	102.18	-90.00	-131.50	8,818.77	1,319.93	1,115.88	204.05	6.469	
16,200.00	7,289.00	16,057.10	7,289.00	103.13	103.27	-90.00	-130.77	8,918.77	1,319.93	1,113.71	206.22	6.401	
16,300.00	7,289.00	16,157.10	7,289.00	104.21	104.36	-90.00	-130.04	9,018.76	1,319.93	1,111.54	208.39	6.334	
16,400.00	7,289.00	16,257.10	7,289.00	105.30	105.45	-90.00	-129.31	9,118.76	1,319.94	1,109.37	210.57	6.268	
16,500.00	7,289.00	16,357.10	7,289.00	106.39	106.54	-90.00	-128.58	9,218.76	1,319.94	1,107.20	212.75	6.204	
16,600.00	7,289.00	16,457.10	7,289.00	107.47	107.63	-90.00	-127.85	9,318.76	1,319.95	1,105.02	214.93	6.141	
16,700.00	7,289.00	16,557.10	7,289.00	108.56	108.72	-90.00	-127.12	9,418.75	1,319.95	1,102.85	217.11	6.080	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (")	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
16,800.00	7,289.00	16,657.10	7,289.00	109.65	109.81	-90.00	-126.39	9,518.75	1,319.96	1,100.67	219.29	6.019	
16,900.00	7,289.00	16,757.10	7,289.00	110.74	110.90	-90.00	-125.66	9,618.75	1,319.96	1,098.49	221.47	5.960	
17,000.00	7,289.00	16,857.10	7,289.00	111.83	112.00	-90.00	-124.92	9,718.75	1,319.97	1,096.31	223.65	5.902	
17,100.00	7,289.00	16,957.10	7,289.00	112.92	113.09	-90.00	-124.19	9,818.74	1,319.97	1,094.13	225.84	5.845	
17,200.00	7,289.00	17,057.10	7,289.00	114.01	114.18	-90.00	-123.46	9,918.74	1,319.98	1,091.95	228.03	5.789	
17,300.00	7,289.00	17,157.10	7,289.00	115.10	115.28	-90.00	-122.73	10,018.74	1,319.98	1,089.77	230.21	5.734	
17,400.00	7,289.00	17,257.10	7,289.00	116.19	116.37	-90.00	-122.00	10,118.74	1,319.99	1,087.58	232.40	5.680	
17,500.00	7,289.00	17,357.10	7,289.00	117.28	117.47	-90.00	-121.27	10,218.73	1,319.99	1,085.40	234.59	5.627	
17,600.00	7,289.00	17,457.10	7,289.00	118.37	118.56	-90.00	-120.54	10,318.73	1,319.99	1,083.21	236.78	5.575	
17,700.00	7,289.00	17,557.10	7,289.00	119.47	119.66	-90.00	-119.81	10,418.73	1,320.00	1,081.03	238.97	5.524	
17,800.00	7,289.00	17,657.10	7,289.00	120.56	120.76	-90.00	-119.08	10,518.72	1,320.00	1,078.84	241.17	5.473	
17,900.00	7,289.00	17,757.10	7,289.00	121.66	121.86	-90.00	-118.35	10,618.72	1,320.01	1,076.65	243.36	5.424	
18,000.00	7,289.00	17,857.10	7,289.00	122.75	122.95	-90.00	-117.62	10,718.72	1,320.01	1,074.46	245.55	5.376	
18,100.00	7,289.00	17,957.10	7,289.00	123.85	124.05	-90.00	-116.89	10,818.72	1,320.02	1,072.27	247.75	5.328	
18,200.00	7,289.00	18,057.10	7,289.00	124.94	125.15	-90.00	-116.16	10,918.71	1,320.02	1,070.08	249.94	5.281	
18,274.81	7,289.00	18,131.91	7,289.00	125.76	125.97	-90.00	-115.61	10,993.52	1,320.03	1,068.44	251.59	5.247	



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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)													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
300.00	300.00	300.00	300.00	0.84	0.84	90.96	-0.50	29.99	29.99	28.31	1.68	17.803	
400.00	400.00	400.00	400.00	1.20	1.20	90.96	-0.50	29.99	29.99	27.59	2.40	12.488	
500.00	500.00	500.00	500.00	1.56	1.56	90.96	-0.50	29.99	29.99	26.88	3.12	9.618	
600.00	600.00	600.00	600.00	1.92	1.92	90.96	-0.50	29.99	29.99	26.16	3.84	7.820	
700.00	700.00	700.00	700.00	2.28	2.28	90.96	-0.50	29.99	29.99	25.44	4.55	6.588	
800.00	800.00	800.00	800.00	2.63	2.63	90.96	-0.50	29.99	29.99	24.72	5.27	5.692	CC
802.17	802.17	802.17	802.17	2.64	2.64	-90.96	-0.50	29.99	29.99	24.71	5.28	5.676	
900.00	899.99	899.99	899.99	2.98	2.99	-93.45	-0.50	29.99	30.04	24.08	5.97	5.034	
1,000.00	999.91	999.91	999.91	3.31	3.35	-100.81	-0.50	29.99	30.53	23.88	6.65	4.588	ES
1,100.00	1,099.69	1,099.69	1,099.69	3.64	3.71	-112.20	-0.50	29.99	32.40	25.06	7.35	4.411	SF
1,200.00	1,199.27	1,199.27	1,199.27	3.98	4.07	-125.39	-0.50	29.99	36.86	28.81	8.04	4.582	
1,300.00	1,298.57	1,299.57	1,299.56	4.32	4.41	-136.94	-1.75	29.65	43.60	34.87	8.73	4.996	
1,400.00	1,397.54	1,400.14	1,400.05	4.67	4.74	-145.78	-5.56	28.60	51.33	41.93	9.40	5.463	
1,500.00	1,496.09	1,499.43	1,499.20	5.02	5.07	-152.94	-10.58	27.23	60.97	50.90	10.07	6.055	
1,600.00	1,594.16	1,598.36	1,598.00	5.38	5.40	-158.83	-15.58	25.85	73.74	62.99	10.75	6.861	
1,700.00	1,691.70	1,696.88	1,696.38	5.75	5.73	-163.43	-20.56	24.49	89.54	78.12	11.43	7.836	
1,743.51	1,733.95	1,739.61	1,739.05	5.91	5.88	-165.07	-22.72	23.89	97.34	85.61	11.72	8.303	
1,800.00	1,788.72	1,795.01	1,794.38	6.12	6.06	-166.93	-25.52	23.13	107.86	95.76	12.11	8.910	
1,900.00	1,885.68	1,893.09	1,892.32	6.49	6.40	-169.45	-30.48	21.77	126.70	113.92	12.78	9.911	
2,000.00	1,982.65	1,991.17	1,990.26	6.87	6.74	-171.32	-35.44	20.40	145.72	132.25	13.47	10.821	
2,100.00	2,079.61	2,089.24	2,088.21	7.26	7.08	-172.76	-40.40	19.04	164.85	150.70	14.15	11.649	
2,200.00	2,176.58	2,187.32	2,186.15	7.64	7.42	-173.90	-45.36	17.68	184.06	169.22	14.84	12.404	
2,300.00	2,273.54	2,285.40	2,284.09	8.03	7.76	-174.83	-50.32	16.32	203.33	187.80	15.53	13.094	
2,400.00	2,370.51	2,383.48	2,382.04	8.42	8.11	-175.59	-55.28	14.96	222.64	206.42	16.22	13.726	
2,500.00	2,467.47	2,481.56	2,479.98	8.81	8.45	-176.23	-60.24	13.60	241.98	225.07	16.91	14.307	
2,600.00	2,564.44	2,579.64	2,577.92	9.20	8.80	-176.78	-65.20	12.24	261.35	243.74	17.61	14.843	
2,700.00	2,661.40	2,677.71	2,675.87	9.59	9.14	-177.25	-70.15	10.88	280.74	262.43	18.30	15.337	
2,800.00	2,758.37	2,775.79	2,773.81	9.99	9.49	-177.66	-75.11	9.52	300.14	281.14	19.00	15.795	
2,900.00	2,855.33	2,873.87	2,871.75	10.39	9.84	-178.02	-80.07	8.16	319.56	299.86	19.70	16.221	
3,000.00	2,952.30	2,971.95	2,969.70	10.78	10.18	-178.34	-85.03	6.80	338.98	318.58	20.40	16.617	
3,100.00	3,049.26	3,070.03	3,067.64	11.18	10.53	-178.63	-89.99	5.44	358.42	337.32	21.10	16.987	
3,200.00	3,146.23	3,168.11	3,165.58	11.58	10.88	-178.88	-94.95	4.08	377.86	356.06	21.80	17.332	
3,300.00	3,243.19	3,266.18	3,263.53	11.98	11.23	-179.11	-99.91	2.72	397.31	374.81	22.50	17.656	
3,400.00	3,340.16	3,364.26	3,361.47	12.38	11.58	-179.32	-104.87	1.36	416.77	393.56	23.21	17.960	
3,500.00	3,437.12	3,462.34	3,459.41	12.78	11.93	-179.51	-109.83	0.00	436.23	412.32	23.91	18.245	
3,600.00	3,534.09	3,560.42	3,557.36	13.18	12.28	-179.68	-114.79	-1.36	455.69	431.08	24.61	18.514	
3,700.00	3,631.05	3,658.50	3,655.30	13.58	12.63	-179.84	-119.75	-2.72	475.16	449.85	25.32	18.768	
3,800.00	3,728.02	3,756.58	3,753.24	13.98	12.98	-179.99	-124.71	-4.08	494.63	468.61	26.02	19.008	
3,900.00	3,824.98	3,854.65	3,851.19	14.38	13.33	-179.87	-129.67	-5.44	514.11	487.38	26.73	19.235	
4,000.00	3,921.94	3,952.73	3,949.13	14.78	13.68	-179.75	-134.62	-6.80	533.59	506.15	27.43	19.451	
4,100.00	4,018.91	4,050.81	4,047.07	15.19	14.04	-179.63	-139.58	-8.17	553.07	524.93	28.14	19.655	
4,200.00	4,115.87	4,148.89	4,145.02	15.59	14.39	-179.52	-144.54	-9.53	572.55	543.70	28.85	19.849	
4,300.00	4,212.84	4,246.97	4,242.96	15.99	14.74	-179.42	-149.50	-10.89	592.03	562.48	29.55	20.034	
4,400.00	4,309.80	4,345.05	4,340.90	16.40	15.09	-179.32	-154.46	-12.25	611.52	581.26	30.26	20.209	
4,500.00	4,406.77	4,443.12	4,438.85	16.80	15.44	-179.23	-159.42	-13.61	631.00	600.04	30.97	20.377	
4,600.00	4,503.73	4,541.20	4,536.79	17.20	15.79	-179.15	-164.38	-14.97	650.49	618.82	31.67	20.537	
4,700.00	4,600.70	4,639.28	4,634.73	17.61	16.15	-179.07	-169.34	-16.33	669.98	637.60	32.38	20.690	
4,800.00	4,697.66	4,737.36	4,732.68	18.01	16.50	-178.99	-174.30	-17.69	689.47	656.38	33.09	20.836	
4,900.00	4,794.63	4,830.72	4,825.92	18.42	16.83	-178.93	-178.93	-18.96	709.07	675.30	33.77	20.997	
5,000.00	4,891.59	4,913.38	4,908.52	18.82	17.13	-178.90	-181.70	-19.72	730.24	695.86	34.37	21.245	
5,100.00	4,988.56	4,995.26	4,990.39	19.23	17.41	-178.91	-182.75	-20.01	753.44	718.49	34.95	21.557	
5,200.00	5,085.52	5,090.39	5,085.52	19.63	17.73	-178.94	-182.76	-20.01	777.87	742.25	35.62	21.837	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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)													Offset Well Error: 0.00 usft
Rule Assigned:													
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,300.00	5,182.49	5,187.35	5,182.49	20.03	18.06	178.98	-182.76	-20.01	802.32	766.01	36.30	22.099	
5,400.00	5,279.45	5,284.32	5,279.45	20.44	18.38	179.01	-182.76	-20.01	826.77	789.78	36.99	22.351	
5,500.00	5,376.42	5,381.28	5,376.42	20.84	18.71	179.03	-182.76	-20.01	851.21	813.54	37.67	22.594	
5,600.00	5,473.38	5,478.25	5,473.38	21.25	19.04	179.06	-182.76	-20.01	875.66	837.30	38.36	22.827	
5,700.00	5,570.35	5,575.21	5,570.35	21.66	19.37	179.09	-182.76	-20.01	900.11	861.06	39.05	23.051	
5,800.00	5,667.31	5,672.05	5,667.17	22.06	19.70	179.15	-182.77	-19.41	924.56	884.82	39.73	23.268	
5,900.00	5,764.27	5,766.71	5,760.95	22.47	20.02	179.92	-182.96	-7.32	949.13	908.74	40.40	23.495	
6,000.00	5,861.24	5,855.05	5,845.57	22.87	20.31	-178.55	-183.35	17.73	974.44	933.45	40.99	23.774	
6,100.00	5,958.20	5,934.02	5,917.17	23.28	20.54	-176.60	-183.87	50.91	1,001.52	960.05	41.47	24.150	
6,200.00	6,055.17	6,000.00	5,973.02	23.68	20.72	-174.60	-184.42	85.96	1,031.53	989.73	41.80	24.679	
10,600.00	7,289.00	9,311.95	6,214.00	45.47	42.42	-50.82	-172.15	3,318.84	1,701.75	1,632.67	69.08	24.635	
10,700.00	7,289.00	9,411.95	6,214.00	46.38	43.39	-50.82	-171.41	3,418.84	1,701.76	1,631.11	70.65	24.086	
10,800.00	7,289.00	9,511.95	6,214.00	47.30	44.37	-50.82	-170.67	3,518.84	1,701.77	1,629.53	72.24	23.556	
10,900.00	7,289.00	9,611.95	6,214.00	48.23	45.35	-50.82	-169.94	3,618.83	1,701.78	1,627.93	73.84	23.046	
11,000.00	7,289.00	9,711.95	6,214.00	49.16	46.34	-50.83	-169.20	3,718.83	1,701.78	1,626.33	75.45	22.554	
11,100.00	7,289.00	9,811.95	6,214.00	50.11	47.34	-50.83	-168.46	3,818.83	1,701.79	1,624.72	77.08	22.080	
11,200.00	7,289.00	9,911.95	6,214.00	51.06	48.34	-50.83	-167.73	3,918.83	1,701.80	1,623.09	78.71	21.622	
11,300.00	7,289.00	10,011.95	6,214.00	52.02	49.35	-50.83	-166.99	4,018.82	1,701.81	1,621.46	80.35	21.181	
11,400.00	7,289.00	10,111.95	6,214.00	52.98	50.36	-50.83	-166.25	4,118.82	1,701.82	1,619.82	82.00	20.755	
11,500.00	7,289.00	10,211.95	6,214.00	53.95	51.38	-50.83	-165.52	4,218.82	1,701.82	1,618.17	83.65	20.344	
11,600.00	7,289.00	10,311.95	6,214.00	54.93	52.40	-50.83	-164.78	4,318.81	1,701.83	1,616.51	85.32	19.947	
11,700.00	7,289.00	10,411.95	6,214.00	55.91	53.42	-50.83	-164.04	4,418.81	1,701.84	1,614.85	86.99	19.563	
11,800.00	7,289.00	10,511.95	6,214.00	56.90	54.45	-50.83	-163.31	4,518.81	1,701.85	1,613.18	88.67	19.193	
11,900.00	7,289.00	10,611.95	6,214.00	57.89	55.48	-50.83	-162.57	4,618.81	1,701.86	1,611.50	90.36	18.835	
12,000.00	7,289.00	10,711.95	6,214.00	58.89	56.52	-50.83	-161.83	4,718.80	1,701.87	1,609.82	92.05	18.489	
12,100.00	7,289.00	10,811.95	6,214.00	59.89	57.56	-50.83	-161.10	4,818.80	1,701.87	1,608.13	93.75	18.154	
12,200.00	7,289.00	10,911.95	6,214.00	60.90	58.60	-50.83	-160.36	4,918.80	1,701.88	1,606.43	95.45	17.830	
12,300.00	7,289.00	11,011.95	6,214.00	61.91	59.64	-50.83	-159.62	5,018.80	1,701.89	1,604.73	97.16	17.517	
12,400.00	7,289.00	11,111.95	6,214.00	62.92	60.69	-50.83	-158.89	5,118.79	1,701.90	1,603.03	98.87	17.213	
12,500.00	7,289.00	11,211.95	6,214.00	63.94	61.74	-50.83	-158.15	5,218.79	1,701.91	1,601.32	100.59	16.920	
12,600.00	7,289.00	11,311.95	6,214.00	64.96	62.80	-50.83	-157.41	5,318.79	1,701.91	1,599.60	102.31	16.635	
12,700.00	7,289.00	11,411.95	6,214.00	65.98	63.85	-50.83	-156.68	5,418.78	1,701.92	1,597.89	104.04	16.359	
12,800.00	7,289.00	11,511.95	6,214.00	67.01	64.91	-50.83	-155.94	5,518.78	1,701.93	1,596.16	105.77	16.091	
12,900.00	7,289.00	11,611.95	6,214.00	68.04	65.97	-50.83	-155.20	5,618.78	1,701.94	1,594.44	107.50	15.832	
13,000.00	7,289.00	11,711.95	6,214.00	69.08	67.03	-50.83	-154.47	5,718.78	1,701.95	1,592.71	109.24	15.580	
13,100.00	7,289.00	11,811.95	6,214.00	70.11	68.09	-50.83	-153.73	5,818.77	1,701.96	1,590.98	110.98	15.336	
13,200.00	7,289.00	11,911.95	6,214.00	71.15	69.16	-50.83	-152.99	5,918.77	1,701.96	1,589.24	112.72	15.098	
13,300.00	7,289.00	12,011.95	6,214.00	72.19	70.22	-50.83	-152.26	6,018.77	1,701.97	1,587.50	114.47	14.868	
13,400.00	7,289.00	12,111.95	6,214.00	73.24	71.29	-50.83	-151.52	6,118.77	1,701.98	1,585.76	116.22	14.644	
13,500.00	7,289.00	12,211.95	6,214.00	74.28	72.36	-50.83	-150.78	6,218.76	1,701.99	1,584.01	117.98	14.427	
13,600.00	7,289.00	12,311.95	6,214.00	75.33	73.44	-50.83	-150.05	6,318.76	1,702.00	1,582.26	119.73	14.215	
13,700.00	7,289.00	12,411.95	6,214.00	76.38	74.51	-50.83	-149.31	6,418.76	1,702.00	1,580.51	121.49	14.009	
13,800.00	7,289.00	12,511.95	6,214.00	77.43	75.58	-50.83	-148.57	6,518.76	1,702.01	1,578.76	123.25	13.809	
13,900.00	7,289.00	12,611.95	6,214.00	78.49	76.66	-50.83	-147.84	6,618.75	1,702.02	1,577.00	125.02	13.614	
14,000.00	7,289.00	12,711.95	6,214.00	79.54	77.74	-50.83	-147.10	6,718.75	1,702.03	1,575.25	126.78	13.425	
14,100.00	7,289.00	12,811.95	6,214.00	80.60	78.82	-50.83	-146.36	6,818.75	1,702.04	1,573.49	128.55	13.240	
14,200.00	7,289.00	12,911.95	6,214.00	81.66	79.90	-50.83	-145.63	6,918.74	1,702.04	1,571.72	130.32	13.060	
14,300.00	7,289.00	13,011.95	6,214.00	82.72	80.98	-50.83	-144.89	7,018.74	1,702.05	1,569.96	132.09	12.885	
14,400.00	7,289.00	13,111.95	6,214.00	83.78	82.06	-50.83	-144.15	7,118.74	1,702.06	1,568.19	133.87	12.714	
14,500.00	7,289.00	13,211.95	6,214.00	84.85	83.14	-50.83	-143.42	7,218.74	1,702.07	1,566.42	135.65	12.548	
14,600.00	7,289.00	13,311.95	6,214.00	85.91	84.23	-50.83	-142.68	7,318.73	1,702.08	1,564.65	137.42	12.386	
14,700.00	7,289.00	13,411.95	6,214.00	86.98	85.31	-50.83	-141.94	7,418.73	1,702.09	1,562.88	139.20	12.227	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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)												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
14,800.00	7,289.00	13,511.95	6,214.00	88.05	86.40	-50.83	-141.21	7,518.73	1,702.09	1,561.11	140.98	12.073	
14,900.00	7,289.00	13,611.95	6,214.00	89.12	87.49	-50.83	-140.47	7,618.73	1,702.10	1,559.33	142.77	11.922	
15,000.00	7,289.00	13,711.95	6,214.00	90.19	88.57	-50.83	-139.73	7,718.72	1,702.11	1,557.56	144.55	11.775	
15,100.00	7,289.00	13,811.95	6,214.00	91.26	89.66	-50.83	-139.00	7,818.72	1,702.12	1,555.78	146.34	11.631	
15,200.00	7,289.00	13,911.95	6,214.00	92.34	90.75	-50.83	-138.26	7,918.72	1,702.13	1,554.00	148.13	11.491	
15,300.00	7,289.00	14,011.95	6,214.00	93.41	91.84	-50.83	-137.53	8,018.71	1,702.13	1,552.22	149.92	11.354	
15,400.00	7,289.00	14,111.95	6,214.00	94.49	92.93	-50.83	-136.79	8,118.71	1,702.14	1,550.44	151.71	11.220	
15,500.00	7,289.00	14,211.95	6,214.00	95.56	94.02	-50.84	-136.05	8,218.71	1,702.15	1,548.65	153.50	11.089	
15,600.00	7,289.00	14,311.95	6,214.00	96.64	95.12	-50.84	-135.32	8,318.71	1,702.16	1,546.87	155.29	10.961	
15,700.00	7,289.00	14,411.95	6,214.00	97.72	96.21	-50.84	-134.58	8,418.70	1,702.17	1,545.08	157.09	10.836	
15,800.00	7,289.00	14,511.95	6,214.00	98.80	97.30	-50.84	-133.84	8,518.70	1,702.18	1,543.30	158.88	10.714	
15,900.00	7,289.00	14,611.95	6,214.00	99.88	98.40	-50.84	-133.11	8,618.70	1,702.18	1,541.51	160.68	10.594	
16,000.00	7,289.00	14,711.95	6,214.00	100.96	99.49	-50.84	-132.37	8,718.70	1,702.19	1,539.72	162.47	10.477	
16,100.00	7,289.00	14,811.95	6,214.00	102.05	100.59	-50.84	-131.63	8,818.69	1,702.20	1,537.93	164.27	10.362	
16,200.00	7,289.00	14,911.95	6,214.00	103.13	101.69	-50.84	-130.90	8,918.69	1,702.21	1,536.14	166.07	10.250	
16,300.00	7,289.00	15,011.95	6,214.00	104.21	102.78	-50.84	-130.16	9,018.69	1,702.22	1,534.34	167.87	10.140	
16,400.00	7,289.00	15,111.95	6,214.00	105.30	103.88	-50.84	-129.42	9,118.68	1,702.22	1,532.55	169.67	10.032	
16,500.00	7,289.00	15,211.95	6,214.00	106.39	104.98	-50.84	-128.69	9,218.68	1,702.23	1,530.76	171.48	9.927	
16,600.00	7,289.00	15,311.95	6,214.00	107.47	106.08	-50.84	-127.95	9,318.68	1,702.24	1,528.96	173.28	9.824	
16,700.00	7,289.00	15,411.95	6,214.00	108.56	107.18	-50.84	-127.21	9,418.68	1,702.25	1,527.16	175.09	9.722	
16,800.00	7,289.00	15,511.95	6,214.00	109.65	108.27	-50.84	-126.48	9,518.67	1,702.26	1,525.37	176.89	9.623	
16,900.00	7,289.00	15,611.95	6,214.00	110.74	109.37	-50.84	-125.74	9,618.67	1,702.27	1,523.57	178.70	9.526	
17,000.00	7,289.00	15,711.95	6,214.00	111.83	110.47	-50.84	-125.00	9,718.67	1,702.27	1,521.77	180.50	9.431	
17,100.00	7,289.00	15,811.95	6,214.00	112.92	111.58	-50.84	-124.27	9,818.67	1,702.28	1,519.97	182.31	9.337	
17,200.00	7,289.00	15,911.95	6,214.00	114.01	112.68	-50.84	-123.53	9,918.66	1,702.29	1,518.17	184.12	9.246	
17,300.00	7,289.00	16,011.95	6,214.00	115.10	113.78	-50.84	-122.79	10,018.66	1,702.30	1,516.37	185.93	9.156	
17,400.00	7,289.00	16,111.95	6,214.00	116.19	114.88	-50.84	-122.06	10,118.66	1,702.31	1,514.57	187.74	9.067	
17,500.00	7,289.00	16,211.95	6,214.00	117.28	115.98	-50.84	-121.32	10,218.65	1,702.31	1,512.77	189.55	8.981	
17,600.00	7,289.00	16,311.95	6,214.00	118.37	117.09	-50.84	-120.58	10,318.65	1,702.32	1,510.96	191.36	8.896	
17,700.00	7,289.00	16,411.95	6,214.00	119.47	118.19	-50.84	-119.85	10,418.65	1,702.33	1,509.16	193.17	8.813	
17,800.00	7,289.00	16,511.95	6,214.00	120.56	119.29	-50.84	-119.11	10,518.65	1,702.34	1,507.36	194.98	8.731	
17,900.00	7,289.00	16,611.95	6,214.00	121.66	120.40	-50.84	-118.37	10,618.64	1,702.35	1,505.55	196.80	8.650	
18,000.00	7,289.00	16,711.95	6,214.00	122.75	121.50	-50.84	-117.64	10,718.64	1,702.36	1,503.75	198.61	8.571	
18,100.00	7,289.00	16,811.95	6,214.00	123.85	122.60	-50.84	-116.90	10,818.64	1,702.36	1,501.94	200.42	8.494	
18,200.00	7,289.00	16,911.95	6,214.00	124.94	123.71	-50.84	-116.16	10,918.64	1,702.37	1,500.13	202.24	8.418	
18,274.81	7,289.00	16,986.76	6,214.00	125.76	124.54	-50.84	-115.61	10,993.45	1,702.38	1,498.78	203.60	8.362	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
400.00	400.00	400.00	400.00	1.20	1.20	90.96	-1.00	59.99	60.00	57.60	2.40	24.981	
500.00	500.00	500.00	500.00	1.56	1.56	90.96	-1.00	59.99	60.00	56.88	3.12	19.238	
600.00	600.00	600.00	600.00	1.92	1.92	90.96	-1.00	59.99	60.00	56.16	3.84	15.642	
700.00	700.00	700.00	700.00	2.28	2.28	90.96	-1.00	59.99	60.00	55.45	4.55	13.179	
800.00	800.00	800.00	800.00	2.63	2.63	90.96	-1.00	59.99	60.00	54.73	5.27	11.386 CC	
900.00	899.99	900.01	900.00	2.98	2.98	-90.95	-2.31	59.96	60.01	54.06	5.95	10.085	
1,000.00	999.91	1,000.02	999.93	3.31	3.31	-90.95	-6.23	59.87	60.06	53.45	6.61	9.090	
1,100.00	1,099.69	1,100.03	1,099.72	3.64	3.64	-90.95	-12.77	59.73	60.13	52.85	7.28	8.265	
1,200.00	1,199.27	1,200.04	1,199.31	3.98	3.98	-90.95	-21.92	59.52	60.23	52.27	7.95	7.572	
1,300.00	1,298.57	1,300.05	1,298.62	4.32	4.32	-90.94	-33.68	59.26	60.35	51.71	8.64	6.984	
1,400.00	1,397.54	1,400.05	1,397.59	4.67	4.67	-90.94	-48.02	58.93	60.51	51.17	9.34	6.479	
1,500.00	1,496.09	1,500.06	1,496.15	5.02	5.02	-90.93	-64.96	58.55	60.69	50.65	10.05	6.041	
1,600.00	1,594.16	1,600.07	1,594.23	5.38	5.38	-90.92	-84.46	58.12	60.91	50.14	10.77	5.658	
1,700.00	1,691.70	1,700.08	1,691.77	5.75	5.75	-90.92	-106.53	57.62	61.15	49.65	11.50	5.319	
1,743.51	1,733.95	1,743.60	1,734.03	5.91	5.91	-90.91	-116.93	57.39	61.26	49.44	11.82	5.184	
1,800.00	1,788.72	1,800.08	1,788.70	6.12	6.12	-90.52	-131.14	57.07	61.41	49.17	12.24	5.018	
1,900.00	1,885.68	1,900.00	1,884.86	6.49	6.50	-87.93	-158.26	56.46	61.74	48.75	12.99	4.753	
2,000.00	1,982.65	1,999.80	1,980.23	6.87	6.88	-83.17	-187.66	55.80	62.47	48.72	13.74	4.545 ES	
2,100.00	2,079.61	2,099.64	2,075.48	7.26	7.27	-78.11	-217.56	55.13	63.72	49.22	14.50	4.395	
2,200.00	2,176.58	2,199.47	2,170.73	7.64	7.66	-73.28	-247.45	54.45	65.45	50.21	15.25	4.293	
2,300.00	2,273.54	2,299.31	2,265.99	8.03	8.06	-68.72	-277.34	53.78	67.62	51.64	15.99	4.230	
2,400.00	2,370.51	2,399.15	2,361.24	8.42	8.46	-64.48	-307.24	53.11	70.20	53.47	16.72	4.198	
2,500.00	2,467.47	2,498.98	2,456.49	8.81	8.87	-60.55	-337.13	52.44	73.13	55.68	17.45	4.191 SF	
2,600.00	2,564.44	2,598.82	2,551.75	9.20	9.27	-56.94	-367.02	51.77	76.37	58.20	18.17	4.203	
2,700.00	2,661.40	2,698.65	2,647.00	9.59	9.68	-53.64	-396.92	51.10	79.90	61.01	18.89	4.229	
2,800.00	2,758.37	2,798.49	2,742.25	9.99	10.09	-50.62	-426.81	50.42	83.67	64.06	19.61	4.267	
2,900.00	2,855.33	2,898.33	2,837.51	10.39	10.50	-47.87	-456.71	49.75	87.65	67.33	20.32	4.313	
3,000.00	2,952.30	2,998.16	2,932.76	10.78	10.92	-45.37	-486.60	49.08	91.81	70.78	21.03	4.366	
3,100.00	3,049.26	3,098.00	3,028.01	11.18	11.33	-43.08	-516.49	48.41	96.13	74.39	21.74	4.422	
3,200.00	3,146.23	3,197.84	3,123.27	11.58	11.75	-41.00	-546.39	47.74	100.60	78.15	22.45	4.481	
3,300.00	3,243.19	3,297.67	3,218.52	11.98	12.16	-39.09	-576.28	47.07	105.18	82.02	23.16	4.541	
3,400.00	3,340.16	3,397.51	3,313.77	12.38	12.58	-37.34	-606.17	46.40	109.87	86.00	23.87	4.602	
3,500.00	3,437.12	3,497.34	3,409.03	12.78	13.00	-35.74	-636.07	45.72	114.66	90.07	24.58	4.664	
3,600.00	3,534.09	3,597.18	3,504.28	13.18	13.42	-34.27	-665.96	45.05	119.53	94.23	25.30	4.725	
3,700.00	3,631.05	3,697.02	3,599.53	13.58	13.84	-32.92	-695.85	44.38	124.47	98.46	26.01	4.785	
3,800.00	3,728.02	3,796.85	3,694.79	13.98	14.26	-31.66	-725.75	43.71	129.47	102.75	26.72	4.845	
3,900.00	3,824.98	3,896.69	3,790.04	14.38	14.68	-30.51	-755.64	43.04	134.53	107.09	27.44	4.903	
4,000.00	3,921.94	3,996.53	3,885.29	14.78	15.10	-29.43	-785.54	42.37	139.64	111.49	28.15	4.960	
4,100.00	4,018.91	4,096.36	3,980.55	15.19	15.52	-28.43	-815.43	41.69	144.80	115.93	28.87	5.016	
4,200.00	4,115.87	4,196.20	4,075.80	15.59	15.94	-27.50	-845.32	41.02	150.00	120.41	29.59	5.070	
4,300.00	4,212.84	4,296.03	4,171.05	15.99	16.36	-26.64	-875.22	40.35	155.24	124.93	30.31	5.122	
4,400.00	4,309.80	4,395.87	4,266.31	16.40	16.79	-25.83	-905.11	39.68	160.50	129.48	31.02	5.174	
4,500.00	4,406.77	4,495.71	4,361.56	16.80	17.21	-25.07	-935.00	39.01	165.80	134.06	31.74	5.223	
4,600.00	4,503.73	4,595.54	4,456.81	17.20	17.63	-24.36	-964.90	38.34	171.13	138.66	32.46	5.271	
4,700.00	4,600.70	4,695.38	4,552.07	17.61	18.06	-23.69	-994.79	37.67	176.48	143.29	33.18	5.318	
4,800.00	4,697.66	4,795.22	4,647.32	18.01	18.48	-23.06	-1,024.69	36.99	181.85	147.95	33.91	5.363	
4,900.00	4,794.63	4,895.05	4,742.57	18.42	18.90	-22.47	-1,054.58	36.32	187.25	152.62	34.63	5.407	
5,000.00	4,891.59	4,994.89	4,837.82	18.82	19.33	-21.91	-1,084.47	35.65	192.66	157.31	35.35	5.450	
5,100.00	4,988.56	5,094.72	4,933.08	19.23	19.75	-21.38	-1,114.37	34.98	198.09	162.01	36.07	5.491	
5,200.00	5,085.52	5,194.56	5,028.33	19.63	20.18	-20.88	-1,144.26	34.31	203.53	166.73	36.80	5.531	
5,300.00	5,182.49	5,294.40	5,123.58	20.03	20.60	-20.40	-1,174.15	33.64	208.99	171.47	37.52	5.570	
5,400.00	5,279.45	5,394.23	5,218.84	20.44	21.03	-19.95	-1,204.05	32.96	214.47	176.22	38.25	5.607	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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:													
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,500.00	5,376.42	5,494.07	5,314.09	20.84	21.45	-19.53	-1,233.94	32.29	219.95	180.98	38.97	5.644	
5,600.00	5,473.38	5,593.91	5,409.34	21.25	21.88	-19.12	-1,263.84	31.62	225.45	185.75	39.70	5.679	
5,700.00	5,570.35	5,693.74	5,504.60	21.66	22.31	-18.73	-1,293.73	30.95	230.96	190.54	40.42	5.713	
5,800.00	5,667.31	5,793.58	5,599.85	22.06	22.73	-18.36	-1,323.62	30.28	236.48	195.33	41.15	5.747	
5,900.00	5,764.27	5,889.86	5,691.71	22.47	23.14	-18.21	-1,352.44	30.45	242.26	200.43	41.83	5.792	
6,000.00	5,861.24	5,977.72	5,774.83	22.87	23.51	-20.43	-1,378.45	41.26	251.60	209.20	42.40	5.934	
6,100.00	5,958.20	6,060.27	5,850.68	23.28	23.83	-24.86	-1,402.08	63.44	266.91	224.10	42.81	6.234	
6,200.00	6,055.17	6,134.96	5,916.08	23.68	24.11	-30.30	-1,422.39	93.15	290.55	247.71	42.84	6.783	
6,300.00	6,152.13	6,200.00	5,969.61	24.09	24.32	-35.67	-1,438.94	126.09	324.29	282.04	42.25	7.676	
6,400.00	6,249.10	6,250.00	6,008.16	24.50	24.47	-39.94	-1,450.82	155.60	368.58	327.79	40.79	9.036	
6,500.00	6,346.06	6,300.00	6,044.12	24.90	24.61	-44.15	-1,461.86	188.53	422.29	382.85	39.44	10.708	
6,600.00	6,443.03	6,350.00	6,077.21	25.31	24.74	-48.17	-1,471.98	224.60	484.09	445.76	38.33	12.628	
6,700.00	6,539.99	6,384.02	6,097.95	25.71	24.81	-50.75	-1,478.29	250.80	552.57	515.84	36.73	15.046	
6,800.00	6,636.96	6,414.79	6,115.41	26.12	24.88	-52.96	-1,483.59	275.58	626.32	591.00	35.32	17.731	
6,893.78	6,727.89	6,450.00	6,133.79	26.50	24.95	-55.35	-1,489.14	305.08	699.47	664.90	34.57	20.234	
6,900.00	6,733.92	6,450.00	6,133.79	26.53	24.95	-53.35	-1,489.14	305.08	704.36	669.93	34.43	20.459	
6,950.00	6,782.34	6,450.00	6,133.79	26.73	24.95	-37.80	-1,489.14	305.08	743.21	709.92	33.29	22.327	
7,000.00	6,830.39	6,468.17	6,142.60	26.93	24.98	-26.08	-1,491.79	320.76	780.61	747.78	32.83	23.774	
11,000.00	7,289.00	9,888.90	6,214.00	49.16	46.62	0.04	-1,489.12	3,728.55	1,075.00	1,031.91	43.09	24.947	
11,100.00	7,289.00	9,988.90	6,214.00	50.11	47.59	0.04	-1,488.39	3,828.55	1,075.00	1,031.14	43.86	24.509	
11,200.00	7,289.00	10,088.90	6,214.00	51.06	48.57	0.04	-1,487.65	3,928.55	1,075.00	1,030.36	44.64	24.083	
11,300.00	7,289.00	10,188.90	6,214.00	52.02	49.56	0.04	-1,486.91	4,028.55	1,075.00	1,029.58	45.42	23.669	
11,400.00	7,289.00	10,288.90	6,214.00	52.98	50.56	0.04	-1,486.18	4,128.54	1,075.00	1,028.80	46.20	23.267	
11,500.00	7,289.00	10,388.90	6,214.00	53.95	51.56	0.03	-1,485.44	4,228.54	1,075.00	1,028.01	46.99	22.876	
11,600.00	7,289.00	10,488.90	6,214.00	54.93	52.56	0.03	-1,484.71	4,328.54	1,075.00	1,027.21	47.79	22.496	
11,700.00	7,289.00	10,588.90	6,214.00	55.91	53.57	0.03	-1,483.97	4,428.53	1,075.00	1,026.42	48.58	22.127	
11,800.00	7,289.00	10,688.90	6,214.00	56.90	54.58	0.03	-1,483.24	4,528.53	1,075.00	1,025.62	49.39	21.768	
11,900.00	7,289.00	10,788.90	6,214.00	57.89	55.60	0.03	-1,482.50	4,628.53	1,075.00	1,024.81	50.19	21.419	
12,000.00	7,289.00	10,888.90	6,214.00	58.89	56.62	0.03	-1,481.76	4,728.53	1,075.00	1,024.00	51.00	21.079	
12,100.00	7,289.00	10,988.90	6,214.00	59.89	57.65	0.03	-1,481.03	4,828.52	1,075.00	1,023.19	51.81	20.749	
12,200.00	7,289.00	11,088.90	6,214.00	60.90	58.68	0.03	-1,480.29	4,928.52	1,075.00	1,022.37	52.63	20.427	
12,300.00	7,289.00	11,188.90	6,214.00	61.91	59.71	0.03	-1,479.56	5,028.52	1,075.00	1,021.56	53.44	20.114	
12,400.00	7,289.00	11,288.90	6,214.00	62.92	60.75	0.03	-1,478.82	5,128.52	1,075.00	1,020.73	54.27	19.810	
12,500.00	7,289.00	11,388.90	6,214.00	63.94	61.79	0.03	-1,478.09	5,228.51	1,075.00	1,019.91	55.09	19.514	
12,600.00	7,289.00	11,488.90	6,214.00	64.96	62.83	0.03	-1,477.35	5,328.51	1,075.00	1,019.08	55.92	19.225	
12,700.00	7,289.00	11,588.90	6,214.00	65.98	63.87	0.03	-1,476.61	5,428.51	1,075.00	1,018.26	56.74	18.945	
12,800.00	7,289.00	11,688.90	6,214.00	67.01	64.92	0.03	-1,475.88	5,528.51	1,075.00	1,017.42	57.58	18.671	
12,900.00	7,289.00	11,788.90	6,214.00	68.04	65.97	0.03	-1,475.14	5,628.50	1,075.00	1,016.59	58.41	18.405	
13,000.00	7,289.00	11,888.90	6,214.00	69.08	67.02	0.03	-1,474.41	5,728.50	1,075.00	1,015.75	59.25	18.145	
13,100.00	7,289.00	11,988.90	6,214.00	70.11	68.08	0.03	-1,473.67	5,828.50	1,075.00	1,014.92	60.08	17.892	
13,200.00	7,289.00	12,088.90	6,214.00	71.15	69.13	0.03	-1,472.94	5,928.49	1,075.00	1,014.08	60.92	17.645	
13,300.00	7,289.00	12,188.90	6,214.00	72.19	70.19	0.03	-1,472.20	6,028.49	1,075.00	1,013.24	61.76	17.405	
13,400.00	7,289.00	12,288.90	6,214.00	73.24	71.25	0.03	-1,471.46	6,128.49	1,075.00	1,012.39	62.61	17.170	
13,500.00	7,289.00	12,388.90	6,214.00	74.28	72.31	0.02	-1,470.73	6,228.49	1,075.00	1,011.55	63.45	16.941	
13,600.00	7,289.00	12,488.90	6,214.00	75.33	73.38	0.02	-1,469.99	6,328.48	1,075.00	1,010.70	64.30	16.718	
13,700.00	7,289.00	12,588.90	6,214.00	76.38	74.44	0.02	-1,469.26	6,428.48	1,075.00	1,009.85	65.15	16.500	
13,800.00	7,289.00	12,688.90	6,214.00	77.43	75.51	0.02	-1,468.52	6,528.48	1,075.00	1,009.00	66.00	16.288	
13,900.00	7,289.00	12,788.90	6,214.00	78.49	76.58	0.02	-1,467.79	6,628.48	1,075.00	1,008.15	66.85	16.080	
14,000.00	7,289.00	12,888.90	6,214.00	79.54	77.65	0.02	-1,467.05	6,728.47	1,075.00	1,007.29	67.71	15.877	
14,100.00	7,289.00	12,988.90	6,214.00	80.60	78.72	0.02	-1,466.31	6,828.47	1,075.00	1,006.44	68.56	15.679	
14,200.00	7,289.00	13,088.90	6,214.00	81.66	79.80	0.02	-1,465.58	6,928.47	1,075.00	1,005.58	69.42	15.486	
14,300.00	7,289.00	13,188.90	6,214.00	82.72	80.87	0.02	-1,464.84	7,028.46	1,075.00	1,004.72	70.28	15.297	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
14,400.00	7,289.00	13,288.90	6,214.00	83.78	81.95	0.02	-1,464.11	7,128.46	1,075.00	1,003.87	71.13	15.112	
14,500.00	7,289.00	13,388.90	6,214.00	84.85	83.02	0.02	-1,463.37	7,228.46	1,075.00	1,003.01	71.99	14.932	
14,600.00	7,289.00	13,488.90	6,214.00	85.91	84.10	0.02	-1,462.64	7,328.46	1,075.00	1,002.14	72.86	14.755	
14,700.00	7,289.00	13,588.90	6,214.00	86.98	85.18	0.02	-1,461.90	7,428.45	1,075.00	1,001.28	73.72	14.583	
14,800.00	7,289.00	13,688.90	6,214.00	88.05	86.26	0.02	-1,461.16	7,528.45	1,075.00	1,000.42	74.58	14.414	
14,900.00	7,289.00	13,788.90	6,214.00	89.12	87.34	0.02	-1,460.43	7,628.45	1,075.00	999.55	75.45	14.249	
15,000.00	7,289.00	13,888.90	6,214.00	90.19	88.43	0.02	-1,459.69	7,728.45	1,075.00	998.69	76.31	14.087	
15,100.00	7,289.00	13,988.90	6,214.00	91.26	89.51	0.02	-1,458.96	7,828.44	1,075.00	997.82	77.18	13.929	
15,200.00	7,289.00	14,088.90	6,214.00	92.34	90.59	0.02	-1,458.22	7,928.44	1,075.00	996.95	78.05	13.774	
15,300.00	7,289.00	14,188.90	6,214.00	93.41	91.68	0.02	-1,457.49	8,028.44	1,075.00	996.09	78.91	13.622	
15,400.00	7,289.00	14,288.90	6,214.00	94.49	92.77	0.01	-1,456.75	8,128.43	1,075.00	995.22	79.78	13.474	
15,500.00	7,289.00	14,388.90	6,214.00	95.56	93.85	0.01	-1,456.01	8,228.43	1,075.00	994.35	80.65	13.329	
15,600.00	7,289.00	14,488.90	6,214.00	96.64	94.94	0.01	-1,455.28	8,328.43	1,075.00	993.48	81.52	13.186	
15,700.00	7,289.00	14,588.90	6,214.00	97.72	96.03	0.01	-1,454.54	8,428.43	1,075.00	992.60	82.40	13.047	
15,800.00	7,289.00	14,688.90	6,214.00	98.80	97.12	0.01	-1,453.81	8,528.42	1,075.00	991.73	83.27	12.910	
15,900.00	7,289.00	14,788.90	6,214.00	99.88	98.21	0.01	-1,453.07	8,628.42	1,075.00	990.86	84.14	12.776	
16,000.00	7,289.00	14,888.90	6,214.00	100.96	99.30	0.01	-1,452.34	8,728.42	1,075.00	989.98	85.02	12.645	
16,100.00	7,289.00	14,988.90	6,214.00	102.05	100.39	0.01	-1,451.60	8,828.42	1,075.00	989.11	85.89	12.516	
16,200.00	7,289.00	15,088.90	6,214.00	103.13	101.49	0.01	-1,450.86	8,928.41	1,075.00	988.23	86.77	12.389	
16,300.00	7,289.00	15,188.90	6,214.00	104.21	102.58	0.01	-1,450.13	9,028.41	1,075.00	987.36	87.64	12.266	
16,400.00	7,289.00	15,288.90	6,214.00	105.30	103.67	0.01	-1,449.39	9,128.41	1,075.00	986.48	88.52	12.144	
16,500.00	7,289.00	15,388.90	6,214.00	106.39	104.77	0.01	-1,448.66	9,228.41	1,075.00	985.60	89.40	12.025	
16,600.00	7,289.00	15,488.90	6,214.00	107.47	105.86	0.01	-1,447.92	9,328.40	1,075.00	984.72	90.28	11.908	
16,700.00	7,289.00	15,588.90	6,214.00	108.56	106.96	0.01	-1,447.19	9,428.40	1,075.00	983.85	91.15	11.793	
16,800.00	7,289.00	15,688.90	6,214.00	109.65	108.05	0.01	-1,446.45	9,528.40	1,075.00	982.97	92.03	11.680	
16,900.00	7,289.00	15,788.90	6,214.00	110.74	109.15	0.01	-1,445.71	9,628.39	1,075.00	982.09	92.91	11.570	
17,000.00	7,289.00	15,888.90	6,214.00	111.83	110.25	0.01	-1,444.98	9,728.39	1,075.00	981.21	93.79	11.461	
17,100.00	7,289.00	15,988.90	6,214.00	112.92	111.34	0.01	-1,444.24	9,828.39	1,075.00	980.32	94.68	11.355	
17,200.00	7,289.00	16,088.90	6,214.00	114.01	112.44	0.01	-1,443.51	9,928.39	1,075.00	979.44	95.56	11.250	
17,300.00	7,289.00	16,188.90	6,214.00	115.10	113.54	0.01	-1,442.77	10,028.38	1,075.00	978.56	96.44	11.147	
17,400.00	7,289.00	16,288.90	6,214.00	116.19	114.64	0.00	-1,442.04	10,128.38	1,075.00	977.68	97.32	11.046	
17,500.00	7,289.00	16,388.90	6,214.00	117.28	115.74	0.00	-1,441.30	10,228.38	1,075.00	976.80	98.20	10.947	
17,600.00	7,289.00	16,488.90	6,214.00	118.37	116.84	0.00	-1,440.56	10,328.38	1,075.00	975.91	99.09	10.849	
17,700.00	7,289.00	16,588.90	6,214.00	119.47	117.94	0.00	-1,439.83	10,428.37	1,075.00	975.03	99.97	10.753	
17,800.00	7,289.00	16,688.90	6,214.00	120.56	119.04	0.00	-1,439.09	10,528.37	1,075.00	974.14	100.86	10.659	
17,900.00	7,289.00	16,788.90	6,214.00	121.66	120.14	0.00	-1,438.36	10,628.37	1,075.00	973.26	101.74	10.566	
18,000.00	7,289.00	16,888.90	6,214.00	122.75	121.24	0.00	-1,437.62	10,728.36	1,075.00	972.37	102.63	10.475	
18,100.00	7,289.00	16,988.90	6,214.00	123.85	122.34	0.00	-1,436.89	10,828.36	1,075.00	971.49	103.51	10.385	
18,200.00	7,289.00	17,088.90	6,214.00	124.94	123.45	0.00	-1,436.15	10,928.36	1,075.00	970.60	104.40	10.297	
18,274.81	7,289.00	17,163.72	6,214.00	125.76	124.27	0.00	-1,435.60	11,003.17	1,075.00	969.94	105.06	10.232	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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
Rule Assigned:													
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,600.00	6,443.03	6,699.77	6,619.52	25.31	24.31	-4.18	-2,401.04	-5.76	1,115.41	1,069.48	45.93	24.283	
6,700.00	6,539.99	6,791.15	6,709.55	25.71	24.65	-4.28	-2,385.44	-6.23	1,074.82	1,028.21	46.61	23.061	
6,800.00	6,636.96	6,882.52	6,799.58	26.12	24.99	-4.39	-2,369.84	-6.69	1,034.22	986.94	47.28	21.873	
6,893.78	6,727.89	6,968.21	6,884.01	26.50	25.31	-4.50	-2,355.21	-7.13	996.16	948.24	47.92	20.789	
6,900.00	6,733.92	6,973.89	6,889.61	26.53	25.33	-1.76	-2,354.24	-7.16	993.63	945.67	47.96	20.718	
6,950.00	6,782.34	7,019.51	6,934.56	26.73	25.50	19.64	-2,346.46	-7.39	973.28	924.99	48.29	20.153	
7,000.00	6,830.39	7,064.76	6,979.14	26.93	25.67	37.71	-2,338.73	-7.62	952.98	904.35	48.62	19.600	
7,050.00	6,877.70	7,109.30	7,023.03	27.12	25.83	51.73	-2,331.13	-7.85	932.96	884.02	48.94	19.063	
7,100.00	6,923.92	7,152.79	7,065.88	27.30	25.99	62.60	-2,323.71	-8.07	913.53	864.28	49.25	18.549	
7,150.00	6,968.68	7,194.89	7,107.36	27.47	26.15	71.32	-2,316.52	-8.28	895.07	845.52	49.55	18.063	
7,200.00	7,011.65	7,235.29	7,147.17	27.63	26.30	78.55	-2,309.62	-8.49	878.00	828.14	49.85	17.611	
7,250.00	7,052.50	7,273.69	7,185.00	27.78	26.44	84.67	-2,303.07	-8.68	862.78	812.63	50.16	17.202	
7,300.00	7,090.93	7,309.78	7,220.56	27.91	26.58	89.88	-2,296.91	-8.87	849.95	799.48	50.47	16.842	
7,350.00	7,126.64	7,343.29	7,253.58	28.04	26.70	94.29	-2,291.19	-9.04	840.01	789.22	50.79	16.539	
7,400.00	7,159.35	7,373.98	7,283.81	28.15	26.81	97.96	-2,285.95	-9.20	833.47	782.33	51.13	16.300	
7,450.00	7,188.82	7,401.59	7,311.03	28.24	26.92	100.89	-2,281.23	-9.34	830.79	779.29	51.50	16.133	
7,457.24	7,192.80	7,405.32	7,314.70	28.25	26.93	101.25	-2,280.60	-9.35	830.74	779.19	51.55	16.115 CC, ES	
7,500.00	7,214.82	7,425.93	7,335.01	28.33	27.01	103.09	-2,277.08	-9.46	832.34	780.46	51.88	16.044	
7,550.00	7,237.16	7,446.81	7,355.58	28.40	27.08	104.56	-2,273.51	-9.57	838.38	786.10	52.27	16.038	
7,600.00	7,255.67	7,464.07	7,372.59	28.46	27.15	105.26	-2,270.57	-9.65	849.03	796.35	52.68	16.118	
7,650.00	7,270.20	7,477.58	7,385.90	28.52	27.20	105.17	-2,268.26	-9.72	864.25	811.18	53.07	16.285	
7,700.00	7,280.65	7,487.24	7,395.42	28.57	27.23	104.25	-2,266.61	-9.77	883.89	830.44	53.45	16.537	
7,750.00	7,286.93	7,492.97	7,401.06	28.62	27.26	102.43	-2,265.63	-9.80	907.62	853.82	53.80	16.871	
7,799.47	7,289.00	7,494.73	7,402.79	28.66	27.26	99.67	-2,265.33	-9.81	934.72	880.62	54.11	17.276	
7,900.00	7,289.00	7,494.34	7,402.41	28.76	27.26	99.64	-2,265.40	-9.81	996.53	941.86	54.66	18.231	
8,000.00	7,289.00	7,493.95	7,402.03	28.89	27.26	99.61	-2,265.47	-9.81	1,063.88	1,008.73	55.16	19.289	
8,100.00	7,289.00	7,493.57	7,401.65	29.06	27.26	99.59	-2,265.53	-9.80	1,136.06	1,080.47	55.59	20.437	
8,200.00	7,289.00	7,493.18	7,401.27	29.28	27.26	99.56	-2,265.60	-9.80	1,212.19	1,156.23	55.96	21.662	
8,300.00	7,289.00	7,492.80	7,400.89	29.55	27.25	99.53	-2,265.66	-9.80	1,291.58	1,235.30	56.28	22.949	
8,400.00	7,289.00	7,492.41	7,400.51	29.87	27.25	99.50	-2,265.73	-9.80	1,373.67	1,317.11	56.55	24.289	
12,100.00	7,289.00	13,549.32	8,853.00	59.89	62.46	156.84	-2,155.52	4,832.99	1,716.35	1,647.51	68.83	24.935	
12,200.00	7,289.00	13,649.32	8,853.00	60.90	63.42	156.84	-2,154.86	4,932.99	1,716.37	1,646.46	69.91	24.551	
12,300.00	7,289.00	13,749.32	8,853.00	61.91	64.39	156.83	-2,154.20	5,032.99	1,716.40	1,645.41	70.99	24.178	
12,400.00	7,289.00	13,849.32	8,853.00	62.92	65.37	156.83	-2,153.54	5,132.98	1,716.42	1,644.35	72.08	23.814	
12,500.00	7,289.00	13,949.32	8,853.00	63.94	66.35	156.83	-2,152.87	5,232.98	1,716.45	1,643.28	73.17	23.459	
12,600.00	7,289.00	14,049.32	8,853.00	64.96	67.34	156.83	-2,152.21	5,332.98	1,716.47	1,642.21	74.26	23.114	
12,700.00	7,289.00	14,149.32	8,853.00	65.98	68.33	156.83	-2,151.55	5,432.98	1,716.50	1,641.14	75.36	22.777	
12,800.00	7,289.00	14,249.32	8,853.00	67.01	69.32	156.82	-2,150.89	5,532.97	1,716.52	1,640.06	76.46	22.449	
12,900.00	7,289.00	14,349.32	8,853.00	68.04	70.32	156.82	-2,150.22	5,632.97	1,716.55	1,638.98	77.57	22.129	
13,000.00	7,289.00	14,449.32	8,853.00	69.08	71.32	156.82	-2,149.56	5,732.97	1,716.57	1,637.89	78.68	21.817	
13,100.00	7,289.00	14,549.32	8,853.00	70.11	72.32	156.82	-2,148.90	5,832.97	1,716.60	1,636.80	79.79	21.513	
13,200.00	7,289.00	14,649.32	8,853.00	71.15	73.33	156.82	-2,148.24	5,932.97	1,716.62	1,635.71	80.91	21.216	
13,300.00	7,289.00	14,749.32	8,853.00	72.19	74.34	156.81	-2,147.58	6,032.96	1,716.65	1,634.62	82.03	20.927	
13,400.00	7,289.00	14,849.32	8,853.00	73.24	75.36	156.81	-2,146.91	6,132.96	1,716.67	1,633.52	83.16	20.644	
13,500.00	7,289.00	14,949.32	8,853.00	74.28	76.37	156.81	-2,146.25	6,232.96	1,716.70	1,632.42	84.28	20.368	
13,600.00	7,289.00	15,049.32	8,853.00	75.33	77.39	156.81	-2,145.59	6,332.96	1,716.72	1,631.31	85.41	20.099	
13,700.00	7,289.00	15,149.32	8,853.00	76.38	78.42	156.81	-2,144.93	6,432.95	1,716.75	1,630.20	86.54	19.837	
13,800.00	7,289.00	15,249.32	8,853.00	77.43	79.44	156.80	-2,144.26	6,532.95	1,716.77	1,629.09	87.68	19.580	
13,900.00	7,289.00	15,349.32	8,853.00	78.49	80.47	156.80	-2,143.60	6,632.95	1,716.80	1,627.98	88.82	19.330	
14,000.00	7,289.00	15,449.32	8,853.00	79.54	81.50	156.80	-2,142.94	6,732.95	1,716.82	1,626.87	89.96	19.085	
14,100.00	7,289.00	15,549.32	8,853.00	80.60	82.54	156.80	-2,142.28	6,832.95	1,716.85	1,625.75	91.10	18.846	
14,200.00	7,289.00	15,649.32	8,853.00	81.66	83.57	156.80	-2,141.62	6,932.94	1,716.87	1,624.63	92.25	18.612	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
14,300.00	7,289.00	15,749.32	8,853.00	82.72	84.61	156.79	-2,140.95	7,032.94	1,716.90	1,623.51	93.39	18.384	
14,400.00	7,289.00	15,849.32	8,853.00	83.78	85.65	156.79	-2,140.29	7,132.94	1,716.92	1,622.38	94.54	18.160	
14,500.00	7,289.00	15,949.32	8,853.00	84.85	86.69	156.79	-2,139.63	7,232.94	1,716.95	1,621.26	95.69	17.942	
14,600.00	7,289.00	16,049.32	8,853.00	85.91	87.73	156.79	-2,138.97	7,332.94	1,716.97	1,620.13	96.85	17.729	
14,700.00	7,289.00	16,149.32	8,853.00	86.98	88.78	156.79	-2,138.30	7,432.93	1,717.00	1,619.00	98.00	17.520	
14,800.00	7,289.00	16,249.32	8,853.00	88.05	89.83	156.78	-2,137.64	7,532.93	1,717.03	1,617.86	99.16	17.316	
14,900.00	7,289.00	16,349.32	8,853.00	89.12	90.88	156.78	-2,136.98	7,632.93	1,717.05	1,616.73	100.32	17.116	
15,000.00	7,289.00	16,449.32	8,853.00	90.19	91.93	156.78	-2,136.32	7,732.93	1,717.08	1,615.59	101.48	16.920	
15,100.00	7,289.00	16,549.32	8,853.00	91.26	92.98	156.78	-2,135.66	7,832.92	1,717.10	1,614.46	102.64	16.729	
15,200.00	7,289.00	16,649.32	8,853.00	92.34	94.04	156.78	-2,134.99	7,932.92	1,717.13	1,613.32	103.81	16.541	
15,300.00	7,289.00	16,749.32	8,853.00	93.41	95.09	156.78	-2,134.33	8,032.92	1,717.15	1,612.18	104.98	16.358	
15,400.00	7,289.00	16,849.32	8,853.00	94.49	96.15	156.77	-2,133.67	8,132.92	1,717.18	1,611.03	106.14	16.178	
15,500.00	7,289.00	16,949.32	8,853.00	95.56	97.21	156.77	-2,133.01	8,232.92	1,717.20	1,609.89	107.31	16.002	
15,600.00	7,289.00	17,049.32	8,853.00	96.64	98.27	156.77	-2,132.34	8,332.91	1,717.23	1,608.74	108.48	15.829	
15,700.00	7,289.00	17,149.32	8,853.00	97.72	99.33	156.77	-2,131.68	8,432.91	1,717.25	1,607.60	109.66	15.660	
15,800.00	7,289.00	17,249.32	8,853.00	98.80	100.39	156.77	-2,131.02	8,532.91	1,717.28	1,606.45	110.83	15.495	
15,900.00	7,289.00	17,349.32	8,853.00	99.88	101.46	156.76	-2,130.36	8,632.91	1,717.30	1,605.30	112.00	15.333	
16,000.00	7,289.00	17,449.32	8,853.00	100.96	102.52	156.76	-2,129.69	8,732.90	1,717.33	1,604.15	113.18	15.173	
16,100.00	7,289.00	17,549.32	8,853.00	102.05	103.59	156.76	-2,129.03	8,832.90	1,717.35	1,603.00	114.36	15.017	
16,200.00	7,289.00	17,649.32	8,853.00	103.13	104.66	156.76	-2,128.37	8,932.90	1,717.38	1,601.84	115.54	14.864	
16,300.00	7,289.00	17,749.32	8,853.00	104.21	105.73	156.76	-2,127.71	9,032.90	1,717.40	1,600.69	116.72	14.714	
16,400.00	7,289.00	17,849.32	8,853.00	105.30	106.80	156.75	-2,127.05	9,132.90	1,717.43	1,599.53	117.90	14.567	
16,500.00	7,289.00	17,949.32	8,853.00	106.39	107.87	156.75	-2,126.38	9,232.89	1,717.45	1,598.37	119.08	14.423	
16,600.00	7,289.00	18,049.32	8,853.00	107.47	108.94	156.75	-2,125.72	9,332.89	1,717.48	1,597.22	120.26	14.281	
16,700.00	7,289.00	18,149.32	8,853.00	108.56	110.01	156.75	-2,125.06	9,432.89	1,717.50	1,596.06	121.45	14.142	
16,800.00	7,289.00	18,249.32	8,853.00	109.65	111.09	156.75	-2,124.40	9,532.89	1,717.53	1,594.90	122.63	14.005	
16,900.00	7,289.00	18,349.32	8,853.00	110.74	112.16	156.74	-2,123.73	9,632.88	1,717.55	1,593.73	123.82	13.871	
17,000.00	7,289.00	18,449.32	8,853.00	111.83	113.24	156.74	-2,123.07	9,732.88	1,717.58	1,592.57	125.01	13.740	
17,100.00	7,289.00	18,549.32	8,853.00	112.92	114.31	156.74	-2,122.41	9,832.88	1,717.61	1,591.41	126.20	13.610	
17,200.00	7,289.00	18,649.32	8,853.00	114.01	115.39	156.74	-2,121.75	9,932.88	1,717.63	1,590.24	127.39	13.484	
17,300.00	7,289.00	18,749.32	8,853.00	115.10	116.47	156.74	-2,121.09	10,032.88	1,717.66	1,589.08	128.58	13.359	
17,400.00	7,289.00	18,849.32	8,853.00	116.19	117.55	156.73	-2,120.42	10,132.87	1,717.68	1,587.91	129.77	13.236	
17,500.00	7,289.00	18,949.32	8,853.00	117.28	118.63	156.73	-2,119.76	10,232.87	1,717.71	1,586.74	130.96	13.116	
17,600.00	7,289.00	19,049.32	8,853.00	118.37	119.71	156.73	-2,119.10	10,332.87	1,717.73	1,585.58	132.15	12.998	
17,700.00	7,289.00	19,149.32	8,853.00	119.47	120.79	156.73	-2,118.44	10,432.87	1,717.76	1,584.41	133.35	12.882	
17,800.00	7,289.00	19,249.32	8,853.00	120.56	121.87	156.73	-2,117.77	10,532.86	1,717.78	1,583.24	134.54	12.768	
17,900.00	7,289.00	19,349.32	8,853.00	121.66	122.96	156.72	-2,117.11	10,632.86	1,717.81	1,582.07	135.74	12.655	
18,000.00	7,289.00	19,449.32	8,853.00	122.75	124.04	156.72	-2,116.45	10,732.86	1,717.83	1,580.90	136.94	12.545	
18,100.00	7,289.00	19,549.32	8,853.00	123.85	125.12	156.72	-2,115.79	10,832.86	1,717.86	1,579.72	138.13	12.436	
18,200.00	7,289.00	19,649.32	8,853.00	124.94	126.21	156.72	-2,115.13	10,932.86	1,717.88	1,578.55	139.33	12.330	
18,201.10	7,289.00	19,650.41	8,853.00	124.95	126.22	156.72	-2,115.12	10,933.95	1,717.88	1,578.54	139.34	12.328	
18,274.81	7,289.00	19,710.50	8,853.00	125.76	126.87	156.72	-2,114.72	10,994.04	1,717.96	1,577.83	140.12	12.261 SF	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
12,400.00	7,289.00	13,748.11	8,853.00	62.92	64.65	128.34	-3,473.45	5,141.73	2,543.83	2,440.50	103.33	24.619	CC
12,500.00	7,289.00	13,848.11	8,853.00	63.94	65.64	128.34	-3,472.79	5,241.73	2,543.87	2,438.87	105.00	24.227	
12,600.00	7,289.00	13,948.11	8,853.00	64.96	66.63	128.34	-3,472.12	5,341.73	2,543.92	2,437.24	106.68	23.845	
12,700.00	7,289.00	14,048.11	8,853.00	65.98	67.63	128.34	-3,471.46	5,441.73	2,543.97	2,435.60	108.37	23.474	
12,800.00	7,289.00	14,148.11	8,853.00	67.01	68.63	128.34	-3,470.80	5,541.73	2,544.02	2,433.96	110.07	23.113	
12,900.00	7,289.00	14,248.11	8,853.00	68.04	69.63	128.34	-3,470.13	5,641.72	2,544.07	2,432.31	111.77	22.762	
13,000.00	7,289.00	14,348.11	8,853.00	69.08	70.64	128.33	-3,469.47	5,741.72	2,544.12	2,430.65	113.47	22.421	
13,100.00	7,289.00	14,448.11	8,853.00	70.11	71.65	128.33	-3,468.81	5,841.72	2,544.17	2,428.99	115.18	22.088	
13,200.00	7,289.00	14,548.11	8,853.00	71.15	72.66	128.33	-3,468.15	5,941.72	2,544.22	2,427.33	116.90	21.765	
13,300.00	7,289.00	14,648.11	8,853.00	72.19	73.68	128.33	-3,467.48	6,041.71	2,544.27	2,425.66	118.61	21.450	
13,400.00	7,289.00	14,748.11	8,853.00	73.24	74.70	128.33	-3,466.82	6,141.71	2,544.32	2,423.98	120.34	21.143	
13,500.00	7,289.00	14,848.11	8,853.00	74.28	75.72	128.33	-3,466.16	6,241.71	2,544.37	2,422.31	122.06	20.844	
13,600.00	7,289.00	14,948.11	8,853.00	75.33	76.74	128.33	-3,465.50	6,341.71	2,544.42	2,420.63	123.80	20.553	
13,700.00	7,289.00	15,048.11	8,853.00	76.38	77.77	128.33	-3,464.83	6,441.71	2,544.47	2,418.94	125.53	20.270	
13,800.00	7,289.00	15,148.11	8,853.00	77.43	78.80	128.33	-3,464.17	6,541.70	2,544.52	2,417.25	127.27	19.993	
13,900.00	7,289.00	15,248.11	8,853.00	78.49	79.83	128.33	-3,463.51	6,641.70	2,544.57	2,415.56	129.01	19.724	
14,000.00	7,289.00	15,348.11	8,853.00	79.54	80.87	128.33	-3,462.84	6,741.70	2,544.62	2,413.87	130.75	19.461	
14,100.00	7,289.00	15,448.11	8,853.00	80.60	81.91	128.32	-3,462.18	6,841.70	2,544.67	2,412.17	132.50	19.205	
14,200.00	7,289.00	15,548.11	8,853.00	81.66	82.95	128.32	-3,461.52	6,941.69	2,544.72	2,410.47	134.25	18.955	
14,300.00	7,289.00	15,648.11	8,853.00	82.72	83.99	128.32	-3,460.86	7,041.69	2,544.77	2,408.76	136.01	18.710	
14,400.00	7,289.00	15,748.11	8,853.00	83.78	85.03	128.32	-3,460.19	7,141.69	2,544.82	2,407.05	137.76	18.472	
14,500.00	7,289.00	15,848.11	8,853.00	84.85	86.08	128.32	-3,459.53	7,241.69	2,544.87	2,405.34	139.52	18.240	
14,600.00	7,289.00	15,948.11	8,853.00	85.91	87.13	128.32	-3,458.87	7,341.69	2,544.92	2,403.63	141.29	18.012	
14,700.00	7,289.00	16,048.11	8,853.00	86.98	88.18	128.32	-3,458.21	7,441.68	2,544.97	2,401.92	143.05	17.791	
14,800.00	7,289.00	16,148.11	8,853.00	88.05	89.23	128.32	-3,457.54	7,541.68	2,545.02	2,400.20	144.82	17.574	
14,900.00	7,289.00	16,248.11	8,853.00	89.12	90.28	128.32	-3,456.88	7,641.68	2,545.07	2,398.48	146.59	17.362	
15,000.00	7,289.00	16,348.11	8,853.00	90.19	91.34	128.32	-3,456.22	7,741.68	2,545.12	2,396.76	148.36	17.155	
15,100.00	7,289.00	16,448.11	8,853.00	91.26	92.39	128.32	-3,455.55	7,841.68	2,545.17	2,395.03	150.13	16.953	
15,200.00	7,289.00	16,548.11	8,853.00	92.34	93.45	128.32	-3,454.89	7,941.67	2,545.22	2,393.31	151.91	16.755	
15,300.00	7,289.00	16,648.11	8,853.00	93.41	94.51	128.31	-3,454.23	8,041.67	2,545.27	2,391.58	153.69	16.561	
15,400.00	7,289.00	16,748.11	8,853.00	94.49	95.57	128.31	-3,453.57	8,141.67	2,545.32	2,389.85	155.47	16.372	
15,500.00	7,289.00	16,848.11	8,853.00	95.56	96.63	128.31	-3,452.90	8,241.67	2,545.37	2,388.11	157.25	16.187	
15,600.00	7,289.00	16,948.11	8,853.00	96.64	97.70	128.31	-3,452.24	8,341.66	2,545.42	2,386.38	159.04	16.005	
15,700.00	7,289.00	17,048.11	8,853.00	97.72	98.76	128.31	-3,451.58	8,441.66	2,545.47	2,384.64	160.82	15.828	
15,800.00	7,289.00	17,148.11	8,853.00	98.80	99.83	128.31	-3,450.91	8,541.66	2,545.52	2,382.91	162.61	15.654	
15,900.00	7,289.00	17,248.11	8,853.00	99.88	100.89	128.31	-3,450.25	8,641.66	2,545.56	2,381.17	164.40	15.484	
16,000.00	7,289.00	17,348.11	8,853.00	100.96	101.96	128.31	-3,449.59	8,741.66	2,545.61	2,379.43	166.19	15.318	
16,100.00	7,289.00	17,448.11	8,853.00	102.05	103.03	128.31	-3,448.93	8,841.65	2,545.66	2,377.68	167.98	15.154	
16,200.00	7,289.00	17,548.11	8,853.00	103.13	104.10	128.31	-3,448.26	8,941.65	2,545.71	2,375.94	169.78	14.995	
16,300.00	7,289.00	17,648.11	8,853.00	104.21	105.17	128.31	-3,447.60	9,041.65	2,545.76	2,374.19	171.57	14.838	
16,400.00	7,289.00	17,748.11	8,853.00	105.30	106.25	128.30	-3,446.94	9,141.65	2,545.81	2,372.45	173.37	14.684	
16,500.00	7,289.00	17,848.11	8,853.00	106.39	107.32	128.30	-3,446.28	9,241.64	2,545.86	2,370.70	175.17	14.534	
16,600.00	7,289.00	17,948.11	8,853.00	107.47	108.39	128.30	-3,445.61	9,341.64	2,545.91	2,368.95	176.97	14.386	
16,700.00	7,289.00	18,048.11	8,853.00	108.56	109.47	128.30	-3,444.95	9,441.64	2,545.96	2,367.20	178.77	14.242	
16,800.00	7,289.00	18,148.11	8,853.00	109.65	110.55	128.30	-3,444.29	9,541.64	2,546.01	2,365.44	180.57	14.100	
16,900.00	7,289.00	18,248.11	8,853.00	110.74	111.62	128.30	-3,443.62	9,641.64	2,546.06	2,363.69	182.37	13.961	
17,000.00	7,289.00	18,348.11	8,853.00	111.83	112.70	128.30	-3,442.96	9,741.63	2,546.11	2,361.93	184.18	13.824	
17,100.00	7,289.00	18,448.11	8,853.00	112.92	113.78	128.30	-3,442.30	9,841.63	2,546.16	2,360.18	185.98	13.690	
17,200.00	7,289.00	18,548.11	8,853.00	114.01	114.86	128.30	-3,441.64	9,941.63	2,546.21	2,358.42	187.79	13.559	
17,300.00	7,289.00	18,648.11	8,853.00	115.10	115.94	128.30	-3,440.97	10,041.63	2,546.26	2,356.66	189.60	13.430	
17,400.00	7,289.00	18,748.11	8,853.00	116.19	117.02	128.30	-3,440.31	10,141.62	2,546.31	2,354.90	191.41	13.303	
17,500.00	7,289.00	18,848.11	8,853.00	117.28	118.11	128.29	-3,439.65	10,241.62	2,546.36	2,353.14	193.22	13.179	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
17,600.00	7,289.00	18,948.11	8,853.00	118.37	119.19	128.29	-3,438.99	10,341.62	2,546.41	2,351.38	195.03	13.057	
17,700.00	7,289.00	19,048.11	8,853.00	119.47	120.27	128.29	-3,438.32	10,441.62	2,546.46	2,349.62	196.84	12.937	
17,800.00	7,289.00	19,148.11	8,853.00	120.56	121.36	128.29	-3,437.66	10,541.62	2,546.51	2,347.85	198.66	12.819	
17,900.00	7,289.00	19,248.11	8,853.00	121.66	122.44	128.29	-3,437.00	10,641.61	2,546.56	2,346.09	200.47	12.703	
18,000.00	7,289.00	19,348.11	8,853.00	122.75	123.53	128.29	-3,436.33	10,741.61	2,546.61	2,344.32	202.28	12.589	
18,100.00	7,289.00	19,448.11	8,853.00	123.85	124.62	128.29	-3,435.67	10,841.61	2,546.66	2,342.56	204.10	12.477	
18,200.00	7,289.00	19,548.11	8,853.00	124.94	125.70	128.29	-3,435.01	10,941.61	2,546.71	2,340.79	205.92	12.368	
18,274.81	7,289.00	19,583.50	8,853.00	125.76	126.08	128.29	-3,434.77	10,977.00	2,547.05	2,340.07	206.98	12.306 ES, SF	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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 - (B03) Koala 9 Fed Com 133H - Permit - APD-Rev00													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR (SQ2)													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
7,475.15	7,202.34	7,223.07	7,188.34	28.28	25.76	90.00	-2,764.13	32.65	1,285.89	1,234.41	51.48	24.977	CC, ES
7,500.00	7,214.82	7,235.55	7,200.82	28.33	25.80	90.86	-2,764.13	32.65	1,286.23	1,234.60	51.62	24.917	
7,550.00	7,237.16	7,257.89	7,223.16	28.40	25.88	92.17	-2,764.13	32.65	1,288.99	1,237.09	51.90	24.837	
7,600.00	7,255.67	7,276.40	7,241.67	28.46	25.95	92.91	-2,764.13	32.65	1,294.67	1,242.50	52.17	24.816	
7,650.00	7,270.20	7,290.93	7,256.20	28.52	26.00	93.08	-2,764.13	32.65	1,303.35	1,250.91	52.44	24.853	
7,700.00	7,280.65	7,301.38	7,266.65	28.57	26.03	92.66	-2,764.13	32.65	1,315.04	1,262.34	52.70	24.952	
10,800.00	7,289.00	11,561.75	8,523.00	47.30	48.93	133.08	-2,824.20	3,537.41	1,827.02	1,752.67	74.35	24.573	
10,900.00	7,289.00	11,661.75	8,523.00	48.23	49.81	133.08	-2,823.53	3,637.41	1,827.07	1,751.27	75.79	24.106	
11,000.00	7,289.00	11,761.75	8,523.00	49.16	50.70	133.08	-2,822.87	3,737.41	1,827.11	1,749.87	77.25	23.653	
11,100.00	7,289.00	11,861.75	8,523.00	50.11	51.60	133.08	-2,822.21	3,837.41	1,827.16	1,748.45	78.71	23.213	
11,200.00	7,289.00	11,961.75	8,523.00	51.06	52.51	133.08	-2,821.54	3,937.40	1,827.20	1,747.01	80.19	22.786	
11,300.00	7,289.00	12,061.75	8,523.00	52.02	53.42	133.08	-2,820.88	4,037.40	1,827.25	1,745.57	81.68	22.371	
11,400.00	7,289.00	12,161.75	8,523.00	52.98	54.34	133.08	-2,820.21	4,137.40	1,827.29	1,744.11	83.18	21.968	
11,500.00	7,289.00	12,261.75	8,523.00	53.95	55.27	133.08	-2,819.55	4,237.40	1,827.34	1,742.65	84.69	21.577	
11,600.00	7,289.00	12,361.75	8,523.00	54.93	56.21	133.07	-2,818.89	4,337.40	1,827.38	1,741.17	86.21	21.197	
11,700.00	7,289.00	12,461.75	8,523.00	55.91	57.16	133.07	-2,818.22	4,437.39	1,827.43	1,739.69	87.74	20.828	
11,800.00	7,289.00	12,561.75	8,523.00	56.90	58.11	133.07	-2,817.56	4,537.39	1,827.47	1,738.20	89.28	20.470	
11,900.00	7,289.00	12,661.75	8,523.00	57.89	59.06	133.07	-2,816.89	4,637.39	1,827.52	1,736.70	90.82	20.122	
12,000.00	7,289.00	12,761.75	8,523.00	58.89	60.03	133.07	-2,816.23	4,737.39	1,827.57	1,735.19	92.38	19.784	
12,100.00	7,289.00	12,861.75	8,523.00	59.89	60.99	133.07	-2,815.57	4,837.38	1,827.61	1,733.67	93.94	19.456	
12,200.00	7,289.00	12,961.75	8,523.00	60.90	61.97	133.07	-2,814.90	4,937.38	1,827.66	1,732.15	95.51	19.136	
12,300.00	7,289.00	13,061.75	8,523.00	61.91	62.94	133.06	-2,814.24	5,037.38	1,827.70	1,730.62	97.08	18.826	
12,400.00	7,289.00	13,161.75	8,523.00	62.92	63.93	133.06	-2,813.57	5,137.38	1,827.75	1,729.08	98.66	18.525	
12,500.00	7,289.00	13,261.75	8,523.00	63.94	64.91	133.06	-2,812.91	5,237.38	1,827.79	1,727.54	100.25	18.232	
12,600.00	7,289.00	13,361.75	8,523.00	64.96	65.91	133.06	-2,812.25	5,337.37	1,827.84	1,725.99	101.85	17.947	
12,700.00	7,289.00	13,461.75	8,523.00	65.98	66.90	133.06	-2,811.58	5,437.37	1,827.88	1,724.44	103.45	17.670	
12,800.00	7,289.00	13,561.75	8,523.00	67.01	67.90	133.06	-2,810.92	5,537.37	1,827.93	1,722.88	105.05	17.401	
12,900.00	7,289.00	13,661.75	8,523.00	68.04	68.90	133.06	-2,810.26	5,637.37	1,827.97	1,721.31	106.66	17.138	
13,000.00	7,289.00	13,761.75	8,523.00	69.08	69.91	133.06	-2,809.59	5,737.36	1,828.02	1,719.74	108.28	16.883	
13,100.00	7,289.00	13,861.75	8,523.00	70.11	70.92	133.05	-2,808.93	5,837.36	1,828.07	1,718.17	109.89	16.635	
13,200.00	7,289.00	13,961.75	8,523.00	71.15	71.94	133.05	-2,808.26	5,937.36	1,828.11	1,716.59	111.52	16.393	
13,300.00	7,289.00	14,061.75	8,523.00	72.19	72.95	133.05	-2,807.60	6,037.36	1,828.16	1,715.01	113.15	16.157	
13,400.00	7,289.00	14,161.75	8,523.00	73.24	73.97	133.05	-2,806.94	6,137.36	1,828.20	1,713.42	114.78	15.928	
13,500.00	7,289.00	14,261.75	8,523.00	74.28	74.99	133.05	-2,806.27	6,237.35	1,828.25	1,711.83	116.42	15.704	
13,600.00	7,289.00	14,361.75	8,523.00	75.33	76.02	133.05	-2,805.61	6,337.35	1,828.29	1,710.24	118.06	15.487	
13,700.00	7,289.00	14,461.75	8,523.00	76.38	77.05	133.05	-2,804.94	6,437.35	1,828.34	1,708.64	119.70	15.274	
13,800.00	7,289.00	14,561.75	8,523.00	77.43	78.08	133.04	-2,804.28	6,537.35	1,828.38	1,707.03	121.35	15.067	
13,900.00	7,289.00	14,661.75	8,523.00	78.49	79.11	133.04	-2,803.62	6,637.34	1,828.43	1,705.43	123.00	14.865	
14,000.00	7,289.00	14,761.75	8,523.00	79.54	80.15	133.04	-2,802.95	6,737.34	1,828.47	1,703.82	124.65	14.669	
14,100.00	7,289.00	14,861.75	8,523.00	80.60	81.19	133.04	-2,802.29	6,837.34	1,828.52	1,702.21	126.31	14.476	
14,200.00	7,289.00	14,961.75	8,523.00	81.66	82.23	133.04	-2,801.62	6,937.34	1,828.56	1,700.59	127.97	14.289	
14,300.00	7,289.00	15,061.75	8,523.00	82.72	83.27	133.04	-2,800.96	7,037.34	1,828.61	1,698.98	129.63	14.106	
14,400.00	7,289.00	15,161.75	8,523.00	83.78	84.31	133.04	-2,800.30	7,137.33	1,828.66	1,697.36	131.30	13.927	
14,500.00	7,289.00	15,261.75	8,523.00	84.85	85.36	133.04	-2,799.63	7,237.33	1,828.70	1,695.73	132.97	13.753	
14,600.00	7,289.00	15,361.75	8,523.00	85.91	86.41	133.03	-2,798.97	7,337.33	1,828.75	1,694.11	134.64	13.583	
14,700.00	7,289.00	15,461.75	8,523.00	86.98	87.46	133.03	-2,798.30	7,437.33	1,828.79	1,692.48	136.31	13.416	
14,800.00	7,289.00	15,561.75	8,523.00	88.05	88.51	133.03	-2,797.64	7,537.32	1,828.84	1,690.85	137.99	13.254	
14,900.00	7,289.00	15,661.75	8,523.00	89.12	89.56	133.03	-2,796.98	7,637.32	1,828.88	1,689.22	139.67	13.095	
15,000.00	7,289.00	15,761.75	8,523.00	90.19	90.62	133.03	-2,796.31	7,737.32	1,828.93	1,687.58	141.35	12.939	
15,100.00	7,289.00	15,861.75	8,523.00	91.26	91.68	133.03	-2,795.65	7,837.32	1,828.97	1,685.94	143.03	12.787	
15,200.00	7,289.00	15,961.75	8,523.00	92.34	92.73	133.03	-2,794.99	7,937.32	1,829.02	1,684.30	144.72	12.639	
15,300.00	7,289.00	16,061.75	8,523.00	93.41	93.79	133.02	-2,794.32	8,037.31	1,829.06	1,682.66	146.40	12.493	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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 - (B03) Koala 9 Fed Com 133H - Permit - APD-Rev00												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+SAG+FDIR (SQC2)												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,400.00	7,289.00	16,161.75	8,523.00	94.49	94.85	133.02	-2,793.66	8,137.31	1,829.11	1,681.02	148.09	12.351	
15,500.00	7,289.00	16,261.75	8,523.00	95.56	95.92	133.02	-2,792.99	8,237.31	1,829.16	1,679.37	149.78	12.212	
15,600.00	7,289.00	16,361.75	8,523.00	96.64	96.98	133.02	-2,792.33	8,337.31	1,829.20	1,677.73	151.47	12.076	
15,700.00	7,289.00	16,461.75	8,523.00	97.72	98.05	133.02	-2,791.67	8,437.30	1,829.25	1,676.08	153.17	11.943	
15,800.00	7,289.00	16,561.75	8,523.00	98.80	99.11	133.02	-2,791.00	8,537.30	1,829.29	1,674.43	154.86	11.812	
15,900.00	7,289.00	16,661.75	8,523.00	99.88	100.18	133.02	-2,790.34	8,637.30	1,829.34	1,672.78	156.56	11.684	
16,000.00	7,289.00	16,761.75	8,523.00	100.96	101.25	133.02	-2,789.67	8,737.30	1,829.38	1,671.12	158.26	11.559	
16,100.00	7,289.00	16,861.75	8,523.00	102.05	102.32	133.01	-2,789.01	8,837.30	1,829.43	1,669.47	159.96	11.437	
16,200.00	7,289.00	16,961.75	8,523.00	103.13	103.39	133.01	-2,788.35	8,937.29	1,829.47	1,667.81	161.66	11.317	
16,300.00	7,289.00	17,061.75	8,523.00	104.21	104.46	133.01	-2,787.68	9,037.29	1,829.52	1,666.15	163.37	11.199	
16,400.00	7,289.00	17,161.75	8,523.00	105.30	105.54	133.01	-2,787.02	9,137.29	1,829.56	1,664.49	165.07	11.083	
16,500.00	7,289.00	17,261.75	8,523.00	106.39	106.61	133.01	-2,786.35	9,237.29	1,829.61	1,662.83	166.78	10.970	
16,600.00	7,289.00	17,361.75	8,523.00	107.47	107.69	133.01	-2,785.69	9,337.28	1,829.66	1,661.17	168.49	10.859	
16,700.00	7,289.00	17,461.75	8,523.00	108.56	108.76	133.01	-2,785.03	9,437.28	1,829.70	1,659.50	170.20	10.750	
16,800.00	7,289.00	17,561.75	8,523.00	109.65	109.84	133.00	-2,784.36	9,537.28	1,829.75	1,657.84	171.91	10.644	
16,900.00	7,289.00	17,661.75	8,523.00	110.74	110.92	133.00	-2,783.70	9,637.28	1,829.79	1,656.17	173.62	10.539	
17,000.00	7,289.00	17,761.75	8,523.00	111.83	112.00	133.00	-2,783.03	9,737.28	1,829.84	1,654.51	175.33	10.436	
17,100.00	7,289.00	17,861.75	8,523.00	112.92	113.08	133.00	-2,782.37	9,837.27	1,829.88	1,652.84	177.05	10.336	
17,200.00	7,289.00	17,961.75	8,523.00	114.01	114.16	133.00	-2,781.71	9,937.27	1,829.93	1,651.17	178.76	10.237	
17,300.00	7,289.00	18,061.75	8,523.00	115.10	115.24	133.00	-2,781.04	10,037.27	1,829.97	1,649.50	180.48	10.140	
17,400.00	7,289.00	18,161.75	8,523.00	116.19	116.32	133.00	-2,780.38	10,137.27	1,830.02	1,647.82	182.20	10.044	
17,500.00	7,289.00	18,261.75	8,523.00	117.28	117.40	133.00	-2,779.72	10,237.26	1,830.06	1,646.15	183.91	9.951	
17,600.00	7,289.00	18,361.75	8,523.00	118.37	118.49	132.99	-2,779.05	10,337.26	1,830.11	1,644.48	185.63	9.859	
17,700.00	7,289.00	18,461.75	8,523.00	119.47	119.57	132.99	-2,778.39	10,437.26	1,830.16	1,642.80	187.35	9.768	
17,800.00	7,289.00	18,561.75	8,523.00	120.56	120.65	132.99	-2,777.72	10,537.26	1,830.20	1,641.13	189.08	9.680	
17,900.00	7,289.00	18,661.75	8,523.00	121.66	121.74	132.99	-2,777.06	10,637.26	1,830.25	1,639.45	190.80	9.593	
18,000.00	7,289.00	18,761.75	8,523.00	122.75	122.83	132.99	-2,776.40	10,737.25	1,830.29	1,637.77	192.52	9.507	
18,100.00	7,289.00	18,861.75	8,523.00	123.85	123.91	132.99	-2,775.73	10,837.25	1,830.34	1,636.09	194.25	9.423	
18,200.00	7,289.00	18,961.75	8,523.00	124.94	125.00	132.99	-2,775.07	10,937.25	1,830.38	1,634.41	195.97	9.340	
18,200.05	7,289.00	18,961.80	8,523.00	124.94	125.00	132.99	-2,775.07	10,937.29	1,830.38	1,634.41	195.97	9.340	
18,274.81	7,289.00	19,009.61	8,523.00	125.76	125.52	132.99	-2,774.75	10,985.11	1,830.62	1,633.56	197.06	9.290 SF	



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
12,600.00	7,289.00	13,614.62	8,523.00	64.96	65.53	115.17	-4,132.11	5,346.11	2,934.01	2,816.11	117.91	24.884	CC
12,700.00	7,289.00	13,714.62	8,523.00	65.98	66.53	115.17	-4,131.44	5,446.11	2,934.07	2,814.27	119.80	24.492	
12,800.00	7,289.00	13,814.62	8,523.00	67.01	67.54	115.17	-4,130.78	5,546.11	2,934.13	2,812.43	121.69	24.111	
12,900.00	7,289.00	13,914.62	8,523.00	68.04	68.54	115.17	-4,130.12	5,646.11	2,934.18	2,810.59	123.60	23.740	
13,000.00	7,289.00	14,014.62	8,523.00	69.08	69.55	115.17	-4,129.45	5,746.11	2,934.24	2,808.74	125.50	23.380	
13,100.00	7,289.00	14,114.62	8,523.00	70.11	70.57	115.17	-4,128.79	5,846.10	2,934.30	2,806.88	127.42	23.029	
13,200.00	7,289.00	14,214.62	8,523.00	71.15	71.58	115.17	-4,128.13	5,946.10	2,934.36	2,805.02	129.33	22.688	
13,300.00	7,289.00	14,314.62	8,523.00	72.19	72.60	115.17	-4,127.46	6,046.10	2,934.41	2,803.16	131.26	22.356	
13,400.00	7,289.00	14,414.62	8,523.00	73.24	73.63	115.17	-4,126.80	6,146.10	2,934.47	2,801.29	133.18	22.033	
13,500.00	7,289.00	14,514.62	8,523.00	74.28	74.65	115.17	-4,126.14	6,246.09	2,934.53	2,799.41	135.12	21.719	
13,600.00	7,289.00	14,614.62	8,523.00	75.33	75.68	115.17	-4,125.47	6,346.09	2,934.58	2,797.53	137.05	21.412	
13,700.00	7,289.00	14,714.62	8,523.00	76.38	76.71	115.17	-4,124.81	6,446.09	2,934.64	2,795.65	138.99	21.114	
13,800.00	7,289.00	14,814.62	8,523.00	77.43	77.75	115.17	-4,124.15	6,546.09	2,934.70	2,793.76	140.94	20.823	
13,900.00	7,289.00	14,914.62	8,523.00	78.49	78.78	115.17	-4,123.48	6,646.09	2,934.75	2,791.87	142.88	20.540	
14,000.00	7,289.00	15,014.62	8,523.00	79.54	79.82	115.17	-4,122.82	6,746.08	2,934.81	2,789.98	144.83	20.263	
14,100.00	7,289.00	15,114.62	8,523.00	80.60	80.86	115.17	-4,122.16	6,846.08	2,934.87	2,788.08	146.79	19.994	
14,200.00	7,289.00	15,214.62	8,523.00	81.66	81.91	115.16	-4,121.50	6,946.08	2,934.93	2,786.18	148.75	19.731	
14,300.00	7,289.00	15,314.62	8,523.00	82.72	82.95	115.16	-4,120.83	7,046.08	2,934.98	2,784.28	150.71	19.475	
14,400.00	7,289.00	15,414.62	8,523.00	83.78	84.00	115.16	-4,120.17	7,146.07	2,935.04	2,782.37	152.67	19.225	
14,500.00	7,289.00	15,514.62	8,523.00	84.85	85.05	115.16	-4,119.51	7,246.07	2,935.10	2,780.46	154.64	18.980	
14,600.00	7,289.00	15,614.62	8,523.00	85.91	86.10	115.16	-4,118.84	7,346.07	2,935.15	2,778.55	156.61	18.742	
14,700.00	7,289.00	15,714.62	8,523.00	86.98	87.15	115.16	-4,118.18	7,446.07	2,935.21	2,776.63	158.58	18.509	
14,800.00	7,289.00	15,814.62	8,523.00	88.05	88.20	115.16	-4,117.52	7,546.07	2,935.27	2,774.71	160.56	18.282	
14,900.00	7,289.00	15,914.62	8,523.00	89.12	89.26	115.16	-4,116.85	7,646.06	2,935.32	2,772.79	162.53	18.060	
15,000.00	7,289.00	16,014.62	8,523.00	90.19	90.32	115.16	-4,116.19	7,746.06	2,935.38	2,770.87	164.51	17.843	
15,100.00	7,289.00	16,114.62	8,523.00	91.26	91.38	115.16	-4,115.53	7,846.06	2,935.44	2,768.94	166.50	17.631	
15,200.00	7,289.00	16,214.62	8,523.00	92.34	92.44	115.16	-4,114.86	7,946.06	2,935.50	2,767.01	168.48	17.423	
15,300.00	7,289.00	16,314.62	8,523.00	93.41	93.50	115.16	-4,114.20	8,046.05	2,935.55	2,765.08	170.47	17.220	
15,400.00	7,289.00	16,414.62	8,523.00	94.49	94.56	115.16	-4,113.54	8,146.05	2,935.61	2,763.15	172.46	17.022	
15,500.00	7,289.00	16,514.62	8,523.00	95.56	95.63	115.16	-4,112.88	8,246.05	2,935.67	2,761.22	174.45	16.828	
15,600.00	7,289.00	16,614.62	8,523.00	96.64	96.69	115.16	-4,112.21	8,346.05	2,935.72	2,759.28	176.44	16.638	
15,700.00	7,289.00	16,714.62	8,523.00	97.72	97.76	115.16	-4,111.55	8,446.05	2,935.78	2,757.34	178.44	16.453	
15,800.00	7,289.00	16,814.62	8,523.00	98.80	98.83	115.16	-4,110.89	8,546.04	2,935.84	2,755.40	180.44	16.271	
15,900.00	7,289.00	16,914.62	8,523.00	99.88	99.90	115.16	-4,110.22	8,646.04	2,935.89	2,753.46	182.43	16.093	
16,000.00	7,289.00	17,014.62	8,523.00	100.96	100.97	115.16	-4,109.56	8,746.04	2,935.95	2,751.52	184.43	15.919	
16,100.00	7,289.00	17,114.62	8,523.00	102.05	102.04	115.15	-4,108.90	8,846.04	2,936.01	2,749.57	186.44	15.748	
16,200.00	7,289.00	17,214.62	8,523.00	103.13	103.11	115.15	-4,108.23	8,946.03	2,936.07	2,747.62	188.44	15.581	
16,300.00	7,289.00	17,314.62	8,523.00	104.21	104.19	115.15	-4,107.57	9,046.03	2,936.12	2,745.68	190.45	15.417	
16,400.00	7,289.00	17,414.62	8,523.00	105.30	105.26	115.15	-4,106.91	9,146.03	2,936.18	2,743.73	192.45	15.257	
16,500.00	7,289.00	17,514.62	8,523.00	106.39	106.34	115.15	-4,106.24	9,246.03	2,936.24	2,741.78	194.46	15.099	
16,600.00	7,289.00	17,614.62	8,523.00	107.47	107.42	115.15	-4,105.58	9,346.03	2,936.29	2,739.82	196.47	14.945	
16,700.00	7,289.00	17,714.62	8,523.00	108.56	108.49	115.15	-4,104.92	9,446.02	2,936.35	2,737.87	198.48	14.794	
16,800.00	7,289.00	17,814.62	8,523.00	109.65	109.57	115.15	-4,104.25	9,546.02	2,936.41	2,735.91	200.50	14.646	
16,900.00	7,289.00	17,914.62	8,523.00	110.74	110.65	115.15	-4,103.59	9,646.02	2,936.46	2,733.96	202.51	14.500	
17,000.00	7,289.00	18,014.62	8,523.00	111.83	111.73	115.15	-4,102.93	9,746.02	2,936.52	2,732.00	204.52	14.358	
17,100.00	7,289.00	18,114.62	8,523.00	112.92	112.81	115.15	-4,102.27	9,846.01	2,936.58	2,730.04	206.54	14.218	
17,200.00	7,289.00	18,214.62	8,523.00	114.01	113.90	115.15	-4,101.60	9,946.01	2,936.64	2,728.08	208.56	14.081	
17,300.00	7,289.00	18,314.62	8,523.00	115.10	114.98	115.15	-4,100.94	10,046.01	2,936.69	2,726.12	210.58	13.946	
17,400.00	7,289.00	18,414.62	8,523.00	116.19	116.06	115.15	-4,100.28	10,146.01	2,936.75	2,724.15	212.60	13.814	
17,500.00	7,289.00	18,514.62	8,523.00	117.28	117.15	115.15	-4,099.61	10,246.01	2,936.81	2,722.19	214.62	13.684	
17,600.00	7,289.00	18,614.62	8,523.00	118.37	118.23	115.15	-4,098.95	10,346.00	2,936.86	2,720.22	216.64	13.556	
17,700.00	7,289.00	18,714.62	8,523.00	119.47	119.32	115.15	-4,098.29	10,446.00	2,936.92	2,718.26	218.66	13.431	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance			Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)				Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)			
17,800.00	7,289.00	18,814.62	8,523.00	120.56	120.40	115.15	-4,097.62	10,546.00	2,936.98	2,716.29	220.69	13.308		
17,900.00	7,289.00	18,914.62	8,523.00	121.66	121.49	115.15	-4,096.96	10,646.00	2,937.04	2,714.32	222.71	13.188		
18,000.00	7,289.00	19,014.62	8,523.00	122.75	122.58	115.14	-4,096.30	10,745.99	2,937.09	2,712.35	224.74	13.069		
18,100.00	7,289.00	19,114.62	8,523.00	123.85	123.67	115.14	-4,095.63	10,845.99	2,937.15	2,710.38	226.77	12.952		
18,200.00	7,289.00	19,214.62	8,523.00	124.94	124.75	115.14	-4,094.97	10,945.99	2,937.21	2,708.41	228.79	12.838		
18,274.81	7,289.00	19,235.87	8,523.00	125.76	124.99	115.14	-4,094.83	10,967.24	2,937.74	2,707.87	229.87	12.780 ES, SF		

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
7,750.00	7,286.93	7,173.63	6,973.25	28.62	25.02	76.39	-2,743.37	458.85	1,267.96	1,217.06	50.90	24.912	CC	
7,799.47	7,289.00	7,218.97	6,994.35	28.66	25.16	77.22	-2,749.13	498.57	1,269.24	1,217.97	51.27	24.757		
7,900.00	7,289.00	7,311.39	7,035.48	28.76	25.47	79.14	-2,760.32	580.56	1,273.05	1,221.00	52.05	24.460		
8,000.00	7,289.00	7,406.39	7,075.09	28.89	25.80	80.99	-2,771.05	666.24	1,278.12	1,225.27	52.85	24.183		
8,100.00	7,289.00	7,504.38	7,113.06	29.06	26.18	82.74	-2,781.28	755.99	1,284.13	1,230.44	53.69	23.918		
8,200.00	7,289.00	7,605.27	7,149.04	29.28	26.60	84.39	-2,790.93	849.74	1,290.76	1,236.20	54.56	23.656		
8,300.00	7,289.00	7,708.93	7,182.69	29.55	27.05	85.91	-2,799.88	947.37	1,297.69	1,242.21	55.48	23.391		
8,400.00	7,289.00	7,815.19	7,213.64	29.87	27.55	87.30	-2,808.04	1,048.69	1,304.63	1,248.19	56.44	23.115		
8,500.00	7,289.00	7,923.85	7,241.53	30.25	28.10	88.53	-2,815.30	1,153.45	1,311.31	1,253.85	57.45	22.824		
8,600.00	7,289.00	8,034.66	7,266.01	30.69	28.68	89.61	-2,821.57	1,261.34	1,317.47	1,258.95	58.52	22.513		
8,700.00	7,289.00	8,147.36	7,286.79	31.17	29.30	90.51	-2,826.76	1,371.98	1,322.90	1,263.26	59.64	22.180		
8,800.00	7,289.00	8,261.64	7,303.56	31.69	29.96	91.23	-2,830.79	1,484.93	1,327.43	1,266.60	60.83	21.822		
8,900.00	7,289.00	8,377.15	7,316.10	32.26	30.65	91.77	-2,833.61	1,599.72	1,330.89	1,268.82	62.07	21.441		
9,000.00	7,289.00	8,493.53	7,324.23	32.85	31.37	92.12	-2,835.16	1,715.80	1,333.19	1,269.81	63.38	21.036		
9,100.00	7,289.00	8,610.42	7,327.82	33.49	32.12	92.27	-2,835.41	1,832.63	1,334.24	1,269.51	64.74	20.611		
9,200.00	7,289.00	8,715.24	7,328.00	34.15	32.80	92.28	-2,834.77	1,937.44	1,334.36	1,268.25	66.10	20.186		
9,300.00	7,289.00	8,815.24	7,328.00	34.83	33.48	92.28	-2,834.10	2,037.44	1,334.42	1,266.92	67.50	19.769		
9,400.00	7,289.00	8,915.24	7,328.00	35.55	34.19	92.28	-2,833.44	2,137.44	1,334.48	1,265.54	68.95	19.356		
9,500.00	7,289.00	9,015.24	7,328.00	36.28	34.91	92.28	-2,832.78	2,237.43	1,334.55	1,264.12	70.43	18.948		
9,600.00	7,289.00	9,115.24	7,328.00	37.03	35.66	92.28	-2,832.11	2,337.43	1,334.61	1,262.65	71.95	18.548		
9,700.00	7,289.00	9,215.24	7,328.00	37.81	36.42	92.28	-2,831.45	2,437.43	1,334.67	1,261.16	73.52	18.155		
9,800.00	7,289.00	9,315.24	7,328.00	38.60	37.20	92.28	-2,830.79	2,537.43	1,334.73	1,259.62	75.11	17.770		
9,900.00	7,289.00	9,415.24	7,328.00	39.41	38.00	92.28	-2,830.12	2,637.42	1,334.80	1,258.06	76.74	17.394		
10,000.00	7,289.00	9,515.24	7,328.00	40.24	38.82	92.28	-2,829.46	2,737.42	1,334.86	1,256.46	78.40	17.027		
10,100.00	7,289.00	9,615.24	7,328.00	41.08	39.65	92.28	-2,828.80	2,837.42	1,334.92	1,254.84	80.09	16.669		
10,200.00	7,289.00	9,715.24	7,328.00	41.93	40.50	92.28	-2,828.13	2,937.42	1,334.99	1,253.19	81.80	16.320		
10,300.00	7,289.00	9,815.24	7,328.00	42.80	41.35	92.28	-2,827.47	3,037.42	1,335.05	1,251.51	83.54	15.981		
10,400.00	7,289.00	9,915.24	7,328.00	43.68	42.23	92.28	-2,826.81	3,137.41	1,335.11	1,249.81	85.30	15.652		
10,500.00	7,289.00	10,015.24	7,328.00	44.57	43.11	92.28	-2,826.14	3,237.41	1,335.17	1,248.09	87.09	15.332		
10,600.00	7,289.00	10,115.24	7,328.00	45.47	44.00	92.27	-2,825.48	3,337.41	1,335.24	1,246.35	88.89	15.021		
10,700.00	7,289.00	10,215.24	7,328.00	46.38	44.90	92.27	-2,824.82	3,437.41	1,335.30	1,244.58	90.72	14.720		
10,800.00	7,289.00	10,315.24	7,328.00	47.30	45.82	92.27	-2,824.15	3,537.40	1,335.36	1,242.80	92.56	14.427		
10,900.00	7,289.00	10,415.24	7,328.00	48.23	46.74	92.27	-2,823.49	3,637.40	1,335.42	1,241.00	94.42	14.143		
11,000.00	7,289.00	10,515.24	7,328.00	49.16	47.67	92.27	-2,822.83	3,737.40	1,335.49	1,239.19	96.30	13.868		
11,100.00	7,289.00	10,615.24	7,328.00	50.11	48.61	92.27	-2,822.16	3,837.40	1,335.55	1,237.36	98.19	13.602		
11,200.00	7,289.00	10,715.24	7,328.00	51.06	49.55	92.27	-2,821.50	3,937.40	1,335.61	1,235.52	100.10	13.343		
11,300.00	7,289.00	10,815.24	7,328.00	52.02	50.51	92.27	-2,820.84	4,037.39	1,335.68	1,233.66	102.02	13.093		
11,400.00	7,289.00	10,915.24	7,328.00	52.98	51.47	92.27	-2,820.17	4,137.39	1,335.74	1,231.79	103.95	12.850		
11,500.00	7,289.00	11,015.24	7,328.00	53.95	52.44	92.27	-2,819.51	4,237.39	1,335.80	1,229.90	105.90	12.614		
11,600.00	7,289.00	11,115.24	7,328.00	54.93	53.41	92.27	-2,818.85	4,337.39	1,335.86	1,228.01	107.85	12.386		
11,700.00	7,289.00	11,215.24	7,328.00	55.91	54.39	92.27	-2,818.18	4,437.38	1,335.93	1,226.10	109.82	12.164		
11,800.00	7,289.00	11,315.24	7,328.00	56.90	55.37	92.27	-2,817.52	4,537.38	1,335.99	1,224.19	111.80	11.950		
11,900.00	7,289.00	11,415.24	7,328.00	57.89	56.36	92.27	-2,816.86	4,637.38	1,336.05	1,222.26	113.79	11.741		
12,000.00	7,289.00	11,515.24	7,328.00	58.89	57.35	92.27	-2,816.19	4,737.38	1,336.11	1,220.33	115.79	11.539		
12,100.00	7,289.00	11,615.24	7,328.00	59.89	58.35	92.27	-2,815.53	4,837.38	1,336.18	1,218.38	117.79	11.343		
12,200.00	7,289.00	11,715.24	7,328.00	60.90	59.36	92.27	-2,814.87	4,937.37	1,336.24	1,216.43	119.81	11.153		
12,300.00	7,289.00	11,815.24	7,328.00	61.91	60.36	92.27	-2,814.20	5,037.37	1,336.30	1,214.47	121.83	10.968		
12,400.00	7,289.00	11,915.24	7,328.00	62.92	61.38	92.27	-2,813.54	5,137.37	1,336.36	1,212.50	123.86	10.789		
12,500.00	7,289.00	12,015.24	7,328.00	63.94	62.39	92.27	-2,812.88	5,237.37	1,336.43	1,210.53	125.90	10.615		
12,600.00	7,289.00	12,115.24	7,328.00	64.96	63.41	92.27	-2,812.21	5,337.36	1,336.49	1,208.55	127.94	10.446		
12,700.00	7,289.00	12,215.24	7,328.00	65.98	64.43	92.27	-2,811.55	5,437.36	1,336.55	1,206.56	130.00	10.282		
12,800.00	7,289.00	12,315.24	7,328.00	67.01	65.46	92.27	-2,810.89	5,537.36	1,336.62	1,204.56	132.05	10.122		

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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
Rule Assigned:												Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
12,900.00	7,289.00	12,415.24	7,328.00	68.04	66.48	92.27	-2,810.22	5,637.36	1,336.68	1,202.56	134.12	9.967	
13,000.00	7,289.00	12,515.24	7,328.00	69.08	67.52	92.27	-2,809.56	5,737.36	1,336.74	1,200.56	136.19	9.816	
13,100.00	7,289.00	12,615.24	7,328.00	70.11	68.55	92.27	-2,808.90	5,837.35	1,336.80	1,198.54	138.26	9.669	
13,200.00	7,289.00	12,715.24	7,328.00	71.15	69.59	92.27	-2,808.23	5,937.35	1,336.87	1,196.53	140.34	9.526	
13,300.00	7,289.00	12,815.24	7,328.00	72.19	70.63	92.27	-2,807.57	6,037.35	1,336.93	1,194.50	142.43	9.387	
13,400.00	7,289.00	12,915.24	7,328.00	73.24	71.67	92.27	-2,806.91	6,137.35	1,336.99	1,192.48	144.51	9.252	
13,500.00	7,289.00	13,015.24	7,328.00	74.28	72.71	92.27	-2,806.24	6,237.34	1,337.05	1,190.45	146.61	9.120	
13,600.00	7,289.00	13,115.24	7,328.00	75.33	73.76	92.27	-2,805.58	6,337.34	1,337.12	1,188.41	148.71	8.992	
13,700.00	7,289.00	13,215.24	7,328.00	76.38	74.81	92.27	-2,804.92	6,437.34	1,337.18	1,186.37	150.81	8.867	
13,800.00	7,289.00	13,315.24	7,328.00	77.43	75.86	92.27	-2,804.25	6,537.34	1,337.24	1,184.33	152.92	8.745	
13,900.00	7,289.00	13,415.24	7,328.00	78.49	76.91	92.27	-2,803.59	6,637.34	1,337.31	1,182.28	155.03	8.626	
14,000.00	7,289.00	13,515.24	7,328.00	79.54	77.97	92.27	-2,802.93	6,737.33	1,337.37	1,180.23	157.14	8.511	
14,100.00	7,289.00	13,615.24	7,328.00	80.60	79.03	92.27	-2,802.26	6,837.33	1,337.43	1,178.17	159.26	8.398	
14,200.00	7,289.00	13,715.24	7,328.00	81.66	80.08	92.27	-2,801.60	6,937.33	1,337.49	1,176.11	161.38	8.288	
14,300.00	7,289.00	13,815.24	7,328.00	82.72	81.14	92.27	-2,800.94	7,037.33	1,337.56	1,174.05	163.50	8.181	
14,400.00	7,289.00	13,915.24	7,328.00	83.78	82.21	92.27	-2,800.27	7,137.33	1,337.62	1,171.99	165.63	8.076	
14,500.00	7,289.00	14,015.24	7,328.00	84.85	83.27	92.27	-2,799.61	7,237.32	1,337.68	1,169.92	167.76	7.974	
14,600.00	7,289.00	14,115.24	7,328.00	85.91	84.34	92.27	-2,798.95	7,337.32	1,337.74	1,167.85	169.90	7.874	
14,700.00	7,289.00	14,215.24	7,328.00	86.98	85.40	92.27	-2,798.28	7,437.32	1,337.81	1,165.78	172.03	7.777	
14,800.00	7,289.00	14,315.24	7,328.00	88.05	86.47	92.27	-2,797.62	7,537.32	1,337.87	1,163.70	174.17	7.681	
14,900.00	7,289.00	14,415.24	7,328.00	89.12	87.54	92.27	-2,796.96	7,637.31	1,337.93	1,161.62	176.31	7.588	
15,000.00	7,289.00	14,515.24	7,328.00	90.19	88.61	92.27	-2,796.29	7,737.31	1,338.00	1,159.54	178.46	7.498	
15,100.00	7,289.00	14,615.24	7,328.00	91.26	89.68	92.27	-2,795.63	7,837.31	1,338.06	1,157.46	180.60	7.409	
15,200.00	7,289.00	14,715.24	7,328.00	92.34	90.75	92.27	-2,794.97	7,937.31	1,338.12	1,155.37	182.75	7.322	
15,300.00	7,289.00	14,815.24	7,328.00	93.41	91.83	92.27	-2,794.30	8,037.31	1,338.18	1,153.28	184.90	7.237	
15,400.00	7,289.00	14,915.24	7,328.00	94.49	92.90	92.27	-2,793.64	8,137.30	1,338.25	1,151.19	187.06	7.154	
15,500.00	7,289.00	15,015.24	7,328.00	95.56	93.98	92.27	-2,792.98	8,237.30	1,338.31	1,149.10	189.21	7.073	
15,600.00	7,289.00	15,115.24	7,328.00	96.64	95.06	92.27	-2,792.31	8,337.30	1,338.37	1,147.00	191.37	6.994	
15,700.00	7,289.00	15,215.24	7,328.00	97.72	96.14	92.27	-2,791.65	8,437.30	1,338.43	1,144.91	193.53	6.916	
15,800.00	7,289.00	15,315.24	7,328.00	98.80	97.22	92.27	-2,790.99	8,537.29	1,338.50	1,142.81	195.69	6.840	
15,900.00	7,289.00	15,415.24	7,328.00	99.88	98.30	92.27	-2,790.32	8,637.29	1,338.56	1,140.71	197.85	6.765	
16,000.00	7,289.00	15,515.24	7,328.00	100.96	99.38	92.27	-2,789.66	8,737.29	1,338.62	1,138.61	200.02	6.693	
16,100.00	7,289.00	15,615.24	7,328.00	102.05	100.46	92.27	-2,789.00	8,837.29	1,338.69	1,136.50	202.18	6.621	
16,200.00	7,289.00	15,715.24	7,328.00	103.13	101.54	92.27	-2,788.33	8,937.29	1,338.75	1,134.40	204.35	6.551	
16,300.00	7,289.00	15,815.24	7,328.00	104.21	102.63	92.27	-2,787.67	9,037.28	1,338.81	1,132.29	206.52	6.483	
16,400.00	7,289.00	15,915.24	7,328.00	105.30	103.71	92.27	-2,787.01	9,137.28	1,338.87	1,130.18	208.69	6.416	
16,500.00	7,289.00	16,015.24	7,328.00	106.39	104.80	92.27	-2,786.34	9,237.28	1,338.94	1,128.07	210.87	6.350	
16,600.00	7,289.00	16,115.24	7,328.00	107.47	105.88	92.27	-2,785.68	9,337.28	1,339.00	1,125.96	213.04	6.285	
16,700.00	7,289.00	16,215.24	7,328.00	108.56	106.97	92.27	-2,785.02	9,437.27	1,339.06	1,123.85	215.22	6.222	
16,800.00	7,289.00	16,315.24	7,328.00	109.65	108.06	92.27	-2,784.35	9,537.27	1,339.12	1,121.73	217.39	6.160	
16,900.00	7,289.00	16,415.24	7,328.00	110.74	109.15	92.27	-2,783.69	9,637.27	1,339.19	1,119.62	219.57	6.099	
17,000.00	7,289.00	16,515.24	7,328.00	111.83	110.24	92.27	-2,783.03	9,737.27	1,339.25	1,117.50	221.75	6.039	
17,100.00	7,289.00	16,615.24	7,328.00	112.92	111.32	92.27	-2,782.36	9,837.27	1,339.31	1,115.38	223.93	5.981	
17,200.00	7,289.00	16,715.24	7,328.00	114.01	112.42	92.27	-2,781.70	9,937.26	1,339.38	1,113.26	226.11	5.923	
17,300.00	7,289.00	16,815.24	7,328.00	115.10	113.51	92.27	-2,781.04	10,037.26	1,339.44	1,111.14	228.30	5.867	
17,400.00	7,289.00	16,915.24	7,328.00	116.19	114.60	92.27	-2,780.37	10,137.26	1,339.50	1,109.02	230.48	5.812	
17,500.00	7,289.00	17,015.24	7,328.00	117.28	115.69	92.27	-2,779.71	10,237.26	1,339.56	1,106.90	232.67	5.757	
17,600.00	7,289.00	17,115.24	7,328.00	118.37	116.78	92.27	-2,779.05	10,337.25	1,339.63	1,104.77	234.85	5.704	
17,700.00	7,289.00	17,215.24	7,328.00	119.47	117.88	92.27	-2,778.38	10,437.25	1,339.69	1,102.65	237.04	5.652	
17,800.00	7,289.00	17,315.24	7,328.00	120.56	118.97	92.27	-2,777.72	10,537.25	1,339.75	1,100.52	239.23	5.600	
17,900.00	7,289.00	17,415.24	7,328.00	121.66	120.06	92.27	-2,777.06	10,637.25	1,339.81	1,098.39	241.42	5.550	
18,000.00	7,289.00	17,515.24	7,328.00	122.75	121.16	92.27	-2,776.39	10,737.25	1,339.88	1,096.27	243.61	5.500	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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)		Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
18,100.00	7,289.00	17,615.24	7,328.00	123.85	122.25	92.27	-2,775.73	10,837.24	1,339.94	1,094.14	245.80	5.451			
18,200.00	7,289.00	17,715.24	7,328.00	124.94	123.35	92.27	-2,775.07	10,937.24	1,340.00	1,092.01	248.00	5.403			
18,200.02	7,289.00	17,715.26	7,328.00	124.94	123.35	92.27	-2,775.07	10,937.26	1,340.00	1,092.01	248.00	5.403			
18,274.81	7,289.00	17,763.11	7,328.00	125.76	123.87	92.27	-2,774.75	10,985.11	1,340.32	1,090.92	249.40	5.374 ES, SF			

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
11,600.00	7,289.00	11,371.89	7,328.00	54.93	53.05	91.14	-4,138.72	4,346.13	2,655.24	2,547.82	107.42	24.718	CC	
11,700.00	7,289.00	11,471.89	7,328.00	55.91	54.04	91.14	-4,138.05	4,446.13	2,655.30	2,545.91	109.40	24.272		
11,800.00	7,289.00	11,571.89	7,328.00	56.90	55.02	91.14	-4,137.39	4,546.12	2,655.37	2,543.98	111.38	23.840		
11,900.00	7,289.00	11,671.89	7,328.00	57.89	56.02	91.14	-4,136.73	4,646.12	2,655.43	2,542.05	113.38	23.421		
12,000.00	7,289.00	11,771.89	7,328.00	58.89	57.02	91.14	-4,136.07	4,746.12	2,655.49	2,540.11	115.38	23.015		
12,100.00	7,289.00	11,871.89	7,328.00	59.89	58.02	91.14	-4,135.40	4,846.12	2,655.56	2,538.16	117.39	22.621		
12,200.00	7,289.00	11,971.89	7,328.00	60.90	59.03	91.14	-4,134.74	4,946.12	2,655.62	2,536.20	119.41	22.239		
12,300.00	7,289.00	12,071.89	7,328.00	61.91	60.04	91.14	-4,134.08	5,046.11	2,655.68	2,534.24	121.44	21.868		
12,400.00	7,289.00	12,171.89	7,328.00	62.92	61.05	91.14	-4,133.41	5,146.11	2,655.75	2,532.27	123.48	21.507		
12,500.00	7,289.00	12,271.89	7,328.00	63.94	62.07	91.14	-4,132.75	5,246.11	2,655.81	2,530.28	125.52	21.158		
12,600.00	7,289.00	12,371.89	7,328.00	64.96	63.09	91.14	-4,132.09	5,346.11	2,655.87	2,528.30	127.57	20.818		
12,700.00	7,289.00	12,471.89	7,328.00	65.98	64.12	91.14	-4,131.43	5,446.10	2,655.94	2,526.30	129.63	20.488		
12,800.00	7,289.00	12,571.89	7,328.00	67.01	65.15	91.14	-4,130.76	5,546.10	2,656.00	2,524.30	131.69	20.168		
12,900.00	7,289.00	12,671.89	7,328.00	68.04	66.18	91.14	-4,130.10	5,646.10	2,656.06	2,522.30	133.76	19.857		
13,000.00	7,289.00	12,771.89	7,328.00	69.08	67.22	91.14	-4,129.44	5,746.10	2,656.13	2,520.29	135.84	19.554		
13,100.00	7,289.00	12,871.89	7,328.00	70.11	68.25	91.14	-4,128.77	5,846.10	2,656.19	2,518.27	137.92	19.259		
13,200.00	7,289.00	12,971.89	7,328.00	71.15	69.29	91.14	-4,128.11	5,946.09	2,656.25	2,516.25	140.00	18.973		
13,300.00	7,289.00	13,071.89	7,328.00	72.19	70.34	91.14	-4,127.45	6,046.09	2,656.31	2,514.22	142.09	18.695		
13,400.00	7,289.00	13,171.89	7,328.00	73.24	71.38	91.14	-4,126.79	6,146.09	2,656.38	2,512.19	144.18	18.423		
13,500.00	7,289.00	13,271.89	7,328.00	74.28	72.43	91.14	-4,126.12	6,246.09	2,656.44	2,510.16	146.28	18.160		
13,600.00	7,289.00	13,371.89	7,328.00	75.33	73.48	91.14	-4,125.46	6,346.08	2,656.50	2,508.12	148.39	17.903		
13,700.00	7,289.00	13,471.89	7,328.00	76.38	74.53	91.14	-4,124.80	6,446.08	2,656.57	2,506.07	150.49	17.652		
13,800.00	7,289.00	13,571.89	7,328.00	77.43	75.58	91.14	-4,124.14	6,546.08	2,656.63	2,504.03	152.60	17.409		
13,900.00	7,289.00	13,671.89	7,328.00	78.49	76.64	91.14	-4,123.47	6,646.08	2,656.69	2,501.98	154.72	17.171		
14,000.00	7,289.00	13,771.89	7,328.00	79.54	77.70	91.14	-4,122.81	6,746.08	2,656.76	2,499.92	156.84	16.940		
14,100.00	7,289.00	13,871.89	7,328.00	80.60	78.76	91.14	-4,122.15	6,846.07	2,656.82	2,497.86	158.96	16.714		
14,200.00	7,289.00	13,971.89	7,328.00	81.66	79.82	91.14	-4,121.48	6,946.07	2,656.88	2,495.80	161.08	16.494		
14,300.00	7,289.00	14,071.89	7,328.00	82.72	80.88	91.14	-4,120.82	7,046.07	2,656.95	2,493.74	163.21	16.279		
14,400.00	7,289.00	14,171.89	7,328.00	83.78	81.94	91.14	-4,120.16	7,146.07	2,657.01	2,491.67	165.34	16.070		
14,500.00	7,289.00	14,271.89	7,328.00	84.85	83.01	91.14	-4,119.50	7,246.06	2,657.07	2,489.60	167.48	15.865		
14,600.00	7,289.00	14,371.89	7,328.00	85.91	84.08	91.14	-4,118.83	7,346.06	2,657.14	2,487.52	169.61	15.666		
14,700.00	7,289.00	14,471.89	7,328.00	86.98	85.15	91.14	-4,118.17	7,446.06	2,657.20	2,485.45	171.75	15.471		
14,800.00	7,289.00	14,571.89	7,328.00	88.05	86.22	91.14	-4,117.51	7,546.06	2,657.26	2,483.37	173.90	15.281		
14,900.00	7,289.00	14,671.89	7,328.00	89.12	87.29	91.14	-4,116.84	7,646.06	2,657.33	2,481.29	176.04	15.095		
15,000.00	7,289.00	14,771.89	7,328.00	90.19	88.36	91.14	-4,116.18	7,746.05	2,657.39	2,479.20	178.19	14.913		
15,100.00	7,289.00	14,871.89	7,328.00	91.26	89.43	91.14	-4,115.52	7,846.05	2,657.45	2,477.12	180.34	14.736		
15,200.00	7,289.00	14,971.89	7,328.00	92.34	90.51	91.14	-4,114.86	7,946.05	2,657.52	2,475.03	182.49	14.563		
15,300.00	7,289.00	15,071.89	7,328.00	93.41	91.59	91.14	-4,114.19	8,046.05	2,657.58	2,472.94	184.64	14.393		
15,400.00	7,289.00	15,171.89	7,328.00	94.49	92.66	91.14	-4,113.53	8,146.04	2,657.64	2,470.84	186.80	14.227		
15,500.00	7,289.00	15,271.89	7,328.00	95.56	93.74	91.14	-4,112.87	8,246.04	2,657.71	2,468.75	188.96	14.065		
15,600.00	7,289.00	15,371.89	7,328.00	96.64	94.82	91.14	-4,112.20	8,346.04	2,657.77	2,466.65	191.12	13.906		
15,700.00	7,289.00	15,471.89	7,328.00	97.72	95.90	91.14	-4,111.54	8,446.04	2,657.83	2,464.55	193.28	13.751		
15,800.00	7,289.00	15,571.89	7,328.00	98.80	96.98	91.14	-4,110.88	8,546.04	2,657.90	2,462.45	195.45	13.599		
15,900.00	7,289.00	15,671.89	7,328.00	99.88	98.06	91.14	-4,110.22	8,646.03	2,657.96	2,460.35	197.61	13.450		
16,000.00	7,289.00	15,771.89	7,328.00	100.96	99.15	91.14	-4,109.55	8,746.03	2,658.02	2,458.24	199.78	13.305		
16,100.00	7,289.00	15,871.89	7,328.00	102.05	100.23	91.14	-4,108.89	8,846.03	2,658.09	2,456.14	201.95	13.162		
16,200.00	7,289.00	15,971.89	7,328.00	103.13	101.31	91.14	-4,108.23	8,946.03	2,658.15	2,454.03	204.12	13.023		
16,300.00	7,289.00	16,071.89	7,328.00	104.21	102.40	91.14	-4,107.56	9,046.02	2,658.21	2,451.92	206.29	12.886		
16,400.00	7,289.00	16,171.89	7,328.00	105.30	103.49	91.14	-4,106.90	9,146.02	2,658.28	2,449.81	208.47	12.752		
16,500.00	7,289.00	16,271.89	7,328.00	106.39	104.57	91.14	-4,106.24	9,246.02	2,658.34	2,447.70	210.64	12.620		
16,600.00	7,289.00	16,371.89	7,328.00	107.47	105.66	91.14	-4,105.58	9,346.02	2,658.40	2,445.58	212.82	12.491		
16,700.00	7,289.00	16,471.89	7,328.00	108.56	106.75	91.14	-4,104.91	9,446.02	2,658.47	2,443.47	215.00	12.365		

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
16,800.00	7,289.00	16,571.89	7,328.00	109.65	107.84	91.14	-4,104.25	9,546.01	2,658.53	2,441.35	217.18	12.241	
16,900.00	7,289.00	16,671.89	7,328.00	110.74	108.93	91.14	-4,103.59	9,646.01	2,658.59	2,439.24	219.36	12.120	
17,000.00	7,289.00	16,771.89	7,328.00	111.83	110.02	91.14	-4,102.92	9,746.01	2,658.66	2,437.12	221.54	12.001	
17,100.00	7,289.00	16,871.89	7,328.00	112.92	111.11	91.14	-4,102.26	9,846.01	2,658.72	2,435.00	223.72	11.884	
17,200.00	7,289.00	16,971.89	7,328.00	114.01	112.20	91.14	-4,101.60	9,946.00	2,658.78	2,432.88	225.91	11.769	
17,300.00	7,289.00	17,071.89	7,328.00	115.10	113.29	91.14	-4,100.94	10,046.00	2,658.85	2,430.75	228.09	11.657	
17,400.00	7,289.00	17,171.89	7,328.00	116.19	114.39	91.14	-4,100.27	10,146.00	2,658.91	2,428.63	230.28	11.546	
17,500.00	7,289.00	17,271.89	7,328.00	117.28	115.48	91.14	-4,099.61	10,246.00	2,658.97	2,426.50	232.47	11.438	
17,600.00	7,289.00	17,371.89	7,328.00	118.37	116.57	91.14	-4,098.95	10,346.00	2,659.03	2,424.38	234.66	11.332	
17,700.00	7,289.00	17,471.89	7,328.00	119.47	117.67	91.14	-4,098.29	10,445.99	2,659.10	2,422.25	236.85	11.227	
17,800.00	7,289.00	17,571.89	7,328.00	120.56	118.76	91.14	-4,097.62	10,545.99	2,659.16	2,420.12	239.04	11.124	
17,900.00	7,289.00	17,671.89	7,328.00	121.66	119.86	91.14	-4,096.96	10,645.99	2,659.22	2,418.00	241.23	11.024	
18,000.00	7,289.00	17,771.89	7,328.00	122.75	120.96	91.14	-4,096.30	10,745.99	2,659.29	2,415.87	243.42	10.925	
18,100.00	7,289.00	17,871.89	7,328.00	123.85	122.05	91.14	-4,095.63	10,845.98	2,659.35	2,413.74	245.62	10.827	
18,200.00	7,289.00	17,971.89	7,328.00	124.94	123.15	91.14	-4,094.97	10,945.98	2,659.41	2,411.60	247.81	10.732	
18,274.81	7,289.00	17,993.15	7,328.00	125.76	123.38	91.14	-4,094.83	10,967.24	2,660.00	2,411.01	248.99	10.683 ES, SF	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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	Offset	Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
10,100.00	7,289.00	8,773.89	6,303.00	41.08	36.92	53.92	-2,828.89	2,837.44	1,650.53	1,583.42	67.11	24.594	CC
10,200.00	7,289.00	8,873.89	6,303.00	41.93	37.81	53.92	-2,828.23	2,937.43	1,650.58	1,582.00	68.58	24.068	
10,300.00	7,289.00	8,973.89	6,303.00	42.80	38.72	53.92	-2,827.56	3,037.43	1,650.63	1,580.56	70.07	23.558	
10,400.00	7,289.00	9,073.89	6,303.00	43.68	39.64	53.92	-2,826.90	3,137.43	1,650.68	1,579.11	71.57	23.063	
10,500.00	7,289.00	9,173.89	6,303.00	44.57	40.57	53.93	-2,826.23	3,237.43	1,650.73	1,577.63	73.10	22.583	
10,600.00	7,289.00	9,273.89	6,303.00	45.47	41.51	53.93	-2,825.57	3,337.43	1,650.78	1,576.14	74.63	22.118	
10,700.00	7,289.00	9,373.89	6,303.00	46.38	42.45	53.93	-2,824.90	3,437.42	1,650.83	1,574.64	76.19	21.667	
10,800.00	7,289.00	9,473.89	6,303.00	47.30	43.41	53.93	-2,824.24	3,537.42	1,650.88	1,573.12	77.76	21.231	
10,900.00	7,289.00	9,573.89	6,303.00	48.23	44.37	53.93	-2,823.57	3,637.42	1,650.93	1,571.59	79.34	20.808	
11,000.00	7,289.00	9,673.89	6,303.00	49.16	45.34	53.93	-2,822.91	3,737.42	1,650.98	1,570.04	80.94	20.398	
11,100.00	7,289.00	9,773.89	6,303.00	50.11	46.32	53.93	-2,822.25	3,837.41	1,651.03	1,568.48	82.54	20.002	
11,200.00	7,289.00	9,873.89	6,303.00	51.06	47.31	53.93	-2,821.58	3,937.41	1,651.08	1,566.91	84.16	19.618	
11,300.00	7,289.00	9,973.89	6,303.00	52.02	48.30	53.94	-2,820.92	4,037.41	1,651.13	1,565.33	85.79	19.246	
11,400.00	7,289.00	10,073.89	6,303.00	52.98	49.29	53.94	-2,820.25	4,137.41	1,651.18	1,563.74	87.43	18.885	
11,500.00	7,289.00	10,173.89	6,303.00	53.95	50.29	53.94	-2,819.59	4,237.41	1,651.23	1,562.15	89.08	18.536	
11,600.00	7,289.00	10,273.89	6,303.00	54.93	51.30	53.94	-2,818.92	4,337.40	1,651.28	1,560.54	90.74	18.198	
11,700.00	7,289.00	10,373.89	6,303.00	55.91	52.31	53.94	-2,818.26	4,437.40	1,651.33	1,558.92	92.40	17.871	
11,800.00	7,289.00	10,473.89	6,303.00	56.90	53.32	53.94	-2,817.59	4,537.40	1,651.38	1,557.30	94.08	17.553	
11,900.00	7,289.00	10,573.89	6,303.00	57.89	54.34	53.94	-2,816.93	4,637.40	1,651.43	1,555.66	95.76	17.245	
12,000.00	7,289.00	10,673.89	6,303.00	58.89	55.37	53.94	-2,816.27	4,737.39	1,651.48	1,554.02	97.45	16.947	
12,100.00	7,289.00	10,773.89	6,303.00	59.89	56.39	53.95	-2,815.60	4,837.39	1,651.52	1,552.38	99.15	16.657	
12,200.00	7,289.00	10,873.89	6,303.00	60.90	57.42	53.95	-2,814.94	4,937.39	1,651.57	1,550.73	100.85	16.377	
12,300.00	7,289.00	10,973.89	6,303.00	61.91	58.46	53.95	-2,814.27	5,037.39	1,651.62	1,549.07	102.56	16.104	
12,400.00	7,289.00	11,073.89	6,303.00	62.92	59.50	53.95	-2,813.61	5,137.39	1,651.67	1,547.40	104.27	15.840	
12,500.00	7,289.00	11,173.89	6,303.00	63.94	60.54	53.95	-2,812.94	5,237.38	1,651.72	1,545.73	105.99	15.583	
12,600.00	7,289.00	11,273.89	6,303.00	64.96	61.58	53.95	-2,812.28	5,337.38	1,651.77	1,544.05	107.72	15.334	
12,700.00	7,289.00	11,373.89	6,303.00	65.98	62.62	53.95	-2,811.61	5,437.38	1,651.82	1,542.37	109.45	15.092	
12,800.00	7,289.00	11,473.89	6,303.00	67.01	63.67	53.95	-2,810.95	5,537.38	1,651.87	1,540.69	111.19	14.857	
12,900.00	7,289.00	11,573.89	6,303.00	68.04	64.72	53.96	-2,810.29	5,637.37	1,651.92	1,539.00	112.93	14.628	
13,000.00	7,289.00	11,673.89	6,303.00	69.08	65.78	53.96	-2,809.62	5,737.37	1,651.97	1,537.30	114.67	14.406	
13,100.00	7,289.00	11,773.89	6,303.00	70.11	66.83	53.96	-2,808.96	5,837.37	1,652.02	1,535.60	116.42	14.190	
13,200.00	7,289.00	11,873.89	6,303.00	71.15	67.89	53.96	-2,808.29	5,937.37	1,652.07	1,533.90	118.17	13.980	
13,300.00	7,289.00	11,973.89	6,303.00	72.19	68.95	53.96	-2,807.63	6,037.37	1,652.12	1,532.19	119.93	13.776	
13,400.00	7,289.00	12,073.89	6,303.00	73.24	70.01	53.96	-2,806.96	6,137.36	1,652.17	1,530.48	121.69	13.577	
13,500.00	7,289.00	12,173.89	6,303.00	74.28	71.07	53.96	-2,806.30	6,237.36	1,652.22	1,528.77	123.46	13.383	
13,600.00	7,289.00	12,273.89	6,303.00	75.33	72.14	53.96	-2,805.63	6,337.36	1,652.27	1,527.05	125.22	13.194	
13,700.00	7,289.00	12,373.89	6,303.00	76.38	73.21	53.97	-2,804.97	6,437.36	1,652.32	1,525.33	127.00	13.011	
13,800.00	7,289.00	12,473.89	6,303.00	77.43	74.28	53.97	-2,804.30	6,537.35	1,652.37	1,523.60	128.77	12.832	
13,900.00	7,289.00	12,573.89	6,303.00	78.49	75.35	53.97	-2,803.64	6,637.35	1,652.42	1,521.87	130.55	12.658	
14,000.00	7,289.00	12,673.89	6,303.00	79.54	76.42	53.97	-2,802.98	6,737.35	1,652.47	1,520.14	132.33	12.488	
14,100.00	7,289.00	12,773.89	6,303.00	80.60	77.49	53.97	-2,802.31	6,837.35	1,652.52	1,518.41	134.11	12.322	
14,200.00	7,289.00	12,873.89	6,303.00	81.66	78.56	53.97	-2,801.65	6,937.35	1,652.57	1,516.67	135.90	12.160	
14,300.00	7,289.00	12,973.89	6,303.00	82.72	79.64	53.97	-2,800.98	7,037.34	1,652.62	1,514.94	137.69	12.003	
14,400.00	7,289.00	13,073.89	6,303.00	83.78	80.72	53.97	-2,800.32	7,137.34	1,652.67	1,513.19	139.48	11.849	
14,500.00	7,289.00	13,173.89	6,303.00	84.85	81.79	53.98	-2,799.65	7,237.34	1,652.72	1,511.45	141.27	11.699	
14,600.00	7,289.00	13,273.89	6,303.00	85.91	82.87	53.98	-2,798.99	7,337.34	1,652.77	1,509.71	143.06	11.553	
14,700.00	7,289.00	13,373.89	6,303.00	86.98	83.95	53.98	-2,798.32	7,437.33	1,652.82	1,507.96	144.86	11.410	
14,800.00	7,289.00	13,473.89	6,303.00	88.05	85.04	53.98	-2,797.66	7,537.33	1,652.87	1,506.21	146.66	11.270	
14,900.00	7,289.00	13,573.89	6,303.00	89.12	86.12	53.98	-2,797.00	7,637.33	1,652.92	1,504.46	148.46	11.133	
15,000.00	7,289.00	13,673.89	6,303.00	90.19	87.20	53.98	-2,796.33	7,737.33	1,652.97	1,502.70	150.27	11.000	
15,100.00	7,289.00	13,773.89	6,303.00	91.26	88.29	53.98	-2,795.67	7,837.33	1,653.02	1,500.95	152.07	10.870	
15,200.00	7,289.00	13,873.89	6,303.00	92.34	89.37	53.98	-2,795.00	7,937.32	1,653.07	1,499.19	153.88	10.742	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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 (SQ2)													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,300.00	7,289.00	13,973.89	6,303.00	93.41	90.46	53.99	-2,794.34	8,037.32	1,653.12	1,497.43	155.69	10.618	
15,400.00	7,289.00	14,073.89	6,303.00	94.49	91.55	53.99	-2,793.67	8,137.32	1,653.17	1,495.67	157.50	10.496	
15,500.00	7,289.00	14,173.89	6,303.00	95.56	92.63	53.99	-2,793.01	8,237.32	1,653.22	1,493.90	159.32	10.377	
15,600.00	7,289.00	14,273.89	6,303.00	96.64	93.72	53.99	-2,792.34	8,337.31	1,653.27	1,492.14	161.13	10.260	
15,700.00	7,289.00	14,373.89	6,303.00	97.72	94.81	53.99	-2,791.68	8,437.31	1,653.32	1,490.37	162.95	10.146	
15,800.00	7,289.00	14,473.89	6,303.00	98.80	95.90	53.99	-2,791.02	8,537.31	1,653.37	1,488.60	164.76	10.035	
15,900.00	7,289.00	14,573.89	6,303.00	99.88	96.99	53.99	-2,790.35	8,637.31	1,653.42	1,486.83	166.58	9.925	
16,000.00	7,289.00	14,673.88	6,303.00	100.96	98.08	54.00	-2,789.69	8,737.31	1,653.47	1,485.06	168.40	9.818	
16,100.00	7,289.00	14,773.88	6,303.00	102.05	99.18	54.00	-2,789.02	8,837.30	1,653.52	1,483.29	170.23	9.714	
16,200.00	7,289.00	14,873.88	6,303.00	103.13	100.27	54.00	-2,788.36	8,937.30	1,653.57	1,481.52	172.05	9.611	
16,300.00	7,289.00	14,973.88	6,303.00	104.21	101.36	54.00	-2,787.69	9,037.30	1,653.62	1,479.74	173.87	9.510	
16,400.00	7,289.00	15,073.88	6,303.00	105.30	102.46	54.00	-2,787.03	9,137.30	1,653.67	1,477.97	175.70	9.412	
16,500.00	7,289.00	15,173.88	6,303.00	106.39	103.55	54.00	-2,786.36	9,237.29	1,653.72	1,476.19	177.53	9.315	
16,600.00	7,289.00	15,273.88	6,303.00	107.47	104.65	54.00	-2,785.70	9,337.29	1,653.77	1,474.41	179.35	9.221	
16,700.00	7,289.00	15,373.88	6,303.00	108.56	105.74	54.00	-2,785.04	9,437.29	1,653.82	1,472.63	181.18	9.128	
16,800.00	7,289.00	15,473.88	6,303.00	109.65	106.84	54.01	-2,784.37	9,537.29	1,653.87	1,470.85	183.02	9.037	
16,900.00	7,289.00	15,573.88	6,303.00	110.74	107.94	54.01	-2,783.71	9,637.29	1,653.92	1,469.07	184.85	8.947	
17,000.00	7,289.00	15,673.88	6,303.00	111.83	109.04	54.01	-2,783.04	9,737.28	1,653.97	1,467.29	186.68	8.860	
17,100.00	7,289.00	15,773.88	6,303.00	112.92	110.13	54.01	-2,782.38	9,837.28	1,654.02	1,465.50	188.51	8.774	
17,200.00	7,289.00	15,873.88	6,303.00	114.01	111.23	54.01	-2,781.71	9,937.28	1,654.07	1,463.72	190.35	8.690	
17,300.00	7,289.00	15,973.88	6,303.00	115.10	112.33	54.01	-2,781.05	10,037.28	1,654.12	1,461.93	192.18	8.607	
17,400.00	7,289.00	16,073.88	6,303.00	116.19	113.43	54.01	-2,780.38	10,137.27	1,654.17	1,460.14	194.02	8.526	
17,500.00	7,289.00	16,173.88	6,303.00	117.28	114.53	54.01	-2,779.72	10,237.27	1,654.22	1,458.36	195.86	8.446	
17,600.00	7,289.00	16,273.88	6,303.00	118.37	115.63	54.02	-2,779.05	10,337.27	1,654.27	1,456.57	197.70	8.368	
17,700.00	7,289.00	16,373.88	6,303.00	119.47	116.73	54.02	-2,778.39	10,437.27	1,654.32	1,454.78	199.54	8.291	
17,800.00	7,289.00	16,473.88	6,303.00	120.56	117.83	54.02	-2,777.73	10,537.27	1,654.36	1,452.99	201.38	8.215	
17,900.00	7,289.00	16,573.88	6,303.00	121.66	118.93	54.02	-2,777.06	10,637.26	1,654.41	1,451.20	203.22	8.141	
18,000.00	7,289.00	16,673.88	6,303.00	122.75	120.04	54.02	-2,776.40	10,737.26	1,654.46	1,449.41	205.06	8.068	
18,100.00	7,289.00	16,773.88	6,303.00	123.85	121.14	54.02	-2,775.73	10,837.26	1,654.51	1,447.61	206.90	7.997	
18,200.00	7,289.00	16,873.88	6,303.00	124.94	122.24	54.02	-2,775.07	10,937.26	1,654.56	1,445.82	208.75	7.926	
18,200.03	7,289.00	16,873.92	6,303.00	124.94	122.24	54.02	-2,775.07	10,937.29	1,654.56	1,445.82	208.75	7.926	
18,274.81	7,289.00	16,922.61	6,303.00	125.76	122.78	54.02	-2,774.74	10,985.98	1,654.81	1,444.89	209.92	7.883 ES, SF	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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: Reference		0-MWD+IFR1+SAG+FDIR (SQC2) Offset			Semi Major Axis		Offset Wellbore Centre		Rule Assigned: Distance				Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
12,200.00	7,289.00	10,868.76	6,303.00	60.90	56.89	69.89	-4,134.68	4,946.09	2,827.36	2,713.93	113.43	24.927	CC	
12,300.00	7,289.00	10,968.76	6,303.00	61.91	57.92	69.89	-4,134.02	5,046.08	2,827.42	2,712.06	115.35	24.511		
12,400.00	7,289.00	11,068.76	6,303.00	62.92	58.96	69.89	-4,133.35	5,146.08	2,827.48	2,710.19	117.29	24.107		
12,500.00	7,289.00	11,168.76	6,303.00	63.94	60.00	69.89	-4,132.69	5,246.08	2,827.54	2,708.31	119.23	23.715		
12,600.00	7,289.00	11,268.76	6,303.00	64.96	61.04	69.89	-4,132.03	5,346.08	2,827.60	2,706.42	121.18	23.334		
12,700.00	7,289.00	11,368.76	6,303.00	65.98	62.09	69.89	-4,131.37	5,446.08	2,827.66	2,704.53	123.13	22.964		
12,800.00	7,289.00	11,468.76	6,303.00	67.01	63.13	69.90	-4,130.71	5,546.07	2,827.72	2,702.63	125.09	22.605		
12,900.00	7,289.00	11,568.76	6,303.00	68.04	64.19	69.90	-4,130.04	5,646.07	2,827.78	2,700.72	127.06	22.256		
13,000.00	7,289.00	11,668.76	6,303.00	69.08	65.24	69.90	-4,129.38	5,746.07	2,827.84	2,698.82	129.02	21.917		
13,100.00	7,289.00	11,768.76	6,303.00	70.11	66.29	69.90	-4,128.72	5,846.07	2,827.90	2,696.90	131.00	21.587		
13,200.00	7,289.00	11,868.76	6,303.00	71.15	67.35	69.90	-4,128.06	5,946.06	2,827.96	2,694.98	132.98	21.266		
13,300.00	7,289.00	11,968.76	6,303.00	72.19	68.41	69.90	-4,127.40	6,046.06	2,828.02	2,693.06	134.96	20.954		
13,400.00	7,289.00	12,068.76	6,303.00	73.24	69.47	69.90	-4,126.74	6,146.06	2,828.08	2,691.13	136.95	20.651		
13,500.00	7,289.00	12,168.76	6,303.00	74.28	70.53	69.90	-4,126.07	6,246.06	2,828.14	2,689.20	138.94	20.355		
13,600.00	7,289.00	12,268.76	6,303.00	75.33	71.60	69.90	-4,125.41	6,346.06	2,828.20	2,687.27	140.93	20.067		
13,700.00	7,289.00	12,368.76	6,303.00	76.38	72.67	69.90	-4,124.75	6,446.05	2,828.26	2,685.33	142.93	19.787		
13,800.00	7,289.00	12,468.76	6,303.00	77.43	73.73	69.90	-4,124.09	6,546.05	2,828.32	2,683.39	144.94	19.514		
13,900.00	7,289.00	12,568.76	6,303.00	78.49	74.80	69.90	-4,123.43	6,646.05	2,828.38	2,681.44	146.94	19.248		
14,000.00	7,289.00	12,668.76	6,303.00	79.54	75.88	69.90	-4,122.77	6,746.05	2,828.44	2,679.49	148.95	18.989		
14,100.00	7,289.00	12,768.76	6,303.00	80.60	76.95	69.90	-4,122.10	6,846.05	2,828.50	2,677.54	150.96	18.736		
14,200.00	7,289.00	12,868.76	6,303.00	81.66	78.02	69.90	-4,121.44	6,946.04	2,828.57	2,675.59	152.98	18.490		
14,300.00	7,289.00	12,968.76	6,303.00	82.72	79.10	69.90	-4,120.78	7,046.04	2,828.63	2,673.63	155.00	18.250		
14,400.00	7,289.00	13,068.76	6,303.00	83.78	80.17	69.90	-4,120.12	7,146.04	2,828.69	2,671.67	157.02	18.015		
14,500.00	7,289.00	13,168.76	6,303.00	84.85	81.25	69.90	-4,119.46	7,246.04	2,828.75	2,669.71	159.04	17.786		
14,600.00	7,289.00	13,268.76	6,303.00	85.91	82.33	69.90	-4,118.79	7,346.03	2,828.81	2,667.74	161.07	17.563		
14,700.00	7,289.00	13,368.76	6,303.00	86.98	83.41	69.90	-4,118.13	7,446.03	2,828.87	2,665.77	163.10	17.345		
14,800.00	7,289.00	13,468.76	6,303.00	88.05	84.49	69.90	-4,117.47	7,546.03	2,828.93	2,663.80	165.13	17.132		
14,900.00	7,289.00	13,568.76	6,303.00	89.12	85.58	69.90	-4,116.81	7,646.03	2,828.99	2,661.83	167.16	16.924		
15,000.00	7,289.00	13,668.76	6,303.00	90.19	86.66	69.90	-4,116.15	7,746.03	2,829.05	2,659.85	169.20	16.720		
15,100.00	7,289.00	13,768.76	6,303.00	91.26	87.74	69.91	-4,115.49	7,846.02	2,829.11	2,657.87	171.23	16.522		
15,200.00	7,289.00	13,868.76	6,303.00	92.34	88.83	69.91	-4,114.82	7,946.02	2,829.17	2,655.90	173.27	16.328		
15,300.00	7,289.00	13,968.76	6,303.00	93.41	89.92	69.91	-4,114.16	8,046.02	2,829.23	2,653.91	175.32	16.138		
15,400.00	7,289.00	14,068.76	6,303.00	94.49	91.00	69.91	-4,113.50	8,146.02	2,829.29	2,651.93	177.36	15.952		
15,500.00	7,289.00	14,168.76	6,303.00	95.56	92.09	69.91	-4,112.84	8,246.01	2,829.35	2,649.95	179.41	15.771		
15,600.00	7,289.00	14,268.76	6,303.00	96.64	93.18	69.91	-4,112.18	8,346.01	2,829.41	2,647.96	181.45	15.593		
15,700.00	7,289.00	14,368.76	6,303.00	97.72	94.27	69.91	-4,111.52	8,446.01	2,829.47	2,645.97	183.50	15.419		
15,800.00	7,289.00	14,468.76	6,303.00	98.80	95.36	69.91	-4,110.85	8,546.01	2,829.53	2,643.98	185.55	15.249		
15,900.00	7,289.00	14,568.76	6,303.00	99.88	96.45	69.91	-4,110.19	8,646.01	2,829.59	2,641.99	187.61	15.083		
16,000.00	7,289.00	14,668.76	6,303.00	100.96	97.54	69.91	-4,109.53	8,746.00	2,829.65	2,639.99	189.66	14.920		
16,100.00	7,289.00	14,768.76	6,303.00	102.05	98.64	69.91	-4,108.87	8,846.00	2,829.71	2,638.00	191.72	14.760		
16,200.00	7,289.00	14,868.76	6,303.00	103.13	99.73	69.91	-4,108.21	8,946.00	2,829.77	2,636.00	193.77	14.604		
16,300.00	7,289.00	14,968.76	6,303.00	104.21	100.82	69.91	-4,107.54	9,046.00	2,829.83	2,634.00	195.83	14.450		
16,400.00	7,289.00	15,068.76	6,303.00	105.30	101.92	69.91	-4,106.88	9,145.99	2,829.89	2,632.00	197.89	14.300		
16,500.00	7,289.00	15,168.76	6,303.00	106.39	103.01	69.91	-4,106.22	9,245.99	2,829.95	2,630.00	199.95	14.153		
16,600.00	7,289.00	15,268.76	6,303.00	107.47	104.11	69.91	-4,105.56	9,345.99	2,830.02	2,628.00	202.01	14.009		
16,700.00	7,289.00	15,368.76	6,303.00	108.56	105.20	69.91	-4,104.90	9,445.99	2,830.08	2,626.00	204.08	13.868		
16,800.00	7,289.00	15,468.76	6,303.00	109.65	106.30	69.91	-4,104.24	9,545.99	2,830.14	2,623.99	206.14	13.729		
16,900.00	7,289.00	15,568.76	6,303.00	110.74	107.40	69.91	-4,103.57	9,645.98	2,830.20	2,621.99	208.21	13.593		
17,000.00	7,289.00	15,668.76	6,303.00	111.83	108.49	69.91	-4,102.91	9,745.98	2,830.26	2,619.98	210.28	13.460		
17,100.00	7,289.00	15,768.76	6,303.00	112.92	109.59	69.91	-4,102.25	9,845.98	2,830.32	2,617.97	212.35	13.329		
17,200.00	7,289.00	15,868.76	6,303.00	114.01	110.69	69.91	-4,101.59	9,945.98	2,830.38	2,615.96	214.42	13.200		
17,300.00	7,289.00	15,968.76	6,303.00	115.10	111.79	69.92	-4,100.93	10,045.97	2,830.44	2,613.95	216.49	13.074		

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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	Offset	Semi Major Axis		Offset Wellbore Centre		Distance			Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
17,400.00	7,289.00	16,068.76	6,303.00	116.19	112.89	69.92	-4,100.27	10,145.97	2,830.50	2,611.94	218.56	12.951	
17,500.00	7,289.00	16,168.76	6,303.00	117.28	113.99	69.92	-4,099.60	10,245.97	2,830.56	2,609.93	220.63	12.829	
17,600.00	7,289.00	16,268.76	6,303.00	118.37	115.09	69.92	-4,098.94	10,345.97	2,830.62	2,607.91	222.70	12.710	
17,700.00	7,289.00	16,368.76	6,303.00	119.47	116.19	69.92	-4,098.28	10,445.97	2,830.68	2,605.90	224.78	12.593	
17,800.00	7,289.00	16,468.76	6,303.00	120.56	117.29	69.92	-4,097.62	10,545.96	2,830.74	2,603.89	226.85	12.478	
17,900.00	7,289.00	16,568.76	6,303.00	121.66	118.39	69.92	-4,096.96	10,645.96	2,830.80	2,601.87	228.93	12.365	
18,000.00	7,289.00	16,668.76	6,303.00	122.75	119.50	69.92	-4,096.29	10,745.96	2,830.86	2,599.85	231.01	12.254	
18,100.00	7,289.00	16,768.76	6,303.00	123.85	120.60	69.92	-4,095.63	10,845.96	2,830.92	2,597.83	233.09	12.145	
18,200.00	7,289.00	16,868.76	6,303.00	124.94	121.70	69.92	-4,094.97	10,945.95	2,830.98	2,595.82	235.17	12.038	
18,274.81	7,289.00	16,890.04	6,303.00	125.76	121.94	69.92	-4,094.83	10,967.24	2,831.53	2,595.23	236.30	11.983 ES, SF	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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
Rule Assigned:													
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,200.00	6,055.17	6,024.88	6,022.17	23.68	138.66	47.45	-3,845.38	-3,022.54	3,983.28	3,821.94	161.34	24.689	
6,300.00	6,152.13	6,098.99	6,096.14	24.09	143.37	47.67	-3,843.03	-3,022.54	3,965.03	3,798.58	166.45	23.820	
6,400.00	6,249.10	6,216.62	6,212.74	24.50	151.00	47.97	-3,844.29	-3,022.54	3,949.11	3,774.64	174.47	22.635	
6,500.00	6,346.06	6,303.03	6,298.63	24.90	156.98	48.20	-3,844.16	-3,022.54	3,932.44	3,751.59	180.85	21.744	
6,600.00	6,443.03	6,403.71	6,398.66	25.31	164.31	48.47	-3,843.67	-3,022.54	3,915.59	3,727.02	188.57	20.765	
6,700.00	6,539.99	6,513.08	6,506.99	25.71	172.38	48.75	-3,845.38	-3,022.54	3,900.25	3,703.22	197.03	19.795	
6,800.00	6,636.96	6,610.55	6,603.96	26.12	179.32	49.02	-3,845.38	-3,022.54	3,883.89	3,679.52	204.37	19.004	
6,893.78	6,727.89	6,701.93	6,694.89	26.50	185.27	49.27	-3,845.38	-3,022.54	3,868.63	3,657.94	210.69	18.362	
6,900.00	6,733.92	6,707.96	6,700.92	26.53	185.64	51.82	-3,845.38	-3,022.54	3,867.64	3,656.56	211.08	18.323	
6,950.00	6,782.34	6,735.64	6,728.49	26.73	187.35	71.35	-3,843.51	-3,022.54	3,860.52	3,647.51	213.01	18.124	
7,000.00	6,830.39	6,805.08	6,797.39	26.93	191.58	87.20	-3,845.38	-3,022.54	3,859.15	3,641.72	217.43	17.749	
7,010.81	6,840.69	6,815.38	6,807.69	26.97	192.12	90.00	-3,845.38	-3,022.54	3,859.07	3,641.05	218.02	17.701 CC	
7,050.00	6,877.70	6,852.39	6,844.70	27.12	194.07	98.52	-3,845.38	-3,022.54	3,860.15	3,640.02	220.13	17.536 ES	
7,100.00	6,923.92	6,873.10	6,865.35	27.30	195.16	106.18	-3,844.23	-3,022.54	3,864.05	3,642.61	221.44	17.450	
7,150.00	6,968.68	6,943.72	6,935.68	27.47	198.67	111.66	-3,845.38	-3,022.54	3,872.77	3,647.63	225.14	17.202	
7,200.00	7,011.65	6,982.78	6,974.70	27.63	200.41	115.26	-3,844.31	-3,022.54	3,883.70	3,656.62	227.08	17.103	
7,250.00	7,052.50	7,000.23	6,992.14	27.78	201.18	117.42	-3,844.42	-3,022.54	3,898.91	3,670.85	228.06	17.096	
7,300.00	7,090.93	7,066.20	7,057.93	27.91	204.00	119.04	-3,845.38	-3,022.54	3,917.82	3,686.77	231.05	16.956	
7,350.00	7,126.64	7,094.53	7,086.24	28.04	205.12	119.55	-3,844.78	-3,022.54	3,939.14	3,706.78	232.37	16.952 SF	
7,400.00	7,159.35	7,108.67	7,100.37	28.15	205.68	119.19	-3,844.88	-3,022.54	3,964.08	3,730.98	233.11	17.005	
7,450.00	7,188.82	7,164.22	7,155.82	28.24	207.82	118.67	-3,845.38	-3,022.54	3,992.05	3,756.65	235.40	16.959	
7,500.00	7,214.82	7,190.22	7,181.82	28.33	208.79	117.15	-3,845.38	-3,022.54	4,022.56	3,786.04	236.53	17.007	
7,550.00	7,237.16	7,212.56	7,204.16	28.40	209.62	114.89	-3,845.38	-3,022.54	4,055.61	3,818.10	237.51	17.076	
7,600.00	7,255.67	7,231.07	7,222.67	28.46	210.31	111.83	-3,845.38	-3,022.54	4,090.93	3,852.60	238.34	17.165	
7,650.00	7,270.20	7,245.60	7,237.20	28.52	210.85	107.87	-3,845.38	-3,022.54	4,128.28	3,889.27	239.00	17.273	
7,700.00	7,280.65	7,256.05	7,247.65	28.57	211.24	102.93	-3,845.38	-3,022.54	4,167.34	3,927.83	239.51	17.399	
7,750.00	7,286.93	7,261.68	7,253.24	28.62	211.45	96.93	-3,843.76	-3,022.54	4,206.91	3,967.08	239.83	17.541	
7,799.47	7,289.00	7,263.07	7,254.63	28.66	211.50	89.97	-3,843.76	-3,022.54	4,248.03	4,008.04	239.98	17.701	
7,900.00	7,289.00	7,263.07	7,254.63	28.76	211.50	89.97	-3,843.76	-3,022.54	4,332.80	4,092.62	240.18	18.040	
8,000.00	7,289.00	7,263.07	7,254.63	28.89	211.50	89.97	-3,843.76	-3,022.54	4,417.78	4,177.41	240.37	18.379	
8,100.00	7,289.00	7,263.07	7,254.63	29.06	211.50	89.97	-3,843.76	-3,022.54	4,503.37	4,262.81	240.56	18.720	
8,200.00	7,289.00	7,263.07	7,254.63	29.28	211.50	89.97	-3,843.76	-3,022.54	4,589.55	4,348.79	240.76	19.063	
8,300.00	7,289.00	7,263.07	7,254.63	29.55	211.50	89.97	-3,843.76	-3,022.54	4,676.28	4,435.32	240.96	19.407	
8,400.00	7,289.00	7,263.07	7,254.63	29.87	211.50	89.97	-3,843.76	-3,022.54	4,763.52	4,522.37	241.15	19.753	
8,500.00	7,289.00	7,263.07	7,254.63	30.25	211.50	89.97	-3,843.76	-3,022.54	4,851.26	4,609.92	241.35	20.101	
8,600.00	7,289.00	7,263.07	7,254.63	30.69	211.50	89.97	-3,843.76	-3,022.54	4,939.47	4,697.93	241.54	20.450	
8,700.00	7,289.00	7,263.07	7,254.62	31.17	211.50	89.97	-3,843.76	-3,022.54	5,028.12	4,786.38	241.74	20.800	
8,800.00	7,289.00	7,263.07	7,254.62	31.69	211.50	89.97	-3,843.76	-3,022.54	5,117.18	4,875.26	241.93	21.152	
8,900.00	7,289.00	7,263.07	7,254.62	32.26	211.50	89.97	-3,843.76	-3,022.54	5,206.65	4,964.53	242.12	21.505	
9,000.00	7,289.00	7,263.07	7,254.62	32.85	211.50	89.97	-3,843.76	-3,022.54	5,296.49	5,054.18	242.30	21.859	
9,100.00	7,289.00	7,263.07	7,254.62	33.49	211.50	89.97	-3,843.76	-3,022.54	5,386.69	5,144.20	242.49	22.214	
9,200.00	7,289.00	7,263.07	7,254.62	34.15	211.50	89.97	-3,843.76	-3,022.54	5,477.22	5,234.55	242.67	22.571	
9,300.00	7,289.00	7,263.07	7,254.62	34.83	211.50	89.97	-3,843.76	-3,022.54	5,568.09	5,325.24	242.85	22.928	
9,400.00	7,289.00	7,263.07	7,254.62	35.55	211.50	89.97	-3,843.76	-3,022.54	5,659.26	5,416.23	243.03	23.286	
9,500.00	7,289.00	7,263.07	7,254.62	36.28	211.50	89.97	-3,843.76	-3,022.54	5,750.72	5,507.52	243.20	23.646	
9,600.00	7,289.00	7,263.07	7,254.62	37.03	211.50	89.97	-3,843.76	-3,022.54	5,842.47	5,599.09	243.37	24.006	
9,700.00	7,289.00	7,263.07	7,254.62	37.81	211.50	89.97	-3,843.76	-3,022.54	5,934.48	5,690.93	243.54	24.367	
9,800.00	7,289.00	7,263.07	7,254.62	38.60	211.50	89.97	-3,843.76	-3,022.54	6,026.74	5,783.03	243.71	24.729	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Offset Wellbore Centre		Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
3,200.00	3,146.23	3,120.75	3,120.23	11.58	68.17	67.23	-1,189.05	-1,836.83	1,957.25	1,877.62	79.64	24.577	
3,300.00	3,243.19	3,217.71	3,217.19	11.98	70.32	67.88	-1,189.05	-1,836.83	1,947.67	1,865.48	82.19	23.698	
3,400.00	3,340.16	3,314.21	3,313.66	12.38	72.46	68.58	-1,187.12	-1,836.83	1,937.68	1,852.96	84.73	22.870	
3,500.00	3,437.12	3,407.61	3,407.05	12.78	74.53	69.20	-1,187.45	-1,836.83	1,928.76	1,841.56	87.20	22.119	
3,600.00	3,534.09	3,501.30	3,500.72	13.18	76.61	69.82	-1,188.32	-1,836.83	1,920.28	1,830.60	89.68	21.413	
3,700.00	3,631.05	3,605.68	3,605.05	13.58	78.88	70.52	-1,189.05	-1,836.83	1,911.98	1,819.63	92.35	20.704	
3,800.00	3,728.02	3,702.64	3,702.02	13.98	80.94	71.19	-1,189.05	-1,836.83	1,903.74	1,808.93	94.81	20.079	
3,900.00	3,824.98	3,799.48	3,798.85	14.38	83.00	71.89	-1,188.54	-1,836.83	1,895.63	1,798.35	97.28	19.487	
4,000.00	3,921.94	3,895.51	3,894.88	14.78	85.04	72.56	-1,188.65	-1,836.83	1,887.99	1,788.26	99.73	18.932	
4,100.00	4,018.91	3,991.64	3,991.00	15.19	87.09	73.24	-1,188.94	-1,836.83	1,880.68	1,778.50	102.18	18.406	
4,200.00	4,115.87	4,090.58	4,089.87	15.59	89.46	73.95	-1,189.05	-1,836.83	1,873.60	1,768.65	104.95	17.852	
4,300.00	4,212.84	4,187.54	4,186.84	15.99	91.88	74.65	-1,189.05	-1,836.83	1,866.79	1,759.02	107.78	17.321	
4,400.00	4,309.80	4,284.11	4,283.38	16.40	94.29	75.40	-1,187.44	-1,836.83	1,859.92	1,749.32	110.60	16.817	
4,500.00	4,406.77	4,379.13	4,378.39	16.80	96.66	76.08	-1,187.77	-1,836.83	1,853.80	1,740.42	113.38	16.350	
4,600.00	4,503.73	4,474.41	4,473.65	17.20	99.04	76.76	-1,188.58	-1,836.83	1,848.07	1,731.90	116.17	15.909	
4,700.00	4,600.70	4,575.57	4,574.70	17.61	101.81	77.50	-1,189.05	-1,836.83	1,842.55	1,723.21	119.34	15.439	
4,800.00	4,697.66	4,669.26	4,668.37	18.01	104.50	78.20	-1,188.82	-1,836.83	1,837.22	1,714.77	122.45	15.004	
4,900.00	4,794.63	4,769.61	4,768.63	18.42	107.64	78.95	-1,189.05	-1,836.83	1,832.27	1,706.27	126.00	14.542	
5,000.00	4,891.59	4,863.44	4,862.41	18.82	110.63	79.68	-1,188.16	-1,836.83	1,827.47	1,698.07	129.40	14.123	
5,100.00	4,988.56	4,963.74	4,962.56	19.23	113.70	80.41	-1,189.05	-1,836.83	1,823.24	1,690.37	132.88	13.721	
5,200.00	5,085.52	5,060.70	5,059.52	19.63	116.53	81.15	-1,189.05	-1,836.83	1,819.21	1,683.09	136.12	13.365	
5,300.00	5,182.49	5,157.67	5,156.49	20.03	119.36	81.89	-1,189.05	-1,836.83	1,815.49	1,676.13	139.35	13.028	
5,400.00	5,279.45	5,253.45	5,252.20	20.44	122.15	82.68	-1,186.93	-1,836.83	1,811.88	1,669.33	142.56	12.710	
5,500.00	5,376.42	5,349.53	5,348.26	20.84	124.95	83.39	-1,187.98	-1,836.83	1,808.93	1,663.16	145.77	12.410	
5,600.00	5,473.38	5,448.86	5,447.38	21.25	127.70	84.12	-1,189.05	-1,836.83	1,806.28	1,657.35	148.93	12.129	
5,700.00	5,570.35	5,545.83	5,544.35	21.66	130.14	84.87	-1,189.05	-1,836.83	1,803.86	1,652.08	151.78	11.885	
5,800.00	5,667.31	5,642.79	5,641.31	22.06	132.59	85.62	-1,189.05	-1,836.83	1,801.77	1,647.13	154.63	11.652	
5,900.00	5,764.27	5,739.52	5,738.00	22.47	135.02	86.42	-1,187.34	-1,836.83	1,799.95	1,642.47	157.48	11.430	
6,000.00	5,861.24	5,836.49	5,834.95	22.87	137.47	87.15	-1,188.10	-1,836.83	1,798.56	1,638.23	160.33	11.218	
6,100.00	5,958.20	5,933.86	5,932.20	23.28	139.84	87.88	-1,189.05	-1,836.83	1,797.48	1,634.36	163.12	11.020	
6,200.00	6,055.17	6,030.82	6,029.17	23.68	141.99	88.64	-1,189.05	-1,836.83	1,796.72	1,631.04	165.67	10.845	
6,300.00	6,152.13	6,127.79	6,126.13	24.09	144.14	89.39	-1,189.05	-1,836.83	1,796.28	1,628.06	168.23	10.678	
6,376.75	6,226.55	6,202.34	6,200.67	24.40	145.79	90.02	-1,187.74	-1,836.83	1,796.22	1,626.03	170.19	10.554	CC
6,400.00	6,249.10	6,224.97	6,223.29	24.50	146.29	90.19	-1,187.80	-1,836.83	1,796.23	1,625.45	170.78	10.518	
6,500.00	6,346.06	6,322.43	6,320.75	24.90	148.45	90.93	-1,188.31	-1,836.83	1,796.45	1,623.11	173.35	10.363	
6,600.00	6,443.03	6,418.78	6,417.03	25.31	150.59	91.66	-1,189.05	-1,836.83	1,796.98	1,621.08	175.90	10.216	
6,700.00	6,539.99	6,515.74	6,513.99	25.71	152.84	92.42	-1,189.05	-1,836.83	1,797.88	1,619.33	178.55	10.069	
6,800.00	6,636.96	6,612.71	6,610.96	26.12	155.08	93.17	-1,189.05	-1,836.83	1,799.11	1,617.91	181.20	9.929	
6,893.78	6,727.89	6,704.01	6,702.25	26.50	157.20	93.91	-1,188.03	-1,836.83	1,800.67	1,616.98	183.69	9.803	
6,900.00	6,733.92	6,710.09	6,708.32	26.53	157.34	96.43	-1,188.04	-1,836.83	1,800.81	1,616.95	183.86	9.795	ES
6,950.00	6,782.34	6,758.89	6,757.13	26.73	158.47	115.89	-1,188.19	-1,836.83	1,804.40	1,619.22	185.19	9.744	
7,000.00	6,830.39	6,807.36	6,805.60	26.93	159.59	131.78	-1,188.42	-1,836.83	1,812.37	1,625.86	186.50	9.718	
7,050.00	6,877.70	6,855.13	6,853.36	27.12	160.70	143.42	-1,188.73	-1,836.83	1,824.62	1,636.82	187.79	9.716	SF
7,100.00	6,923.92	6,899.78	6,897.92	27.30	161.75	151.77	-1,189.05	-1,836.83	1,841.06	1,652.04	189.02	9.740	
7,150.00	6,968.68	6,944.55	6,942.68	27.47	162.92	157.94	-1,189.05	-1,836.83	1,861.59	1,671.24	190.36	9.780	
7,200.00	7,011.65	6,987.52	6,985.65	27.63	164.05	162.68	-1,189.05	-1,836.83	1,886.01	1,694.38	191.63	9.842	
7,250.00	7,052.50	7,028.37	7,026.50	27.78	165.12	166.51	-1,189.05	-1,836.83	1,914.11	1,721.27	192.84	9.926	
7,300.00	7,090.93	7,066.80	7,064.93	27.91	166.13	169.76	-1,189.05	-1,836.83	1,945.67	1,751.71	193.97	10.031	
7,350.00	7,126.64	7,102.50	7,100.64	28.04	167.06	172.69	-1,189.05	-1,836.83	1,980.44	1,785.43	195.01	10.156	
7,400.00	7,159.35	7,135.22	7,133.35	28.15	167.92	175.49	-1,189.05	-1,836.83	2,018.15	1,822.19	195.96	10.299	
7,450.00	7,188.82	7,165.05	7,163.16	28.24	168.70	178.46	-1,187.44	-1,836.83	2,058.74	1,861.93	196.81	10.460	
7,500.00	7,214.82	7,191.51	7,189.61	28.33	169.40	-178.31	-1,187.49	-1,836.83	2,101.42	1,903.85	197.56	10.637	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis			Offset Wellbore Centre		Distance		Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
7,550.00	7,237.16	7,214.25	7,212.35	28.40	169.99	-174.37	-1,187.57	-1,836.83	2,146.10	1,947.90	198.20	10.828	
7,600.00	7,255.67	7,233.09	7,231.19	28.46	170.49	-169.07	-1,187.65	-1,836.83	2,192.46	1,993.73	198.73	11.032	
7,650.00	7,270.20	7,247.90	7,246.00	28.52	170.87	-161.12	-1,187.72	-1,836.83	2,240.14	2,041.00	199.14	11.249	
7,700.00	7,280.65	7,258.54	7,256.64	28.57	171.15	-147.75	-1,187.79	-1,836.83	2,288.79	2,089.36	199.42	11.477	
7,750.00	7,286.93	7,264.95	7,263.04	28.62	171.32	-123.93	-1,187.83	-1,836.83	2,338.04	2,138.44	199.59	11.714	
7,799.47	7,289.00	7,267.05	7,265.15	28.66	171.38	-90.36	-1,187.84	-1,836.83	2,387.00	2,187.36	199.64	11.956	
7,900.00	7,289.00	7,267.05	7,265.15	28.76	171.38	-90.36	-1,187.84	-1,836.83	2,486.54	2,286.91	199.63	12.456	
8,000.00	7,289.00	7,267.04	7,265.14	28.89	171.38	-90.36	-1,187.84	-1,836.83	2,585.64	2,386.01	199.62	12.953	
8,100.00	7,289.00	7,267.04	7,265.14	29.06	171.38	-90.36	-1,187.84	-1,836.83	2,684.79	2,485.18	199.62	13.450	
8,200.00	7,289.00	7,267.04	7,265.13	29.28	171.38	-90.36	-1,187.84	-1,836.83	2,784.01	2,584.40	199.61	13.947	
8,300.00	7,289.00	7,267.03	7,265.13	29.55	171.38	-90.36	-1,187.84	-1,836.83	2,883.29	2,683.68	199.61	14.445	
8,400.00	7,289.00	7,267.03	7,265.12	29.87	171.38	-90.36	-1,187.84	-1,836.83	2,982.61	2,783.00	199.61	14.942	
8,500.00	7,289.00	7,267.02	7,265.12	30.25	171.38	-90.36	-1,187.84	-1,836.83	3,081.97	2,882.36	199.61	15.440	
8,600.00	7,289.00	7,267.02	7,265.11	30.69	171.38	-90.35	-1,187.84	-1,836.83	3,181.38	2,981.77	199.61	15.938	
8,700.00	7,289.00	7,267.01	7,265.11	31.17	171.38	-90.35	-1,187.84	-1,836.83	3,280.82	3,081.21	199.62	16.436	
8,800.00	7,289.00	7,267.01	7,265.10	31.69	171.38	-90.35	-1,187.84	-1,836.83	3,380.30	3,180.67	199.62	16.934	
8,900.00	7,289.00	7,267.00	7,265.10	32.26	171.38	-90.35	-1,187.84	-1,836.83	3,479.80	3,280.17	199.63	17.431	
9,000.00	7,289.00	7,267.00	7,265.09	32.85	171.38	-90.35	-1,187.84	-1,836.83	3,579.33	3,379.69	199.64	17.929	
9,100.00	7,289.00	7,266.99	7,265.09	33.49	171.38	-90.35	-1,187.84	-1,836.83	3,678.89	3,479.24	199.65	18.427	
9,200.00	7,289.00	7,266.99	7,265.08	34.15	171.38	-90.35	-1,187.84	-1,836.83	3,778.47	3,578.81	199.66	18.925	
9,300.00	7,289.00	7,266.98	7,265.08	34.83	171.37	-90.35	-1,187.84	-1,836.83	3,878.07	3,678.40	199.67	19.422	
9,400.00	7,289.00	7,266.98	7,265.07	35.55	171.37	-90.35	-1,187.84	-1,836.83	3,977.70	3,778.01	199.68	19.920	
9,500.00	7,289.00	7,266.97	7,265.07	36.28	171.37	-90.35	-1,187.84	-1,836.83	4,077.34	3,877.64	199.70	20.417	
9,600.00	7,289.00	7,266.97	7,265.06	37.03	171.37	-90.35	-1,187.84	-1,836.83	4,176.99	3,977.28	199.71	20.915	
9,700.00	7,289.00	7,266.96	7,265.06	37.81	171.37	-90.35	-1,187.84	-1,836.83	4,276.67	4,076.94	199.73	21.412	
9,800.00	7,289.00	7,266.96	7,265.05	38.60	171.37	-90.35	-1,187.84	-1,836.83	4,376.36	4,176.61	199.75	21.909	
9,900.00	7,289.00	7,266.95	7,265.05	39.41	171.37	-90.34	-1,187.84	-1,836.83	4,476.06	4,276.29	199.77	22.406	
10,000.00	7,289.00	7,266.95	7,265.04	40.24	171.37	-90.34	-1,187.84	-1,836.83	4,575.78	4,375.99	199.79	22.903	
10,100.00	7,289.00	7,266.94	7,265.04	41.08	171.37	-90.34	-1,187.84	-1,836.83	4,675.50	4,475.69	199.81	23.400	
10,200.00	7,289.00	7,266.94	7,265.03	41.93	171.37	-90.34	-1,187.84	-1,836.83	4,775.24	4,575.41	199.83	23.896	
10,300.00	7,289.00	7,266.93	7,265.03	42.80	171.37	-90.34	-1,187.84	-1,836.83	4,874.99	4,675.14	199.86	24.392	
10,400.00	7,289.00	7,266.93	7,265.02	43.68	171.37	-90.34	-1,187.84	-1,836.83	4,974.75	4,774.87	199.88	24.888	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
3,100.00	3,049.26	3,024.78	3,024.26	11.18	65.20	105.35	130.77	-1,824.40	1,899.60	1,823.26	76.34	24.883	CC, ES
3,200.00	3,146.23	3,121.75	3,121.23	11.58	67.35	106.04	130.77	-1,824.40	1,906.40	1,827.52	78.88	24.168	
3,300.00	3,243.19	3,221.40	3,220.85	11.98	69.56	106.78	132.22	-1,824.40	1,913.97	1,832.49	81.48	23.490	
3,400.00	3,340.16	3,321.99	3,321.43	12.38	71.79	107.47	131.53	-1,824.40	1,921.14	1,837.04	84.10	22.843	
3,500.00	3,437.12	3,412.74	3,412.12	12.78	73.74	108.08	130.77	-1,824.40	1,928.54	1,842.10	86.44	22.310	
3,600.00	3,534.09	3,509.71	3,509.09	13.18	75.63	108.75	130.77	-1,824.40	1,936.48	1,847.75	88.72	21.826	
3,700.00	3,631.05	3,606.67	3,606.05	13.58	77.53	109.41	130.77	-1,824.40	1,944.69	1,853.69	91.00	21.369	
3,800.00	3,728.02	3,705.52	3,704.89	13.98	79.45	110.10	131.41	-1,824.40	1,953.42	1,860.10	93.32	20.932	
3,900.00	3,824.98	3,804.76	3,804.12	14.38	81.39	110.76	131.02	-1,824.40	1,962.04	1,866.39	95.65	20.514	
4,000.00	3,921.94	3,897.61	3,896.94	14.78	83.20	111.37	130.77	-1,824.40	1,970.95	1,873.11	97.85	20.143	
4,100.00	4,018.91	3,994.57	3,993.91	15.19	85.10	112.01	130.77	-1,824.40	1,980.23	1,880.10	100.13	19.777	
4,200.00	4,115.87	4,091.53	4,090.87	15.59	86.99	112.65	130.77	-1,824.40	1,989.77	1,887.36	102.41	19.429	
4,300.00	4,212.84	4,190.34	4,189.67	15.99	88.92	113.31	131.54	-1,824.40	1,999.89	1,895.16	104.73	19.096	
4,400.00	4,309.80	4,289.61	4,288.93	16.40	90.86	113.94	131.20	-1,824.40	2,009.79	1,902.74	107.06	18.773	
4,500.00	4,406.77	4,382.47	4,381.77	16.80	92.71	114.52	130.77	-1,824.40	2,019.88	1,910.60	109.28	18.483	
4,600.00	4,503.73	4,479.44	4,478.73	17.20	94.77	115.13	130.77	-1,824.40	2,030.41	1,918.68	111.73	18.173	
4,700.00	4,600.70	4,576.40	4,575.70	17.61	96.83	115.74	130.77	-1,824.40	2,041.18	1,927.00	114.18	17.877	
4,800.00	4,697.66	4,675.05	4,674.34	18.01	98.93	116.37	131.52	-1,824.40	2,052.54	1,935.89	116.66	17.594	
4,900.00	4,794.63	4,774.78	4,774.07	18.42	101.06	116.97	131.22	-1,824.40	2,063.64	1,944.47	119.17	17.317	
5,000.00	4,891.59	4,867.37	4,866.59	18.82	103.03	117.52	130.77	-1,824.40	2,074.87	1,953.35	121.52	17.074	
5,100.00	4,988.56	4,964.34	4,963.56	19.23	105.18	118.10	130.77	-1,824.40	2,086.56	1,962.51	124.05	16.820	
5,200.00	5,085.52	5,061.30	5,060.52	19.63	107.33	118.68	130.77	-1,824.40	2,098.46	1,971.88	126.58	16.578	
5,300.00	5,182.49	5,163.52	5,162.72	20.03	109.59	119.30	131.73	-1,824.40	2,111.09	1,981.87	129.23	16.336	
5,400.00	5,279.45	5,266.62	5,265.81	20.44	111.88	119.88	130.97	-1,824.40	2,123.05	1,991.16	131.89	16.097	
5,500.00	5,376.42	5,352.28	5,351.42	20.84	113.72	120.36	130.77	-1,824.40	2,135.46	2,001.35	134.10	15.924	
5,600.00	5,473.38	5,460.89	5,460.02	21.25	116.03	120.98	130.68	-1,824.40	2,148.18	2,011.38	136.80	15.703	
5,700.00	5,570.35	5,546.23	5,545.35	21.66	117.85	121.46	130.77	-1,824.40	2,161.15	2,022.16	138.99	15.549	
5,800.00	5,667.31	5,643.20	5,642.31	22.06	119.91	122.00	130.77	-1,824.40	2,174.30	2,032.87	141.43	15.374	
5,900.00	5,764.27	5,741.71	5,740.81	22.47	122.01	122.56	131.86	-1,824.40	2,188.27	2,044.37	143.90	15.207	
6,000.00	5,861.24	5,843.20	5,842.30	22.87	124.17	123.10	131.56	-1,824.40	2,201.64	2,055.20	146.44	15.035	
6,100.00	5,958.20	5,944.87	5,943.96	23.28	126.33	123.63	130.91	-1,824.40	2,214.99	2,066.01	148.98	14.868	
6,200.00	6,055.17	6,031.14	6,030.17	23.68	128.29	124.08	130.77	-1,824.40	2,228.79	2,077.48	151.30	14.731	
6,300.00	6,152.13	6,128.10	6,127.13	24.09	130.52	124.59	130.77	-1,824.40	2,242.87	2,088.96	153.91	14.573	
6,400.00	6,249.10	6,225.07	6,224.10	24.50	132.75	125.09	130.77	-1,824.40	2,257.13	2,100.61	156.51	14.421	
6,500.00	6,346.06	6,322.03	6,321.06	24.90	134.99	125.59	130.77	-1,824.40	2,271.56	2,112.44	159.12	14.276	SF
6,600.00	6,443.03	6,330.00	6,328.94	25.31	135.17	125.63	130.77	-1,824.40	2,287.90	2,128.42	159.47	14.347	
6,700.00	6,539.99	6,330.00	6,328.94	25.71	135.17	125.63	130.77	-1,824.40	2,308.44	2,149.07	159.37	14.485	
6,800.00	6,636.96	6,330.00	6,328.94	26.12	135.17	125.63	130.77	-1,824.40	2,333.10	2,174.08	159.01	14.673	
6,893.78	6,727.89	6,330.00	6,328.94	26.50	135.17	125.63	130.77	-1,824.40	2,359.84	2,201.37	158.46	14.892	
6,900.00	6,733.92	6,330.00	6,328.94	26.53	135.17	128.22	130.77	-1,824.40	2,361.75	2,203.34	158.42	14.908	
6,950.00	6,782.34	6,330.00	6,328.94	26.73	135.17	148.46	130.77	-1,824.40	2,379.52	2,221.48	158.04	15.056	
7,000.00	6,830.39	6,330.00	6,328.94	26.93	135.17	165.46	130.77	-1,824.40	2,401.28	2,243.65	157.63	15.234	
7,050.00	6,877.70	6,330.00	6,328.94	27.12	135.17	178.59	130.77	-1,824.40	2,426.75	2,269.57	157.18	15.439	
7,100.00	6,923.92	6,330.00	6,328.94	27.30	135.17	-171.13	130.77	-1,824.40	2,455.64	2,298.92	156.71	15.670	
7,150.00	6,968.68	6,330.00	6,328.94	27.47	135.17	-162.55	130.77	-1,824.40	2,487.60	2,331.35	156.24	15.921	
7,200.00	7,011.65	6,330.00	6,328.94	27.63	135.17	-154.81	130.77	-1,824.40	2,522.28	2,366.50	155.78	16.191	
7,250.00	7,052.50	6,330.00	6,328.94	27.78	135.17	-147.32	130.77	-1,824.40	2,559.31	2,403.97	155.34	16.476	
7,300.00	7,090.93	6,330.00	6,328.94	27.91	135.17	-139.66	130.77	-1,824.40	2,598.32	2,443.39	154.93	16.771	
7,350.00	7,126.64	6,330.00	6,328.94	28.04	135.17	-131.58	130.77	-1,824.40	2,638.93	2,484.37	154.56	17.074	
7,400.00	7,159.35	6,330.00	6,328.94	28.15	135.17	-122.93	130.77	-1,824.40	2,680.76	2,526.52	154.24	17.381	
7,450.00	7,188.82	6,330.00	6,328.94	28.24	135.17	-113.77	130.77	-1,824.40	2,723.44	2,569.47	153.97	17.688	
7,500.00	7,214.82	6,330.00	6,328.94	28.33	135.17	-104.34	130.77	-1,824.40	2,766.63	2,612.86	153.77	17.992	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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													Offset Well Error: 0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
		Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
7,550.00	7,237.16	6,330.00	6,328.94	28.40	135.17	-95.02	130.77	-1,824.40	2,809.97	2,656.34	153.64	18.290	
7,600.00	7,255.67	6,330.00	6,328.94	28.46	135.17	-86.23	130.77	-1,824.40	2,853.14	2,699.57	153.57	18.579	
7,650.00	7,270.20	6,330.00	6,328.94	28.52	135.17	-78.28	130.77	-1,824.40	2,895.82	2,742.26	153.56	18.857	
7,700.00	7,280.65	6,330.00	6,328.94	28.57	135.17	-71.35	130.77	-1,824.40	2,937.72	2,784.09	153.63	19.122	
7,750.00	7,286.93	6,330.00	6,328.94	28.62	135.17	-65.46	130.77	-1,824.40	2,978.55	2,824.79	153.76	19.372	
7,799.47	7,289.00	6,330.00	6,328.94	28.66	135.17	-60.60	130.77	-1,824.40	3,017.65	2,863.70	153.95	19.602	
7,900.00	7,289.00	6,330.00	6,328.94	28.76	135.17	-60.60	130.77	-1,824.40	3,096.27	2,941.88	154.39	20.055	
8,000.00	7,289.00	6,330.00	6,328.94	28.89	135.17	-60.60	130.77	-1,824.40	3,175.71	3,020.89	154.81	20.513	
8,100.00	7,289.00	6,330.00	6,328.94	29.06	135.17	-60.60	130.77	-1,824.40	3,256.27	3,101.05	155.22	20.978	
8,200.00	7,289.00	6,330.00	6,328.94	29.28	135.17	-60.60	130.77	-1,824.40	3,337.89	3,182.28	155.61	21.450	
8,300.00	7,289.00	6,330.00	6,328.94	29.55	135.17	-60.60	130.77	-1,824.40	3,420.49	3,264.50	155.99	21.928	
8,400.00	7,289.00	6,330.00	6,328.94	29.87	135.17	-60.60	130.77	-1,824.40	3,503.99	3,347.64	156.35	22.411	
8,500.00	7,289.00	6,330.00	6,328.94	30.25	135.17	-60.60	130.77	-1,824.40	3,588.34	3,431.64	156.69	22.900	
8,600.00	7,289.00	6,330.00	6,328.94	30.69	135.17	-60.60	130.77	-1,824.40	3,673.47	3,516.44	157.02	23.394	
8,700.00	7,289.00	6,330.00	6,328.94	31.17	135.17	-60.60	130.77	-1,824.40	3,759.33	3,601.99	157.34	23.893	
8,800.00	7,289.00	6,330.00	6,328.94	31.69	135.17	-60.60	130.77	-1,824.40	3,845.88	3,688.23	157.64	24.396	
8,900.00	7,289.00	6,330.00	6,328.94	32.26	135.17	-60.60	130.77	-1,824.40	3,933.06	3,775.13	157.93	24.903	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	
2,700.00	2,661.40	2,638.40	2,638.40	9.59	166.65	77.25	-1,198.99	-4,292.31	4,364.11	4,187.88	
2,800.00	2,758.37	2,735.37	2,735.37	9.99	172.78	77.56	-1,198.99	-4,292.31	4,358.62	4,175.87	
2,900.00	2,855.33	2,832.33	2,832.33	10.39	178.90	77.86	-1,198.99	-4,292.31	4,353.26	4,163.99	
3,000.00	2,952.30	2,929.30	2,929.30	10.78	185.03	78.17	-1,198.99	-4,292.31	4,348.03	4,152.24	
3,100.00	3,049.26	3,026.26	3,026.26	11.18	191.15	78.47	-1,198.99	-4,292.31	4,342.93	4,140.62	
3,200.00	3,146.23	3,123.23	3,123.23	11.58	197.28	78.78	-1,198.99	-4,292.31	4,337.96	4,129.14	
3,300.00	3,243.19	3,220.19	3,220.19	11.98	203.40	79.09	-1,198.99	-4,292.31	4,333.13	4,117.78	
3,400.00	3,340.16	3,317.16	3,317.16	12.38	209.53	79.40	-1,198.99	-4,292.31	4,328.43	4,106.55	
3,500.00	3,437.12	3,414.12	3,414.12	12.78	215.65	79.71	-1,198.99	-4,292.31	4,323.86	4,095.46	
3,600.00	3,534.09	3,511.09	3,511.09	13.18	221.78	80.02	-1,198.99	-4,292.31	4,319.43	4,084.50	
3,700.00	3,631.05	3,608.05	3,608.05	13.58	227.90	80.33	-1,198.99	-4,292.31	4,315.13	4,073.67	
3,800.00	3,728.02	3,705.02	3,705.02	13.98	234.03	80.64	-1,198.99	-4,292.31	4,310.96	4,062.98	
3,900.00	3,824.98	3,801.98	3,801.98	14.38	240.15	80.95	-1,198.99	-4,292.31	4,306.93	4,052.42	
4,000.00	3,921.94	3,898.94	3,898.94	14.78	246.28	81.26	-1,198.99	-4,292.31	4,303.03	4,042.00	
4,100.00	4,018.91	3,995.91	3,995.91	15.19	252.40	81.57	-1,198.99	-4,292.31	4,299.27	4,031.71	
4,200.00	4,115.87	4,092.87	4,092.87	15.59	258.53	81.89	-1,198.99	-4,292.31	4,295.65	4,021.56	
4,300.00	4,212.84	4,189.84	4,189.84	15.99	264.65	82.20	-1,198.99	-4,292.31	4,292.16	4,011.54	
4,400.00	4,309.80	4,286.80	4,286.80	16.40	270.78	82.51	-1,198.99	-4,292.31	4,288.81	4,001.66	
4,500.00	4,406.77	4,383.77	4,383.77	16.80	276.90	82.83	-1,198.99	-4,292.31	4,285.59	3,991.92	
4,600.00	4,503.73	4,480.73	4,480.73	17.20	283.03	83.14	-1,198.99	-4,292.31	4,282.52	3,982.31	
4,700.00	4,600.70	4,577.70	4,577.70	17.61	289.15	83.46	-1,198.99	-4,292.31	4,279.58	3,972.84	
4,800.00	4,697.66	4,674.66	4,674.66	18.01	295.28	83.77	-1,198.99	-4,292.31	4,276.77	3,963.51	
4,900.00	4,794.63	4,771.63	4,771.63	18.42	301.40	84.09	-1,198.99	-4,292.31	4,274.11	3,954.31	
5,000.00	4,891.59	4,868.59	4,868.59	18.82	307.52	84.41	-1,198.99	-4,292.31	4,271.58	3,945.25	
5,100.00	4,988.56	4,965.56	4,965.56	19.23	313.65	84.72	-1,198.99	-4,292.31	4,269.20	3,936.34	
5,200.00	5,085.52	5,062.52	5,062.52	19.63	319.77	85.04	-1,198.99	-4,292.31	4,266.95	3,927.56	
5,300.00	5,182.49	5,159.49	5,159.49	20.03	325.90	85.36	-1,198.99	-4,292.31	4,264.84	3,918.92	
5,400.00	5,279.45	5,256.45	5,256.45	20.44	332.02	85.68	-1,198.99	-4,292.31	4,262.87	3,910.41	
5,500.00	5,376.42	5,353.42	5,353.42	20.84	338.15	85.99	-1,198.99	-4,292.31	4,261.03	3,902.05	
5,600.00	5,473.38	5,450.38	5,450.38	21.25	344.27	86.31	-1,198.99	-4,292.31	4,259.34	3,893.83	
5,700.00	5,570.35	5,547.35	5,547.35	21.66	350.40	86.63	-1,198.99	-4,292.31	4,257.79	3,885.75	
5,800.00	5,667.31	5,644.31	5,644.31	22.06	356.52	86.95	-1,198.99	-4,292.31	4,256.38	3,877.80	
5,900.00	5,764.27	5,741.27	5,741.27	22.47	362.65	87.27	-1,198.99	-4,292.31	4,255.11	3,870.00	
6,000.00	5,861.24	5,838.24	5,838.24	22.87	368.77	87.59	-1,198.99	-4,292.31	4,253.98	3,862.34	
6,100.00	5,958.20	5,935.20	5,935.20	23.28	374.90	87.91	-1,198.99	-4,292.31	4,252.98	3,854.81	
6,200.00	6,055.17	6,032.17	6,032.17	23.68	381.02	88.23	-1,198.99	-4,292.31	4,252.13	3,847.43	
6,300.00	6,152.13	6,129.13	6,129.13	24.09	387.15	88.54	-1,198.99	-4,292.31	4,251.42	3,840.19	
6,400.00	6,249.10	6,226.10	6,226.10	24.50	393.27	88.86	-1,198.99	-4,292.31	4,250.85	3,833.09	
6,485.19	6,331.71	6,300.00	6,292.04	24.84	397.94	89.08	-1,198.99	-4,292.31	4,250.51	3,827.73	10.054 CC
6,500.00	6,346.06	6,300.00	6,292.04	24.90	397.94	89.08	-1,198.99	-4,292.31	4,250.53	3,827.71	10.053 ES
6,600.00	6,443.03	6,300.00	6,292.04	25.31	397.94	89.08	-1,198.99	-4,292.31	4,252.06	3,829.00	10.051 SF
6,700.00	6,539.99	6,300.00	6,292.04	25.71	397.94	89.08	-1,198.99	-4,292.31	4,255.93	3,832.86	
6,800.00	6,636.96	6,300.00	6,292.04	26.12	397.94	89.08	-1,198.99	-4,292.31	4,262.15	3,839.29	
6,893.78	6,727.89	6,300.00	6,292.04	26.50	397.94	89.08	-1,198.99	-4,292.31	4,270.10	3,847.63	
6,900.00	6,733.92	6,300.00	6,292.04	26.53	397.94	91.55	-1,198.99	-4,292.31	4,270.74	3,848.29	
6,950.00	6,782.34	6,300.00	6,292.04	26.73	397.94	110.63	-1,198.99	-4,292.31	4,278.58	3,856.42	
7,000.00	6,830.39	6,300.00	6,292.04	26.93	397.94	126.10	-1,198.99	-4,292.31	4,291.24	3,869.41	
7,050.00	6,877.70	6,300.00	6,292.04	27.12	397.94	137.30	-1,198.99	-4,292.31	4,308.59	3,887.14	
7,100.00	6,923.92	6,300.00	6,292.04	27.30	397.94	145.19	-1,198.99	-4,292.31	4,330.45	3,909.39	
7,150.00	6,968.68	6,300.00	6,292.04	27.47	397.94	150.83	-1,198.99	-4,292.31	4,356.56	3,935.92	
7,200.00	7,011.65	6,300.00	6,292.04	27.63	397.94	154.98	-1,198.99	-4,292.31	4,386.67	3,966.46	
7,250.00	7,052.50	6,300.00	6,292.04	27.78	397.94	158.14	-1,198.99	-4,292.31	4,420.46	4,000.68	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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					Rule Assigned:			Offset Well Error:		0.00 usft		
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance				Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
7,300.00	7,090.93	6,300.00	6,292.04	27.91	397.94	160.63	-1,198.99	-4,292.31	4,457.61	4,038.23	419.38	10.629		
7,350.00	7,126.64	6,300.00	6,292.04	28.04	397.94	162.67	-1,198.99	-4,292.31	4,497.73	4,078.74	419.00	10.735		
7,400.00	7,159.35	6,300.00	6,292.04	28.15	397.94	164.42	-1,198.99	-4,292.31	4,540.46	4,121.81	418.65	10.846		
7,450.00	7,188.82	6,300.00	6,292.04	28.24	397.94	166.05	-1,198.99	-4,292.31	4,585.40	4,167.06	418.35	10.961		
7,500.00	7,214.82	6,300.00	6,292.04	28.33	397.94	167.74	-1,198.99	-4,292.31	4,632.16	4,214.06	418.09	11.079		
7,550.00	7,237.16	6,300.00	6,292.04	28.40	397.94	169.89	-1,198.99	-4,292.31	4,680.31	4,262.41	417.90	11.200		
7,600.00	7,255.67	6,300.00	6,292.04	28.46	397.94	173.78	-1,198.99	-4,292.31	4,729.47	4,311.70	417.77	11.321		
7,650.00	7,270.20	6,300.00	6,292.04	28.52	397.94	-171.17	-1,198.99	-4,292.31	4,779.23	4,361.53	417.70	11.442		
7,700.00	7,280.65	6,300.00	6,292.04	28.57	397.94	-41.87	-1,198.99	-4,292.31	4,829.21	4,411.50	417.71	11.561		
7,750.00	7,286.93	6,300.00	6,292.04	28.62	397.94	-23.39	-1,198.99	-4,292.31	4,879.01	4,461.24	417.77	11.679		
7,799.47	7,289.00	6,300.00	6,292.04	28.66	397.94	-19.64	-1,198.99	-4,292.31	4,927.75	4,509.85	417.91	11.791		
7,900.00	7,289.00	6,300.00	6,292.04	28.76	397.94	-19.64	-1,198.99	-4,292.31	5,026.09	4,607.86	418.24	12.017		
8,000.00	7,289.00	6,300.00	6,292.04	28.89	397.94	-19.64	-1,198.99	-4,292.31	5,123.99	4,705.45	418.55	12.242		
8,100.00	7,289.00	6,300.00	6,292.04	29.06	397.94	-19.64	-1,198.99	-4,292.31	5,221.98	4,803.13	418.84	12.468		
8,200.00	7,289.00	6,300.00	6,292.04	29.28	397.94	-19.64	-1,198.99	-4,292.31	5,320.03	4,900.91	419.13	12.693		
8,300.00	7,289.00	6,300.00	6,292.04	29.55	397.94	-19.64	-1,198.99	-4,292.31	5,418.16	4,998.76	419.39	12.919		
8,400.00	7,289.00	6,300.00	6,292.04	29.87	397.94	-19.64	-1,198.99	-4,292.31	5,516.35	5,096.70	419.65	13.145		
8,500.00	7,289.00	6,300.00	6,292.04	30.25	397.94	-19.64	-1,198.99	-4,292.31	5,614.61	5,194.72	419.89	13.372		
8,600.00	7,289.00	6,300.00	6,292.04	30.69	397.94	-19.64	-1,198.99	-4,292.31	5,712.93	5,292.80	420.13	13.598		
8,700.00	7,289.00	6,300.00	6,292.04	31.17	397.94	-19.64	-1,198.99	-4,292.31	5,811.31	5,390.96	420.35	13.825		
8,800.00	7,289.00	6,300.00	6,292.04	31.69	397.94	-19.64	-1,198.99	-4,292.31	5,909.74	5,489.17	420.56	14.052		
8,900.00	7,289.00	6,300.00	6,292.04	32.26	397.94	-19.64	-1,198.99	-4,292.31	6,008.22	5,587.45	420.77	14.279		
9,000.00	7,289.00	6,300.00	6,292.04	32.85	397.94	-19.64	-1,198.99	-4,292.31	6,106.75	5,685.79	420.97	14.506		
9,100.00	7,289.00	6,300.00	6,292.04	33.49	397.94	-19.64	-1,198.99	-4,292.31	6,205.33	5,784.17	421.16	14.734		
9,200.00	7,289.00	6,300.00	6,292.04	34.15	397.94	-19.64	-1,198.99	-4,292.31	6,303.95	5,882.62	421.34	14.962		
9,300.00	7,289.00	6,300.00	6,292.04	34.83	397.94	-19.64	-1,198.99	-4,292.31	6,402.62	5,981.11	421.52	15.190		
9,400.00	7,289.00	6,300.00	6,292.04	35.55	397.94	-19.64	-1,198.99	-4,292.31	6,501.33	6,079.64	421.69	15.417		
9,500.00	7,289.00	6,300.00	6,292.04	36.28	397.94	-19.64	-1,198.99	-4,292.31	6,600.07	6,178.22	421.85	15.646		
9,600.00	7,289.00	6,300.00	6,292.04	37.03	397.94	-19.64	-1,198.99	-4,292.31	6,698.86	6,276.85	422.01	15.874		
9,700.00	7,289.00	6,300.00	6,292.04	37.81	397.94	-19.64	-1,198.99	-4,292.31	6,797.68	6,375.51	422.16	16.102		
9,800.00	7,289.00	6,300.00	6,292.04	38.60	397.94	-19.64	-1,198.99	-4,292.31	6,896.53	6,474.22	422.31	16.330		
9,900.00	7,289.00	6,300.00	6,292.04	39.41	397.94	-19.64	-1,198.99	-4,292.31	6,995.41	6,572.96	422.46	16.559		
10,000.00	7,289.00	6,300.00	6,292.04	40.24	397.94	-19.64	-1,198.99	-4,292.31	7,094.33	6,671.73	422.60	16.787		
10,100.00	7,289.00	6,300.00	6,292.04	41.08	397.94	-19.64	-1,198.99	-4,292.31	7,193.28	6,770.54	422.74	17.016		
10,200.00	7,289.00	6,300.00	6,292.04	41.93	397.94	-19.64	-1,198.99	-4,292.31	7,292.25	6,869.38	422.87	17.245		
10,300.00	7,289.00	6,300.00	6,292.04	42.80	397.94	-19.64	-1,198.99	-4,292.31	7,391.26	6,968.26	423.00	17.473		
10,400.00	7,289.00	6,300.00	6,292.04	43.68	397.94	-19.64	-1,198.99	-4,292.31	7,490.28	7,067.16	423.13	17.702		
10,500.00	7,289.00	6,300.00	6,292.04	44.57	397.94	-19.64	-1,198.99	-4,292.31	7,589.34	7,166.09	423.25	17.931		
10,600.00	7,289.00	6,300.00	6,292.04	45.47	397.94	-19.64	-1,198.99	-4,292.31	7,688.42	7,265.05	423.37	18.160		
10,700.00	7,289.00	6,300.00	6,292.04	46.38	397.94	-19.64	-1,198.99	-4,292.31	7,787.52	7,364.03	423.49	18.389		
10,800.00	7,289.00	6,300.00	6,292.04	47.30	397.94	-19.64	-1,198.99	-4,292.31	7,886.65	7,463.04	423.61	18.618		
10,900.00	7,289.00	6,300.00	6,292.04	48.23	397.94	-19.64	-1,198.99	-4,292.31	7,985.79	7,562.07	423.72	18.847		
11,000.00	7,289.00	6,300.00	6,292.04	49.16	397.94	-19.64	-1,198.99	-4,292.31	8,084.96	7,661.13	423.83	19.076		
11,100.00	7,289.00	6,300.00	6,292.04	50.11	397.94	-19.64	-1,198.99	-4,292.31	8,184.15	7,760.21	423.94	19.305		
11,200.00	7,289.00	6,300.00	6,292.04	51.06	397.94	-19.64	-1,198.99	-4,292.31	8,283.36	7,859.31	424.05	19.534		
11,300.00	7,289.00	6,300.00	6,292.04	52.02	397.94	-19.64	-1,198.99	-4,292.31	8,382.59	7,958.43	424.16	19.763		
11,400.00	7,289.00	6,300.00	6,292.04	52.98	397.94	-19.64	-1,198.99	-4,292.31	8,481.83	8,057.57	424.26	19.992		
11,500.00	7,289.00	6,300.00	6,292.04	53.95	397.94	-19.64	-1,198.99	-4,292.31	8,581.09	8,156.73	424.37	20.221		
11,600.00	7,289.00	6,300.00	6,292.04	54.93	397.94	-19.64	-1,198.99	-4,292.31	8,680.37	8,255.90	424.47	20.450		
11,700.00	7,289.00	6,300.00	6,292.04	55.91	397.94	-19.64	-1,198.99	-4,292.31	8,779.67	8,355.10	424.57	20.679		
11,800.00	7,289.00	6,300.00	6,292.04	56.90	397.94	-19.64	-1,198.99	-4,292.31	8,878.98	8,454.31	424.67	20.908		
11,900.00	7,289.00	6,300.00	6,292.04	57.89	397.94	-19.64	-1,198.99	-4,292.31	8,978.31	8,553.54	424.77	21.137		

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
12,000.00	7,289.00	6,300.00	6,292.04	58.89	397.94	-19.64	-1,198.99	-4,292.31	9,077.65	8,652.78	424.87	21.366	
12,100.00	7,289.00	6,300.00	6,292.04	59.89	397.94	-19.64	-1,198.99	-4,292.31	9,177.01	8,752.04	424.96	21.595	
12,200.00	7,289.00	6,300.00	6,292.04	60.90	397.94	-19.64	-1,198.99	-4,292.31	9,276.38	8,851.32	425.06	21.824	
12,300.00	7,289.00	6,300.00	6,292.04	61.91	397.94	-19.64	-1,198.99	-4,292.31	9,375.76	8,950.61	425.15	22.053	
12,400.00	7,289.00	6,300.00	6,292.04	62.92	397.94	-19.64	-1,198.99	-4,292.31	9,475.16	9,049.91	425.25	22.282	
12,500.00	7,289.00	6,300.00	6,292.04	63.94	397.94	-19.64	-1,198.99	-4,292.31	9,574.56	9,149.23	425.34	22.510	
12,600.00	7,289.00	6,300.00	6,292.04	64.96	397.94	-19.64	-1,198.99	-4,292.31	9,673.98	9,248.55	425.43	22.739	
12,700.00	7,289.00	6,300.00	6,292.04	65.98	397.94	-19.64	-1,198.99	-4,292.31	9,773.42	9,347.90	425.52	22.968	
12,800.00	7,289.00	6,300.00	6,292.04	67.01	397.94	-19.64	-1,198.99	-4,292.31	9,872.86	9,447.25	425.61	23.197	
12,900.00	7,289.00	6,300.00	6,292.04	68.04	397.94	-19.64	-1,198.99	-4,292.31	9,972.32	9,546.61	425.70	23.425	
13,000.00	7,289.00	6,300.00	6,292.04	69.08	397.94	-19.64	-1,198.99	-4,292.31	10,071.78	9,645.99	425.79	23.654	
13,100.00	7,289.00	6,300.00	6,292.04	70.11	397.94	-19.64	-1,198.99	-4,292.31	10,171.26	9,745.38	425.88	23.883	
13,200.00	7,289.00	6,300.00	6,292.04	71.15	397.94	-19.64	-1,198.99	-4,292.31	10,270.75	9,844.77	425.97	24.111	
13,300.00	7,289.00	6,300.00	6,292.04	72.19	397.94	-19.64	-1,198.99	-4,292.31	10,370.24	9,944.18	426.06	24.340	
13,400.00	7,289.00	6,300.00	6,292.04	73.24	397.94	-19.64	-1,198.99	-4,292.31	10,469.75	10,043.60	426.15	24.568	
13,500.00	7,289.00	6,300.00	6,292.04	74.28	397.94	-19.64	-1,198.99	-4,292.31	10,569.27	10,143.03	426.24	24.797	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
2,500.00	2,467.47	2,420.47	2,420.47	8.81	152.89	22.33	-3,840.74	-1,558.50	3,863.86	3,702.48	161.38	23.942	
2,600.00	2,564.44	2,517.44	2,517.44	9.20	159.01	22.47	-3,840.74	-1,558.50	3,841.16	3,673.29	167.86	22.883	
2,700.00	2,661.40	2,614.40	2,614.40	9.59	165.14	22.61	-3,840.74	-1,558.50	3,818.47	3,644.13	174.34	21.902	
2,800.00	2,758.37	2,711.37	2,711.37	9.99	171.26	22.75	-3,840.74	-1,558.50	3,795.81	3,614.99	180.82	20.992	
2,900.00	2,855.33	2,808.33	2,808.33	10.39	177.39	22.89	-3,840.74	-1,558.50	3,773.17	3,585.87	187.31	20.144	
3,000.00	2,952.30	2,905.30	2,905.30	10.78	183.51	23.04	-3,840.74	-1,558.50	3,750.56	3,556.77	193.79	19.354	
3,100.00	3,049.26	3,002.26	3,002.26	11.18	189.64	23.18	-3,840.74	-1,558.50	3,727.96	3,527.69	200.27	18.614	
3,200.00	3,146.23	3,099.23	3,099.23	11.58	195.76	23.33	-3,840.74	-1,558.50	3,705.39	3,498.64	206.76	17.922	
3,300.00	3,243.19	3,196.19	3,196.19	11.98	201.89	23.48	-3,840.74	-1,558.50	3,682.85	3,469.61	213.24	17.271	
3,400.00	3,340.16	3,293.16	3,293.16	12.38	208.01	23.63	-3,840.74	-1,558.50	3,660.33	3,440.60	219.73	16.659	
3,500.00	3,437.12	3,390.12	3,390.12	12.78	214.14	23.79	-3,840.74	-1,558.50	3,637.83	3,411.62	226.21	16.081	
3,600.00	3,534.09	3,487.09	3,487.09	13.18	220.26	23.94	-3,840.74	-1,558.50	3,615.36	3,382.66	232.70	15.537	
3,700.00	3,631.05	3,584.05	3,584.05	13.58	226.39	24.10	-3,840.74	-1,558.50	3,592.91	3,353.73	239.19	15.021	
3,800.00	3,728.02	3,681.02	3,681.02	13.98	232.51	24.26	-3,840.74	-1,558.50	3,570.50	3,324.82	245.67	14.534	
3,900.00	3,824.98	3,777.98	3,777.98	14.38	238.64	24.42	-3,840.74	-1,558.50	3,548.10	3,295.94	252.16	14.071	
4,000.00	3,921.94	3,874.94	3,874.94	14.78	244.76	24.58	-3,840.74	-1,558.50	3,525.74	3,267.09	258.65	13.631	
4,100.00	4,018.91	3,971.91	3,971.91	15.19	250.89	24.75	-3,840.74	-1,558.50	3,503.40	3,238.26	265.14	13.213	
4,200.00	4,115.87	4,068.87	4,068.87	15.59	257.01	24.92	-3,840.74	-1,558.50	3,481.10	3,209.47	271.63	12.816	
4,300.00	4,212.84	4,165.84	4,165.84	15.99	263.14	25.09	-3,840.74	-1,558.50	3,458.82	3,180.70	278.12	12.436	
4,400.00	4,309.80	4,262.80	4,262.80	16.40	269.26	25.26	-3,840.74	-1,558.50	3,436.57	3,151.96	284.61	12.075	
4,500.00	4,406.77	4,359.77	4,359.77	16.80	275.38	25.43	-3,840.74	-1,558.50	3,414.35	3,123.25	291.10	11.729	
4,600.00	4,503.73	4,456.73	4,456.73	17.20	281.51	25.61	-3,840.74	-1,558.50	3,392.16	3,094.57	297.59	11.399	
4,700.00	4,600.70	4,553.70	4,553.70	17.61	287.63	25.79	-3,840.74	-1,558.50	3,370.00	3,065.92	304.08	11.082	
4,800.00	4,697.66	4,650.66	4,650.66	18.01	293.76	25.97	-3,840.74	-1,558.50	3,347.88	3,037.30	310.58	10.780	
4,900.00	4,794.63	4,747.63	4,747.63	18.42	299.88	26.15	-3,840.74	-1,558.50	3,325.78	3,008.71	317.07	10.489	
5,000.00	4,891.59	4,844.59	4,844.59	18.82	306.01	26.34	-3,840.74	-1,558.50	3,303.72	2,980.16	323.56	10.210	
5,100.00	4,988.56	4,941.56	4,941.56	19.23	312.13	26.52	-3,840.74	-1,558.50	3,281.70	2,951.64	330.06	9.943	
5,200.00	5,085.52	5,038.52	5,038.52	19.63	318.26	26.72	-3,840.74	-1,558.50	3,259.71	2,923.16	336.55	9.686	
5,300.00	5,182.49	5,135.49	5,135.49	20.03	324.38	26.91	-3,840.74	-1,558.50	3,237.75	2,894.70	343.04	9.438	
5,400.00	5,279.45	5,232.45	5,232.45	20.44	330.51	27.10	-3,840.74	-1,558.50	3,215.83	2,866.29	349.54	9.200	
5,500.00	5,376.42	5,329.42	5,329.42	20.84	336.63	27.30	-3,840.74	-1,558.50	3,193.95	2,837.91	356.04	8.971	
5,600.00	5,473.38	5,426.38	5,426.38	21.25	342.76	27.50	-3,840.74	-1,558.50	3,172.10	2,809.57	362.53	8.750	
5,700.00	5,570.35	5,523.35	5,523.35	21.66	348.88	27.71	-3,840.74	-1,558.50	3,150.29	2,781.26	369.03	8.537	
5,800.00	5,667.31	5,620.31	5,620.31	22.06	355.01	27.92	-3,840.74	-1,558.50	3,128.52	2,753.00	375.53	8.331	
5,900.00	5,764.27	5,717.27	5,717.27	22.47	361.13	28.13	-3,840.74	-1,558.50	3,106.80	2,724.77	382.02	8.132	
6,000.00	5,861.24	5,814.24	5,814.24	22.87	367.26	28.34	-3,840.74	-1,558.50	3,085.11	2,696.59	388.52	7.941	
6,100.00	5,958.20	5,911.20	5,911.20	23.28	373.38	28.55	-3,840.74	-1,558.50	3,063.46	2,668.44	395.02	7.755	
6,200.00	6,055.17	6,008.17	6,008.17	23.68	379.51	28.77	-3,840.74	-1,558.50	3,041.86	2,640.34	401.52	7.576	
6,300.00	6,152.13	6,105.13	6,105.13	24.09	385.63	28.99	-3,840.74	-1,558.50	3,020.30	2,612.28	408.02	7.402	
6,400.00	6,249.10	6,202.10	6,202.10	24.50	391.76	29.22	-3,840.74	-1,558.50	2,998.78	2,584.26	414.52	7.234	
6,500.00	6,346.06	6,299.06	6,299.06	24.90	397.88	29.45	-3,840.74	-1,558.50	2,977.31	2,556.29	421.02	7.072	
6,600.00	6,443.03	6,396.03	6,396.03	25.31	404.01	29.68	-3,840.74	-1,558.50	2,955.89	2,528.36	427.52	6.914	
6,700.00	6,539.99	6,492.99	6,492.99	25.71	410.13	29.91	-3,840.74	-1,558.50	2,934.51	2,500.49	434.02	6.761	
6,800.00	6,636.96	6,589.96	6,589.96	26.12	416.25	30.15	-3,840.74	-1,558.50	2,913.18	2,472.65	440.53	6.613	
6,893.78	6,727.89	6,680.89	6,680.89	26.50	422.00	30.38	-3,840.74	-1,558.50	2,893.22	2,446.60	446.63	6.478	
6,900.00	6,733.92	6,686.92	6,686.92	26.53	422.38	32.97	-3,840.74	-1,558.50	2,891.92	2,444.89	447.03	6.469	
6,950.00	6,782.34	6,735.34	6,735.34	26.73	425.44	52.98	-3,840.74	-1,558.50	2,882.76	2,432.48	450.28	6.402	
7,000.00	6,830.39	6,783.39	6,783.39	26.93	428.47	69.22	-3,840.74	-1,558.50	2,876.02	2,422.51	453.52	6.342	
7,050.00	6,877.70	6,830.70	6,830.70	27.12	431.46	81.02	-3,840.74	-1,558.50	2,871.81	2,415.11	456.70	6.288	
7,100.00	6,923.92	6,876.92	6,876.92	27.30	434.38	89.32	-3,840.74	-1,558.50	2,870.21	2,410.38	459.83	6.242	
7,105.00	6,928.46	6,881.46	6,881.46	27.32	434.67	90.00	-3,840.74	-1,558.50	2,870.20	2,410.06	460.13	6.238 CC	
7,150.00	6,968.68	6,921.68	6,921.68	27.47	437.21	95.18	-3,840.74	-1,558.50	2,871.30	2,408.44	462.86	6.203 ES	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
7,200.00	7,011.65	6,964.65	6,964.65	27.63	439.92	99.35	-3,840.74	-1,558.50	2,875.14	2,409.36	465.77	6.173	
7,250.00	7,052.50	7,005.50	7,005.50	27.78	442.50	102.30	-3,840.74	-1,558.50	2,881.78	2,413.22	468.56	6.150	
7,300.00	7,090.93	7,043.93	7,043.93	27.91	444.93	104.30	-3,840.74	-1,558.50	2,891.25	2,420.06	471.19	6.136	
7,350.00	7,126.64	7,079.64	7,079.64	28.04	447.19	105.55	-3,840.74	-1,558.50	2,903.54	2,429.90	473.64	6.130 SF	
7,400.00	7,159.35	7,112.35	7,112.35	28.15	449.25	106.14	-3,840.74	-1,558.50	2,918.64	2,442.74	475.90	6.133	
7,450.00	7,188.82	7,141.82	7,141.82	28.24	451.11	106.13	-3,840.74	-1,558.50	2,936.49	2,458.54	477.96	6.144	
7,500.00	7,214.82	7,167.82	7,167.82	28.33	452.76	105.56	-3,840.74	-1,558.50	2,957.01	2,477.22	479.79	6.163	
7,550.00	7,237.16	7,190.16	7,190.16	28.40	454.17	104.43	-3,840.74	-1,558.50	2,980.09	2,498.70	481.39	6.191	
7,600.00	7,255.67	7,208.67	7,208.67	28.46	455.34	102.73	-3,840.74	-1,558.50	3,005.56	2,522.82	482.74	6.226	
7,650.00	7,270.20	7,223.20	7,223.20	28.52	456.25	100.45	-3,840.74	-1,558.50	3,033.25	2,549.43	483.83	6.269	
7,700.00	7,280.65	7,233.65	7,233.65	28.57	456.91	97.57	-3,840.74	-1,558.50	3,062.96	2,578.31	484.65	6.320	
7,750.00	7,286.93	7,239.93	7,239.93	28.62	457.31	94.07	-3,840.74	-1,558.50	3,094.44	2,609.23	485.21	6.378	
7,799.47	7,289.00	7,242.00	7,242.00	28.66	457.44	90.00	-3,840.74	-1,558.50	3,127.07	2,641.58	485.49	6.441	
7,900.00	7,289.00	7,242.00	7,242.00	28.76	457.44	90.00	-3,840.74	-1,558.50	3,195.56	2,709.78	485.78	6.578	
8,000.00	7,289.00	7,242.00	7,242.00	28.89	457.44	90.00	-3,840.74	-1,558.50	3,265.33	2,779.25	486.08	6.718	
8,100.00	7,289.00	7,242.00	7,242.00	29.06	457.44	90.00	-3,840.74	-1,558.50	3,336.64	2,850.26	486.38	6.860	
8,200.00	7,289.00	7,242.00	7,242.00	29.28	457.44	90.00	-3,840.74	-1,558.50	3,409.40	2,922.71	486.68	7.005	
8,300.00	7,289.00	7,242.00	7,242.00	29.55	457.44	90.00	-3,840.74	-1,558.50	3,483.50	2,996.51	486.99	7.153	
8,400.00	7,289.00	7,242.00	7,242.00	29.87	457.44	90.00	-3,840.74	-1,558.50	3,558.87	3,071.58	487.29	7.303	
8,500.00	7,289.00	7,242.00	7,242.00	30.25	457.44	90.00	-3,840.74	-1,558.50	3,635.43	3,147.85	487.59	7.456	
8,600.00	7,289.00	7,242.00	7,242.00	30.69	457.44	90.00	-3,840.74	-1,558.50	3,713.11	3,225.23	487.88	7.611	
8,700.00	7,289.00	7,242.00	7,242.00	31.17	457.44	90.00	-3,840.74	-1,558.50	3,791.83	3,303.66	488.17	7.767	
8,800.00	7,289.00	7,242.00	7,242.00	31.69	457.44	90.00	-3,840.74	-1,558.50	3,871.53	3,383.08	488.45	7.926	
8,900.00	7,289.00	7,242.00	7,242.00	32.26	457.44	90.00	-3,840.74	-1,558.50	3,952.16	3,463.43	488.73	8.087	
9,000.00	7,289.00	7,242.00	7,242.00	32.85	457.44	90.00	-3,840.74	-1,558.50	4,033.65	3,544.66	489.00	8.249	
9,100.00	7,289.00	7,242.00	7,242.00	33.49	457.44	90.00	-3,840.74	-1,558.50	4,115.96	3,626.70	489.26	8.413	
9,200.00	7,289.00	7,242.00	7,242.00	34.15	457.44	90.00	-3,840.74	-1,558.50	4,199.04	3,709.52	489.52	8.578	
9,300.00	7,289.00	7,242.00	7,242.00	34.83	457.44	90.00	-3,840.74	-1,558.50	4,282.85	3,793.08	489.77	8.745	
9,400.00	7,289.00	7,242.00	7,242.00	35.55	457.44	90.00	-3,840.74	-1,558.50	4,367.33	3,877.32	490.01	8.913	
9,500.00	7,289.00	7,242.00	7,242.00	36.28	457.44	90.00	-3,840.74	-1,558.50	4,452.46	3,962.21	490.25	9.082	
9,600.00	7,289.00	7,242.00	7,242.00	37.03	457.44	90.00	-3,840.74	-1,558.50	4,538.19	4,047.71	490.48	9.253	
9,700.00	7,289.00	7,242.00	7,242.00	37.81	457.44	90.00	-3,840.74	-1,558.50	4,624.50	4,133.79	490.71	9.424	
9,800.00	7,289.00	7,242.00	7,242.00	38.60	457.44	90.00	-3,840.74	-1,558.50	4,711.34	4,220.42	490.92	9.597	
9,900.00	7,289.00	7,242.00	7,242.00	39.41	457.44	90.00	-3,840.74	-1,558.50	4,798.70	4,307.57	491.14	9.771	
10,000.00	7,289.00	7,242.00	7,242.00	40.24	457.44	90.00	-3,840.74	-1,558.50	4,886.55	4,395.21	491.34	9.945	
10,100.00	7,289.00	7,242.00	7,242.00	41.08	457.44	90.00	-3,840.74	-1,558.50	4,974.85	4,483.31	491.54	10.121	
10,200.00	7,289.00	7,242.00	7,242.00	41.93	457.44	90.00	-3,840.74	-1,558.50	5,063.59	4,571.85	491.74	10.297	
10,300.00	7,289.00	7,242.00	7,242.00	42.80	457.44	90.00	-3,840.74	-1,558.50	5,152.74	4,660.81	491.93	10.475	
10,400.00	7,289.00	7,242.00	7,242.00	43.68	457.44	90.00	-3,840.74	-1,558.50	5,242.28	4,750.17	492.11	10.653	
10,500.00	7,289.00	7,242.00	7,242.00	44.57	457.44	90.00	-3,840.74	-1,558.50	5,332.20	4,839.91	492.29	10.831	
10,600.00	7,289.00	7,242.00	7,242.00	45.47	457.44	90.00	-3,840.74	-1,558.50	5,422.47	4,930.00	492.47	11.011	
10,700.00	7,289.00	7,242.00	7,242.00	46.38	457.44	90.00	-3,840.74	-1,558.50	5,513.07	5,020.43	492.64	11.191	
10,800.00	7,289.00	7,242.00	7,242.00	47.30	457.44	90.00	-3,840.74	-1,558.50	5,603.99	5,111.19	492.81	11.372	
10,900.00	7,289.00	7,242.00	7,242.00	48.23	457.44	90.00	-3,840.74	-1,558.50	5,695.22	5,202.25	492.97	11.553	
11,000.00	7,289.00	7,242.00	7,242.00	49.16	457.44	90.00	-3,840.74	-1,558.50	5,786.74	5,293.61	493.13	11.735	
11,100.00	7,289.00	7,242.00	7,242.00	50.11	457.44	90.00	-3,840.74	-1,558.50	5,878.53	5,385.25	493.28	11.917	
11,200.00	7,289.00	7,242.00	7,242.00	51.06	457.44	90.00	-3,840.74	-1,558.50	5,970.59	5,477.15	493.44	12.100	
11,300.00	7,289.00	7,242.00	7,242.00	52.02	457.44	90.00	-3,840.74	-1,558.50	6,062.90	5,569.31	493.58	12.283	
11,400.00	7,289.00	7,242.00	7,242.00	52.98	457.44	90.00	-3,840.74	-1,558.50	6,155.45	5,661.72	493.73	12.467	
11,500.00	7,289.00	7,242.00	7,242.00	53.95	457.44	90.00	-3,840.74	-1,558.50	6,248.23	5,754.35	493.87	12.652	
11,600.00	7,289.00	7,242.00	7,242.00	54.93	457.44	90.00	-3,840.74	-1,558.50	6,341.22	5,847.21	494.01	12.836	
11,700.00	7,289.00	7,242.00	7,242.00	55.91	457.44	90.00	-3,840.74	-1,558.50	6,434.43	5,940.29	494.15	13.021	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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						Rule Assigned:					Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
11,800.00	7,289.00	7,242.00	7,242.00	56.90	457.44	90.00	-3,840.74	-1,558.50	6,527.84	6,033.56	494.28	13.207		
11,900.00	7,289.00	7,242.00	7,242.00	57.89	457.44	90.00	-3,840.74	-1,558.50	6,621.44	6,127.03	494.41	13.393		
12,000.00	7,289.00	7,242.00	7,242.00	58.89	457.44	90.00	-3,840.74	-1,558.50	6,715.23	6,220.69	494.54	13.579		
12,100.00	7,289.00	7,242.00	7,242.00	59.89	457.44	90.00	-3,840.74	-1,558.50	6,809.19	6,314.53	494.67	13.765		
12,200.00	7,289.00	7,242.00	7,242.00	60.90	457.44	90.00	-3,840.74	-1,558.50	6,903.33	6,408.54	494.79	13.952		
12,300.00	7,289.00	7,242.00	7,242.00	61.91	457.44	90.00	-3,840.74	-1,558.50	6,997.62	6,502.71	494.91	14.139		
12,400.00	7,289.00	7,242.00	7,242.00	62.92	457.44	90.00	-3,840.74	-1,558.50	7,092.07	6,597.04	495.03	14.326		
12,500.00	7,289.00	7,242.00	7,242.00	63.94	457.44	90.00	-3,840.74	-1,558.50	7,186.68	6,691.53	495.15	14.514		
12,600.00	7,289.00	7,242.00	7,242.00	64.96	457.44	90.00	-3,840.74	-1,558.50	7,281.42	6,786.16	495.27	14.702		
12,700.00	7,289.00	7,242.00	7,242.00	65.98	457.44	90.00	-3,840.74	-1,558.50	7,376.31	6,880.93	495.38	14.890		
12,800.00	7,289.00	7,242.00	7,242.00	67.01	457.44	90.00	-3,840.74	-1,558.50	7,471.33	6,975.83	495.49	15.079		
12,900.00	7,289.00	7,242.00	7,242.00	68.04	457.44	90.00	-3,840.74	-1,558.50	7,566.47	7,070.87	495.61	15.267		
13,000.00	7,289.00	7,242.00	7,242.00	69.08	457.44	90.00	-3,840.74	-1,558.50	7,661.74	7,166.03	495.72	15.456		
13,100.00	7,289.00	7,242.00	7,242.00	70.11	457.44	90.00	-3,840.74	-1,558.50	7,757.13	7,261.31	495.82	15.645		
13,200.00	7,289.00	7,242.00	7,242.00	71.15	457.44	90.00	-3,840.74	-1,558.50	7,852.64	7,356.71	495.93	15.834		
13,300.00	7,289.00	7,242.00	7,242.00	72.19	457.44	90.00	-3,840.74	-1,558.50	7,948.25	7,452.21	496.04	16.024		
13,400.00	7,289.00	7,242.00	7,242.00	73.24	457.44	90.00	-3,840.74	-1,558.50	8,043.97	7,547.83	496.14	16.213		
13,500.00	7,289.00	7,242.00	7,242.00	74.28	457.44	90.00	-3,840.74	-1,558.50	8,139.80	7,643.55	496.24	16.403		
13,600.00	7,289.00	7,242.00	7,242.00	75.33	457.44	90.00	-3,840.74	-1,558.50	8,235.72	7,739.37	496.35	16.593		
13,700.00	7,289.00	7,242.00	7,242.00	76.38	457.44	90.00	-3,840.74	-1,558.50	8,331.74	7,835.29	496.45	16.783		
13,800.00	7,289.00	7,242.00	7,242.00	77.43	457.44	90.00	-3,840.74	-1,558.50	8,427.85	7,931.30	496.55	16.973		
13,900.00	7,289.00	7,242.00	7,242.00	78.49	457.44	90.00	-3,840.74	-1,558.50	8,524.05	8,027.41	496.65	17.163		
14,000.00	7,289.00	7,242.00	7,242.00	79.54	457.44	90.00	-3,840.74	-1,558.50	8,620.34	8,123.60	496.75	17.354		
14,100.00	7,289.00	7,242.00	7,242.00	80.60	457.44	90.00	-3,840.74	-1,558.50	8,716.71	8,219.87	496.84	17.544		
14,200.00	7,289.00	7,242.00	7,242.00	81.66	457.44	90.00	-3,840.74	-1,558.50	8,813.17	8,316.23	496.94	17.735		
14,300.00	7,289.00	7,242.00	7,242.00	82.72	457.44	90.00	-3,840.74	-1,558.50	8,909.70	8,412.66	497.04	17.926		
14,400.00	7,289.00	7,242.00	7,242.00	83.78	457.44	90.00	-3,840.74	-1,558.50	9,006.30	8,509.17	497.13	18.117		
14,500.00	7,289.00	7,242.00	7,242.00	84.85	457.44	90.00	-3,840.74	-1,558.50	9,102.98	8,605.76	497.23	18.308		
14,600.00	7,289.00	7,242.00	7,242.00	85.91	457.44	90.00	-3,840.74	-1,558.50	9,199.73	8,702.41	497.32	18.499		
14,700.00	7,289.00	7,242.00	7,242.00	86.98	457.44	90.00	-3,840.74	-1,558.50	9,296.55	8,799.14	497.41	18.690		
14,800.00	7,289.00	7,242.00	7,242.00	88.05	457.44	90.00	-3,840.74	-1,558.50	9,393.44	8,895.93	497.51	18.881		
14,900.00	7,289.00	7,242.00	7,242.00	89.12	457.44	90.00	-3,840.74	-1,558.50	9,490.39	8,992.79	497.60	19.072		
15,000.00	7,289.00	7,242.00	7,242.00	90.19	457.44	90.00	-3,840.74	-1,558.50	9,587.40	9,089.71	497.69	19.264		
15,100.00	7,289.00	7,242.00	7,242.00	91.26	457.44	90.00	-3,840.74	-1,558.50	9,684.48	9,186.70	497.78	19.455		
15,200.00	7,289.00	7,242.00	7,242.00	92.34	457.44	90.00	-3,840.74	-1,558.50	9,781.61	9,283.74	497.87	19.647		
15,300.00	7,289.00	7,242.00	7,242.00	93.41	457.44	90.00	-3,840.74	-1,558.50	9,878.80	9,380.84	497.96	19.838		
15,400.00	7,289.00	7,242.00	7,242.00	94.49	457.44	90.00	-3,840.74	-1,558.50	9,976.04	9,477.99	498.05	20.030		
15,500.00	7,289.00	7,242.00	7,242.00	95.56	457.44	90.00	-3,840.74	-1,558.50	10,073.34	9,575.20	498.14	20.222		
15,600.00	7,289.00	7,242.00	7,242.00	96.64	457.44	90.00	-3,840.74	-1,558.50	10,170.70	9,672.47	498.23	20.414		
15,700.00	7,289.00	7,242.00	7,242.00	97.72	457.44	90.00	-3,840.74	-1,558.50	10,268.10	9,769.78	498.32	20.605		
15,800.00	7,289.00	7,242.00	7,242.00	98.80	457.44	90.00	-3,840.74	-1,558.50	10,365.55	9,867.14	498.41	20.797		
15,900.00	7,289.00	7,242.00	7,242.00	99.88	457.44	90.00	-3,840.74	-1,558.50	10,463.05	9,964.56	498.50	20.989		
16,000.00	7,289.00	7,242.00	7,242.00	100.96	457.44	90.00	-3,840.74	-1,558.50	10,560.60	10,062.02	498.58	21.181		
16,100.00	7,289.00	7,242.00	7,242.00	102.05	457.44	90.00	-3,840.74	-1,558.50	10,658.19	10,159.52	498.67	21.373		
16,200.00	7,289.00	7,242.00	7,242.00	103.13	457.44	90.00	-3,840.74	-1,558.50	10,755.83	10,257.07	498.76	21.565		
16,300.00	7,289.00	7,242.00	7,242.00	104.21	457.44	90.00	-3,840.74	-1,558.50	10,853.51	10,354.66	498.85	21.757		
16,400.00	7,289.00	7,242.00	7,242.00	105.30	457.44	90.00	-3,840.74	-1,558.50	10,951.23	10,452.30	498.93	21.949		
16,500.00	7,289.00	7,242.00	7,242.00	106.39	457.44	90.00	-3,840.74	-1,558.50	11,048.99	10,549.97	499.02	22.141		
16,600.00	7,289.00	7,242.00	7,242.00	107.47	457.44	90.00	-3,840.74	-1,558.50	11,146.80	10,647.69	499.11	22.333		
16,700.00	7,289.00	7,242.00	7,242.00	108.56	457.44	90.00	-3,840.74	-1,558.50	11,244.64	10,745.44	499.19	22.526		
16,800.00	7,289.00	7,242.00	7,242.00	109.65	457.44	90.00	-3,840.74	-1,558.50	11,342.51	10,843.23	499.28	22.718		
16,900.00	7,289.00	7,242.00	7,242.00	110.74	457.44	90.00	-3,840.74	-1,558.50	11,440.43	10,941.06	499.37	22.910		

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,000.00	7,289.00	7,242.00	7,242.00	111.83	457.44	90.00	-3,840.74	-1,558.50	11,538.38	11,038.93	499.45	23.102	
17,100.00	7,289.00	7,242.00	7,242.00	112.92	457.44	90.00	-3,840.74	-1,558.50	11,636.37	11,136.83	499.54	23.294	
17,200.00	7,289.00	7,242.00	7,242.00	114.01	457.44	90.00	-3,840.74	-1,558.50	11,734.39	11,234.76	499.63	23.486	
17,300.00	7,289.00	7,242.00	7,242.00	115.10	457.44	90.00	-3,840.74	-1,558.50	11,832.44	11,332.73	499.71	23.678	
17,400.00	7,289.00	7,242.00	7,242.00	116.19	457.44	90.00	-3,840.74	-1,558.50	11,930.53	11,430.73	499.80	23.871	
17,500.00	7,289.00	7,242.00	7,242.00	117.28	457.44	90.00	-3,840.74	-1,558.50	12,028.64	11,528.76	499.88	24.063	
17,600.00	7,289.00	7,242.00	7,242.00	118.37	457.44	90.00	-3,840.74	-1,558.50	12,126.79	11,626.82	499.97	24.255	
17,700.00	7,289.00	7,242.00	7,242.00	119.47	457.44	90.00	-3,840.74	-1,558.50	12,224.97	11,724.91	500.06	24.447	
17,800.00	7,289.00	7,242.00	7,242.00	120.56	457.44	90.00	-3,840.74	-1,558.50	12,323.17	11,823.03	500.14	24.639	
17,900.00	7,289.00	7,242.00	7,242.00	121.66	457.44	90.00	-3,840.74	-1,558.50	12,421.41	11,921.18	500.23	24.831	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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						Rule Assigned:				Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			Minimum Separation (usft)
6,000.00	5,861.24	5,820.33	5,818.65	22.87	139.70	93.00	-807.28	-4,034.32	4,010.96	3,848.39	162.57	24.672 CC	
6,100.00	5,958.20	5,912.94	5,911.20	23.28	141.95	93.32	-807.33	-4,034.32	4,012.34	3,847.12	165.22	24.285	
6,200.00	6,055.17	6,012.47	6,010.72	23.68	144.36	93.68	-806.71	-4,034.32	4,013.94	3,845.91	168.03	23.888	
6,300.00	6,152.13	6,106.94	6,105.13	24.09	146.61	94.00	-807.33	-4,034.32	4,015.56	3,844.87	170.69	23.525	
6,400.00	6,249.10	6,205.64	6,203.83	24.50	148.89	94.35	-806.88	-4,034.32	4,017.44	3,844.06	173.38	23.172	
6,500.00	6,346.06	6,300.91	6,299.06	24.90	151.13	94.67	-807.33	-4,034.32	4,019.37	3,843.35	176.02	22.834	
6,600.00	6,443.03	6,397.88	6,396.03	25.31	153.48	95.01	-807.33	-4,034.32	4,021.50	3,842.73	178.77	22.495	
6,700.00	6,539.99	6,494.84	6,492.99	25.71	155.82	95.35	-807.33	-4,034.32	4,023.77	3,842.25	181.52	22.167	
6,800.00	6,636.96	6,592.98	6,591.11	26.12	158.20	95.70	-805.90	-4,034.32	4,026.39	3,842.09	184.30	21.847	
6,893.78	6,727.89	6,686.10	6,684.23	26.50	160.45	96.02	-806.27	-4,034.32	4,028.75	3,841.82	186.93	21.552 ES	
6,900.00	6,733.92	6,692.29	6,690.41	26.53	160.60	98.51	-806.31	-4,034.32	4,028.94	3,841.84	187.10	21.533	
6,950.00	6,782.34	6,741.96	6,740.07	26.73	161.80	117.79	-806.66	-4,034.32	4,032.92	3,844.42	188.50	21.394	
7,000.00	6,830.39	6,791.30	6,789.40	26.93	162.99	133.52	-807.11	-4,034.32	4,041.20	3,851.31	189.89	21.282	
7,050.00	6,877.70	6,832.71	6,830.70	27.12	164.06	144.99	-807.33	-4,034.32	4,053.75	3,862.61	191.14	21.208	
7,100.00	6,923.92	6,878.92	6,876.92	27.30	165.32	153.24	-807.33	-4,034.32	4,070.47	3,877.89	192.58	21.137	
7,150.00	6,968.68	6,923.69	6,921.68	27.47	166.55	159.31	-807.33	-4,034.32	4,091.19	3,897.23	193.97	21.092	
7,200.00	7,011.65	6,966.66	6,964.65	27.63	167.72	163.97	-807.33	-4,034.32	4,115.76	3,920.47	195.29	21.075 SF	
7,250.00	7,052.50	7,008.73	7,006.70	27.78	168.87	167.76	-806.24	-4,034.32	4,144.14	3,947.57	196.58	21.082	
7,300.00	7,090.93	7,049.22	7,047.19	27.91	169.98	170.99	-806.37	-4,034.32	4,175.76	3,977.96	197.80	21.111	
7,350.00	7,126.64	7,086.91	7,084.87	28.04	171.01	173.93	-806.61	-4,034.32	4,210.55	4,011.61	198.94	21.165	
7,400.00	7,159.35	7,121.48	7,119.44	28.15	171.95	176.78	-806.93	-4,034.32	4,248.24	4,048.27	199.97	21.244	
7,450.00	7,188.82	7,152.67	7,150.63	28.24	172.80	179.77	-807.29	-4,034.32	4,288.56	4,087.66	200.90	21.347	
7,500.00	7,214.82	7,169.99	7,167.82	28.33	173.29	-176.82	-807.33	-4,034.32	4,331.22	4,129.78	201.44	21.501	
7,550.00	7,237.16	7,192.33	7,190.16	28.40	173.93	-172.59	-807.33	-4,034.32	4,375.90	4,173.78	202.12	21.650	
7,600.00	7,255.67	7,210.84	7,208.67	28.46	174.45	-166.84	-807.33	-4,034.32	4,422.23	4,219.56	202.68	21.819	
7,650.00	7,270.20	7,225.37	7,223.20	28.52	174.87	-158.23	-807.33	-4,034.32	4,469.87	4,266.77	203.11	22.008	
7,700.00	7,280.65	7,235.82	7,233.65	28.57	175.16	-144.10	-807.33	-4,034.32	4,518.46	4,315.05	203.41	22.214	
7,750.00	7,286.93	7,242.10	7,239.93	28.62	175.34	-120.52	-807.33	-4,034.32	4,567.62	4,364.03	203.59	22.436	
7,799.47	7,289.00	7,244.17	7,242.00	28.66	175.40	-90.00	-807.33	-4,034.32	4,616.47	4,412.83	203.64	22.670	
7,900.00	7,289.00	7,244.17	7,242.00	28.76	175.40	-90.00	-807.33	-4,034.32	4,715.74	4,512.12	203.62	23.160	
8,000.00	7,289.00	7,244.17	7,242.00	28.89	175.40	-90.00	-807.33	-4,034.32	4,814.53	4,610.93	203.60	23.647	
8,100.00	7,289.00	7,244.17	7,242.00	29.06	175.40	-90.00	-807.33	-4,034.32	4,913.38	4,709.79	203.59	24.134	
8,200.00	7,289.00	7,244.17	7,242.00	29.28	175.40	-90.00	-807.33	-4,034.32	5,012.27	4,808.69	203.58	24.621	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
12,800.00	7,289.00	7,238.03	7,236.00	67.01	168.73	90.00	-2,450.88	10,325.26	4,894.95	4,696.34	198.61	24.647		
12,900.00	7,289.00	7,238.03	7,236.00	68.04	168.73	90.00	-2,450.88	10,325.26	4,797.14	4,598.38	198.76	24.135		
13,000.00	7,289.00	7,238.03	7,236.00	69.08	168.73	90.00	-2,450.88	10,325.26	4,699.44	4,500.50	198.94	23.623		
13,100.00	7,289.00	7,238.03	7,236.00	70.11	168.73	90.00	-2,450.88	10,325.26	4,601.82	4,402.70	199.12	23.111		
13,200.00	7,289.00	7,238.03	7,236.00	71.15	168.73	90.00	-2,450.88	10,325.26	4,504.32	4,304.99	199.32	22.598		
13,300.00	7,289.00	7,238.03	7,236.00	72.19	168.73	90.00	-2,450.88	10,325.26	4,406.92	4,207.38	199.54	22.085		
13,400.00	7,289.00	7,238.03	7,236.00	73.24	168.73	90.00	-2,450.88	10,325.26	4,309.65	4,109.87	199.78	21.572		
13,500.00	7,289.00	7,238.03	7,236.00	74.28	168.73	90.00	-2,450.88	10,325.26	4,212.50	4,012.46	200.04	21.059		
13,600.00	7,289.00	7,238.03	7,236.00	75.33	168.73	90.00	-2,450.88	10,325.26	4,115.49	3,915.17	200.32	20.545		
13,700.00	7,289.00	7,238.03	7,236.00	76.38	168.73	90.00	-2,450.88	10,325.26	4,018.62	3,818.00	200.62	20.031		
13,800.00	7,289.00	7,238.03	7,236.00	77.43	168.73	90.00	-2,450.88	10,325.26	3,921.92	3,720.97	200.95	19.517		
13,900.00	7,289.00	7,238.03	7,236.00	78.49	168.73	90.00	-2,450.88	10,325.26	3,825.38	3,624.07	201.31	19.003		
14,000.00	7,289.00	7,238.03	7,236.00	79.54	168.73	90.00	-2,450.88	10,325.26	3,729.02	3,527.33	201.70	18.488		
14,100.00	7,289.00	7,238.03	7,236.00	80.60	168.73	90.00	-2,450.88	10,325.26	3,632.86	3,430.74	202.12	17.974		
14,200.00	7,289.00	7,238.03	7,236.00	81.66	168.73	90.00	-2,450.88	10,325.26	3,536.92	3,334.34	202.58	17.459		
14,300.00	7,289.00	7,238.03	7,236.00	82.72	168.73	90.00	-2,450.88	10,325.26	3,441.20	3,238.12	203.09	16.945		
14,400.00	7,289.00	7,238.03	7,236.00	83.78	168.73	90.00	-2,450.88	10,325.26	3,345.74	3,142.10	203.64	16.430		
14,500.00	7,289.00	7,238.03	7,236.00	84.85	168.73	90.00	-2,450.88	10,325.26	3,250.55	3,046.31	204.24	15.916		
14,600.00	7,289.00	7,238.03	7,236.00	85.91	168.73	90.00	-2,450.88	10,325.26	3,155.65	2,950.76	204.89	15.402		
14,700.00	7,289.00	7,238.03	7,236.00	86.98	168.73	90.00	-2,450.88	10,325.26	3,061.08	2,855.48	205.61	14.888		
14,800.00	7,289.00	7,238.03	7,236.00	88.05	168.73	90.00	-2,450.88	10,325.26	2,966.87	2,760.48	206.39	14.375		
14,900.00	7,289.00	7,238.03	7,236.00	89.12	168.73	90.00	-2,450.88	10,325.26	2,873.05	2,665.80	207.25	13.863		
15,000.00	7,289.00	7,238.03	7,236.00	90.19	168.73	90.00	-2,450.88	10,325.26	2,779.66	2,571.47	208.19	13.351		
15,100.00	7,289.00	7,238.03	7,236.00	91.26	168.73	90.00	-2,450.88	10,325.26	2,686.75	2,477.52	209.22	12.841		
15,200.00	7,289.00	7,238.03	7,236.00	92.34	168.73	90.00	-2,450.88	10,325.26	2,594.36	2,384.00	210.35	12.333		
15,300.00	7,289.00	7,238.03	7,236.00	93.41	168.73	90.00	-2,450.88	10,325.26	2,502.56	2,290.96	211.60	11.827		
15,400.00	7,289.00	7,238.03	7,236.00	94.49	168.73	90.00	-2,450.88	10,325.26	2,411.41	2,198.44	212.96	11.323		
15,500.00	7,289.00	7,238.03	7,236.00	95.56	168.73	90.00	-2,450.88	10,325.26	2,320.98	2,106.52	214.46	10.822		
15,600.00	7,289.00	7,238.03	7,236.00	96.64	168.73	90.00	-2,450.88	10,325.26	2,231.38	2,015.27	216.11	10.325		
15,700.00	7,289.00	7,238.03	7,236.00	97.72	168.73	90.00	-2,450.88	10,325.26	2,142.70	1,924.78	217.92	9.833		
15,800.00	7,289.00	7,238.03	7,236.00	98.80	168.73	90.00	-2,450.88	10,325.26	2,055.05	1,835.14	219.91	9.345		
15,900.00	7,289.00	7,238.03	7,236.00	99.88	168.73	90.00	-2,450.88	10,325.26	1,968.59	1,746.48	222.10	8.863		
16,000.00	7,289.00	7,238.03	7,236.00	100.96	168.73	90.00	-2,450.88	10,325.26	1,883.46	1,658.94	224.52	8.389		
16,100.00	7,289.00	7,238.03	7,236.00	102.05	168.73	90.00	-2,450.88	10,325.26	1,799.86	1,572.70	227.17	7.923		
16,200.00	7,289.00	7,238.03	7,236.00	103.13	168.73	90.00	-2,450.88	10,325.26	1,718.02	1,487.95	230.07	7.467		
16,300.00	7,289.00	7,238.03	7,236.00	104.21	168.73	90.00	-2,450.88	10,325.26	1,638.20	1,404.94	233.26	7.023		
16,400.00	7,289.00	7,238.03	7,236.00	105.30	168.73	90.00	-2,450.88	10,325.26	1,560.70	1,323.96	236.74	6.592		
16,500.00	7,289.00	7,238.03	7,236.00	106.39	168.73	90.00	-2,450.88	10,325.26	1,485.89	1,245.36	240.53	6.178		
16,600.00	7,289.00	7,238.03	7,236.00	107.47	168.73	90.00	-2,450.88	10,325.26	1,414.20	1,169.57	244.63	5.781		
16,700.00	7,289.00	7,238.03	7,236.00	108.56	168.73	90.00	-2,450.88	10,325.26	1,346.13	1,097.10	249.03	5.406		
16,800.00	7,289.00	7,238.03	7,236.00	109.65	168.73	90.00	-2,450.88	10,325.26	1,282.24	1,028.54	253.70	5.054		
16,900.00	7,289.00	7,238.03	7,236.00	110.74	168.73	90.00	-2,450.88	10,325.26	1,223.21	964.61	258.60	4.730		
17,000.00	7,289.00	7,238.03	7,236.00	111.83	168.73	90.00	-2,450.88	10,325.26	1,169.76	906.14	263.62	4.437		
17,100.00	7,289.00	7,238.03	7,236.00	112.92	168.73	90.00	-2,450.88	10,325.26	1,122.68	854.04	268.64	4.179		
17,200.00	7,289.00	7,238.03	7,236.00	114.01	168.73	90.00	-2,450.88	10,325.26	1,082.83	809.33	273.50	3.959		
17,300.00	7,289.00	7,238.03	7,236.00	115.10	168.73	90.00	-2,450.88	10,325.26	1,051.00	773.02	277.98	3.781		
17,400.00	7,289.00	7,238.03	7,236.00	116.19	168.73	90.00	-2,450.88	10,325.26	1,027.96	746.10	281.85	3.647		
17,500.00	7,289.00	7,238.03	7,236.00	117.28	168.73	90.00	-2,450.88	10,325.26	1,014.29	729.37	284.92	3.560		
17,589.54	7,289.00	7,238.03	7,236.00	118.26	168.73	90.00	-2,450.88	10,325.26	1,010.33	723.50	286.83	3.522 CC		
17,600.00	7,289.00	7,238.03	7,236.00	118.37	168.73	90.00	-2,450.88	10,325.26	1,010.38	723.38	287.00	3.520 ES, SF		
17,700.00	7,289.00	7,238.03	7,236.00	119.47	168.73	90.00	-2,450.88	10,325.26	1,016.35	728.33	288.02	3.529		
17,800.00	7,289.00	7,238.03	7,236.00	120.56	168.73	90.00	-2,450.88	10,325.26	1,032.02	744.04	287.98	3.584		

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (")	Offset Wellbore Centre		Rule Assigned:				Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
17,900.00	7,289.00	7,238.03	7,236.00	121.66	168.73	90.00	-2,450.88	10,325.26	1,056.95	769.98	286.97	3.683	
18,000.00	7,289.00	7,238.03	7,236.00	122.75	168.73	90.00	-2,450.88	10,325.26	1,090.52	805.36	285.16	3.824	
18,100.00	7,289.00	7,238.03	7,236.00	123.85	168.73	90.00	-2,450.88	10,325.26	1,131.96	849.23	282.73	4.004	
18,200.00	7,289.00	7,238.03	7,236.00	124.94	168.73	90.00	-2,450.88	10,325.26	1,180.43	900.57	279.86	4.218	
18,274.81	7,289.00	7,238.03	7,236.00	125.76	168.73	90.00	-2,450.88	10,325.26	1,220.80	943.26	277.54	4.399	



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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				Rule Assigned:								Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			Minimum Separation (usft)
10,900.00	7,289.00	7,246.43	7,246.00	48.23	137.69	90.00	-2,469.05	7,653.51	4,142.52	3,976.25	166.27	24.915	
11,000.00	7,289.00	7,246.43	7,246.00	49.16	137.69	90.00	-2,469.05	7,653.51	4,045.60	3,879.24	166.37	24.317	
11,100.00	7,289.00	7,246.43	7,246.00	50.11	137.69	90.00	-2,469.05	7,653.51	3,948.84	3,782.36	166.48	23.719	
11,200.00	7,289.00	7,246.43	7,246.00	51.06	137.69	90.00	-2,469.05	7,653.51	3,852.25	3,685.63	166.62	23.121	
11,300.00	7,289.00	7,246.43	7,246.00	52.02	137.69	90.00	-2,469.05	7,653.51	3,755.83	3,589.07	166.76	22.522	
11,400.00	7,289.00	7,246.43	7,246.00	52.98	137.69	90.00	-2,469.05	7,653.51	3,659.61	3,492.68	166.93	21.923	
11,500.00	7,289.00	7,246.43	7,246.00	53.95	137.69	90.00	-2,469.05	7,653.51	3,563.59	3,396.47	167.12	21.324	
11,600.00	7,289.00	7,246.43	7,246.00	54.93	137.69	90.00	-2,469.05	7,653.51	3,467.80	3,300.47	167.33	20.724	
11,700.00	7,289.00	7,246.43	7,246.00	55.91	137.69	90.00	-2,469.05	7,653.51	3,372.25	3,204.68	167.57	20.125	
11,800.00	7,289.00	7,246.43	7,246.00	56.90	137.69	90.00	-2,469.05	7,653.51	3,276.97	3,109.13	167.84	19.525	
11,900.00	7,289.00	7,246.43	7,246.00	57.89	137.69	90.00	-2,469.05	7,653.51	3,181.98	3,013.84	168.14	18.925	
12,000.00	7,289.00	7,246.43	7,246.00	58.89	137.69	90.00	-2,469.05	7,653.51	3,087.31	2,918.83	168.48	18.325	
12,100.00	7,289.00	7,246.43	7,246.00	59.89	137.69	90.00	-2,469.05	7,653.51	2,992.98	2,824.12	168.86	17.725	
12,200.00	7,289.00	7,246.43	7,246.00	60.90	137.69	90.00	-2,469.05	7,653.51	2,899.03	2,729.74	169.29	17.125	
12,300.00	7,289.00	7,246.43	7,246.00	61.91	137.69	90.00	-2,469.05	7,653.51	2,805.50	2,635.73	169.77	16.525	
12,400.00	7,289.00	7,246.43	7,246.00	62.92	137.69	90.00	-2,469.05	7,653.51	2,712.43	2,542.12	170.31	15.926	
12,500.00	7,289.00	7,246.43	7,246.00	63.94	137.69	90.00	-2,469.05	7,653.51	2,619.87	2,448.95	170.92	15.328	
12,600.00	7,289.00	7,246.43	7,246.00	64.96	137.69	90.00	-2,469.05	7,653.51	2,527.88	2,356.28	171.60	14.731	
12,700.00	7,289.00	7,246.43	7,246.00	65.98	137.69	90.00	-2,469.05	7,653.51	2,436.52	2,264.15	172.37	14.135	
12,800.00	7,289.00	7,246.43	7,246.00	67.01	137.69	90.00	-2,469.05	7,653.51	2,345.86	2,172.63	173.23	13.542	
12,900.00	7,289.00	7,246.43	7,246.00	68.04	137.69	90.00	-2,469.05	7,653.51	2,256.00	2,081.80	174.20	12.951	
13,000.00	7,289.00	7,246.43	7,246.00	69.08	137.69	90.00	-2,469.05	7,653.51	2,167.02	1,991.74	175.29	12.363	
13,100.00	7,289.00	7,246.43	7,246.00	70.11	137.69	90.00	-2,469.05	7,653.51	2,079.05	1,902.54	176.51	11.779	
13,200.00	7,289.00	7,246.43	7,246.00	71.15	137.69	90.00	-2,469.05	7,653.51	1,992.21	1,814.33	177.87	11.200	
13,300.00	7,289.00	7,246.43	7,246.00	72.19	137.69	90.00	-2,469.05	7,653.51	1,906.66	1,727.25	179.40	10.628	
13,400.00	7,289.00	7,246.43	7,246.00	73.24	137.69	90.00	-2,469.05	7,653.51	1,822.58	1,641.46	181.12	10.063	
13,500.00	7,289.00	7,246.43	7,246.00	74.28	137.69	90.00	-2,469.05	7,653.51	1,740.19	1,557.16	183.03	9.508	
13,600.00	7,289.00	7,246.43	7,246.00	75.33	137.69	90.00	-2,469.05	7,653.51	1,659.73	1,474.57	185.16	8.964	
13,700.00	7,289.00	7,246.43	7,246.00	76.38	137.69	90.00	-2,469.05	7,653.51	1,581.51	1,393.98	187.52	8.434	
13,800.00	7,289.00	7,246.43	7,246.00	77.43	137.69	90.00	-2,469.05	7,653.51	1,505.86	1,315.72	190.14	7.920	
13,900.00	7,289.00	7,246.43	7,246.00	78.49	137.69	90.00	-2,469.05	7,653.51	1,433.20	1,240.19	193.01	7.426	
14,000.00	7,289.00	7,246.43	7,246.00	79.54	137.69	90.00	-2,469.05	7,653.51	1,364.01	1,167.87	196.14	6.954	
14,100.00	7,289.00	7,246.43	7,246.00	80.60	137.69	90.00	-2,469.05	7,653.51	1,298.84	1,099.31	199.52	6.510	
14,200.00	7,289.00	7,246.43	7,246.00	81.66	137.69	90.00	-2,469.05	7,653.51	1,238.32	1,035.19	203.13	6.096	
14,300.00	7,289.00	7,246.43	7,246.00	82.72	137.69	90.00	-2,469.05	7,653.51	1,183.17	976.27	206.90	5.719	
14,400.00	7,289.00	7,246.43	7,246.00	83.78	137.69	90.00	-2,469.05	7,653.51	1,134.17	923.41	210.76	5.381	
14,500.00	7,289.00	7,246.43	7,246.00	84.85	137.69	90.00	-2,469.05	7,653.51	1,092.15	877.56	214.59	5.090	
14,600.00	7,289.00	7,246.43	7,246.00	85.91	137.69	90.00	-2,469.05	7,653.51	1,057.94	839.70	218.24	4.848	
14,700.00	7,289.00	7,246.43	7,246.00	86.98	137.69	90.00	-2,469.05	7,653.51	1,032.33	810.77	221.55	4.660	
14,800.00	7,289.00	7,246.43	7,246.00	88.05	137.69	90.00	-2,469.05	7,653.51	1,015.95	791.60	224.35	4.528	
14,900.00	7,289.00	7,246.43	7,246.00	89.12	137.69	90.00	-2,469.05	7,653.51	1,009.26	782.77	226.49	4.456	
14,917.73	7,289.00	7,246.43	7,246.00	89.31	137.69	90.00	-2,469.05	7,653.51	1,009.10	782.31	226.80	4.449 CC, ES	
15,000.00	7,289.00	7,246.43	7,246.00	90.19	137.69	90.00	-2,469.05	7,653.51	1,012.45	784.57	227.88	4.443 SF	
15,100.00	7,289.00	7,246.43	7,246.00	91.26	137.69	90.00	-2,469.05	7,653.51	1,025.43	796.95	228.48	4.488	
15,200.00	7,289.00	7,246.43	7,246.00	92.34	137.69	90.00	-2,469.05	7,653.51	1,047.84	819.49	228.34	4.589	
15,300.00	7,289.00	7,246.43	7,246.00	93.41	137.69	90.00	-2,469.05	7,653.51	1,079.08	851.53	227.55	4.742	
15,400.00	7,289.00	7,246.43	7,246.00	94.49	137.69	90.00	-2,469.05	7,653.51	1,118.42	892.18	226.24	4.943	
15,500.00	7,289.00	7,246.43	7,246.00	95.56	137.69	90.00	-2,469.05	7,653.51	1,165.04	940.50	224.55	5.188	
15,600.00	7,289.00	7,246.43	7,246.00	96.64	137.69	90.00	-2,469.05	7,653.51	1,218.10	995.51	222.60	5.472	
15,700.00	7,289.00	7,246.43	7,246.00	97.72	137.69	90.00	-2,469.05	7,653.51	1,276.81	1,056.30	220.50	5.790	
15,800.00	7,289.00	7,246.43	7,246.00	98.80	137.69	90.00	-2,469.05	7,653.51	1,340.40	1,122.05	218.35	6.139	
15,900.00	7,289.00	7,246.43	7,246.00	99.88	137.69	90.00	-2,469.05	7,653.51	1,408.24	1,192.03	216.21	6.513	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
16,000.00	7,289.00	7,246.43	7,246.00	100.96	137.69	90.00	-2,469.05	7,653.51	1,479.73	1,265.61	214.12	6.911	
16,100.00	7,289.00	7,246.43	7,246.00	102.05	137.69	90.00	-2,469.05	7,653.51	1,554.36	1,342.25	212.11	7.328	
16,200.00	7,289.00	7,246.43	7,246.00	103.13	137.69	90.00	-2,469.05	7,653.51	1,631.72	1,421.52	210.20	7.763	
16,300.00	7,289.00	7,246.43	7,246.00	104.21	137.69	90.00	-2,469.05	7,653.51	1,711.42	1,503.02	208.40	8.212	
16,400.00	7,289.00	7,246.43	7,246.00	105.30	137.69	90.00	-2,469.05	7,653.51	1,793.16	1,586.44	206.72	8.674	
16,500.00	7,289.00	7,246.43	7,246.00	106.39	137.69	90.00	-2,469.05	7,653.51	1,876.66	1,671.52	205.14	9.148	
16,600.00	7,289.00	7,246.43	7,246.00	107.47	137.69	90.00	-2,469.05	7,653.51	1,961.71	1,758.04	203.67	9.632	
16,700.00	7,289.00	7,246.43	7,246.00	108.56	137.69	90.00	-2,469.05	7,653.51	2,048.11	1,845.80	202.31	10.124	
16,800.00	7,289.00	7,246.43	7,246.00	109.65	137.69	90.00	-2,469.05	7,653.51	2,135.70	1,934.66	201.04	10.623	
16,900.00	7,289.00	7,246.43	7,246.00	110.74	137.69	90.00	-2,469.05	7,653.51	2,224.34	2,024.47	199.87	11.129	
17,000.00	7,289.00	7,246.43	7,246.00	111.83	137.69	90.00	-2,469.05	7,653.51	2,313.90	2,115.12	198.78	11.641	
17,100.00	7,289.00	7,246.43	7,246.00	112.92	137.69	90.00	-2,469.05	7,653.51	2,404.28	2,206.52	197.76	12.157	
17,200.00	7,289.00	7,246.43	7,246.00	114.01	137.69	90.00	-2,469.05	7,653.51	2,495.40	2,298.58	196.82	12.679	
17,300.00	7,289.00	7,246.43	7,246.00	115.10	137.69	90.00	-2,469.05	7,653.51	2,587.18	2,391.23	195.95	13.203	
17,400.00	7,289.00	7,246.43	7,246.00	116.19	137.69	90.00	-2,469.05	7,653.51	2,679.54	2,484.41	195.13	13.732	
17,500.00	7,289.00	7,246.43	7,246.00	117.28	137.69	90.00	-2,469.05	7,653.51	2,772.43	2,578.06	194.38	14.263	
17,600.00	7,289.00	7,246.43	7,246.00	118.37	137.69	90.00	-2,469.05	7,653.51	2,865.81	2,672.13	193.67	14.797	
17,700.00	7,289.00	7,246.43	7,246.00	119.47	137.69	90.00	-2,469.05	7,653.51	2,959.61	2,766.60	193.02	15.333	
17,800.00	7,289.00	7,246.43	7,246.00	120.56	137.69	90.00	-2,469.05	7,653.51	3,053.81	2,861.41	192.40	15.872	
17,900.00	7,289.00	7,246.43	7,246.00	121.66	137.69	90.00	-2,469.05	7,653.51	3,148.37	2,956.53	191.83	16.412	
18,000.00	7,289.00	7,246.43	7,246.00	122.75	137.69	90.00	-2,469.05	7,653.51	3,243.25	3,051.95	191.30	16.954	
18,100.00	7,289.00	7,246.43	7,246.00	123.85	137.69	90.00	-2,469.05	7,653.51	3,338.43	3,147.63	190.80	17.497	
18,200.00	7,289.00	7,246.43	7,246.00	124.94	137.69	90.00	-2,469.05	7,653.51	3,433.89	3,243.55	190.34	18.041	
18,274.81	7,289.00	7,246.43	7,246.00	125.76	137.69	90.00	-2,469.05	7,653.51	3,505.46	3,315.46	190.01	18.449	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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-NOLY												Offset Well Error:	0.00 usft
Rule Assigned:												Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
9,200.00	7,289.00	6,554.00	6,551.42	34.15	165.57	-67.05	178.30	6,371.16	4,800.48	4,606.52	193.97	24.749	
9,300.00	7,289.00	6,554.00	6,551.42	34.83	165.57	-67.05	178.30	6,371.16	4,707.84	4,513.73	194.10	24.254	
9,400.00	7,289.00	6,554.00	6,551.42	35.55	165.57	-67.05	178.30	6,371.16	4,615.49	4,421.25	194.25	23.761	
9,500.00	7,289.00	6,554.00	6,551.42	36.28	165.57	-67.05	178.30	6,371.16	4,523.48	4,329.07	194.41	23.268	
9,600.00	7,289.00	6,554.00	6,551.42	37.03	165.57	-67.05	178.30	6,371.16	4,431.81	4,237.23	194.58	22.777	
9,700.00	7,289.00	6,554.00	6,551.42	37.81	165.57	-67.05	178.30	6,371.16	4,340.51	4,145.74	194.76	22.286	
9,800.00	7,289.00	6,554.00	6,551.42	38.60	165.57	-67.05	178.30	6,371.16	4,249.60	4,054.64	194.96	21.797	
9,900.00	7,289.00	6,554.00	6,551.42	39.41	165.57	-67.05	178.30	6,371.16	4,159.10	3,963.93	195.18	21.309	
10,000.00	7,289.00	6,554.00	6,551.42	40.24	165.57	-67.05	178.30	6,371.16	4,069.06	3,873.65	195.41	20.823	
10,100.00	7,289.00	6,554.00	6,551.42	41.08	165.57	-67.05	178.30	6,371.16	3,979.48	3,783.82	195.66	20.339	
10,200.00	7,289.00	6,554.00	6,551.42	41.93	165.57	-67.05	178.30	6,371.16	3,890.42	3,694.49	195.93	19.856	
10,300.00	7,289.00	6,554.00	6,551.42	42.80	165.57	-67.05	178.30	6,371.16	3,801.90	3,605.68	196.22	19.376	
10,400.00	7,289.00	6,554.00	6,551.42	43.68	165.57	-67.05	178.30	6,371.16	3,713.96	3,517.43	196.53	18.897	
10,500.00	7,289.00	6,554.00	6,551.42	44.57	165.57	-67.05	178.30	6,371.16	3,626.65	3,429.78	196.87	18.422	
10,600.00	7,289.00	6,554.00	6,551.42	45.47	165.57	-67.05	178.30	6,371.16	3,540.01	3,342.78	197.23	17.949	
10,700.00	7,289.00	6,554.00	6,551.42	46.38	165.57	-67.05	178.30	6,371.16	3,454.09	3,256.47	197.61	17.479	
10,800.00	7,289.00	6,554.00	6,551.42	47.30	165.57	-67.05	178.30	6,371.16	3,368.95	3,170.92	198.03	17.012	
10,900.00	7,289.00	6,554.00	6,551.42	48.23	165.57	-67.05	178.30	6,371.16	3,284.64	3,086.17	198.47	16.550	
11,000.00	7,289.00	6,554.00	6,551.42	49.16	165.57	-67.05	178.30	6,371.16	3,201.24	3,002.29	198.95	16.091	
11,100.00	7,289.00	6,554.00	6,551.42	50.11	165.57	-67.05	178.30	6,371.16	3,118.82	2,919.36	199.46	15.637	
11,200.00	7,289.00	6,554.00	6,551.42	51.06	165.57	-67.05	178.30	6,371.16	3,037.45	2,837.45	200.00	15.187	
11,300.00	7,289.00	6,554.00	6,551.42	52.02	165.57	-67.05	178.30	6,371.16	2,957.22	2,756.64	200.58	14.743	
11,400.00	7,289.00	6,554.00	6,551.42	52.98	165.57	-67.05	178.30	6,371.16	2,878.24	2,677.04	201.20	14.306	
11,500.00	7,289.00	6,554.00	6,551.42	53.95	165.57	-67.05	178.30	6,371.16	2,800.59	2,598.74	201.85	13.874	
11,600.00	7,289.00	6,554.00	6,551.42	54.93	165.57	-67.05	178.30	6,371.16	2,724.41	2,521.86	202.55	13.451	
11,700.00	7,289.00	6,554.00	6,551.42	55.91	165.57	-67.05	178.30	6,371.16	2,649.80	2,446.52	203.29	13.035	
11,800.00	7,289.00	6,554.00	6,551.42	56.90	165.57	-67.05	178.30	6,371.16	2,576.92	2,372.85	204.07	12.628	
11,900.00	7,289.00	6,554.00	6,551.42	57.89	165.57	-67.05	178.30	6,371.16	2,505.91	2,301.02	204.89	12.230	
12,000.00	7,289.00	6,554.00	6,551.42	58.89	165.57	-67.05	178.30	6,371.16	2,436.94	2,231.18	205.76	11.844	
12,100.00	7,289.00	6,554.00	6,551.42	59.89	165.57	-67.05	178.30	6,371.16	2,370.18	2,163.52	206.66	11.469	
12,200.00	7,289.00	6,554.00	6,551.42	60.90	165.57	-67.05	178.30	6,371.16	2,305.82	2,098.21	207.61	11.107	
12,300.00	7,289.00	6,554.00	6,551.42	61.91	165.57	-67.05	178.30	6,371.16	2,244.08	2,035.48	208.59	10.758	
12,400.00	7,289.00	6,554.00	6,551.42	62.92	165.57	-67.05	178.30	6,371.16	2,185.17	1,975.56	209.61	10.425	
12,500.00	7,289.00	6,554.00	6,551.42	63.94	165.57	-67.05	178.30	6,371.16	2,129.33	1,918.66	210.66	10.108	
12,600.00	7,289.00	6,554.00	6,551.42	64.96	165.57	-67.05	178.30	6,371.16	2,076.80	1,865.07	211.74	9.808	
12,700.00	7,289.00	6,554.00	6,551.42	65.98	165.57	-67.05	178.30	6,371.16	2,027.85	1,815.02	212.83	9.528	
12,800.00	7,289.00	6,554.00	6,551.42	67.01	165.57	-67.05	178.30	6,371.16	1,982.74	1,768.81	213.93	9.268	
12,900.00	7,289.00	6,554.00	6,551.42	68.04	165.57	-67.05	178.30	6,371.16	1,941.73	1,726.70	215.03	9.030	
13,000.00	7,289.00	6,554.00	6,551.42	69.08	165.57	-67.05	178.30	6,371.16	1,905.10	1,688.97	216.12	8.815	
13,100.00	7,289.00	6,554.00	6,551.42	70.11	165.57	-67.05	178.30	6,371.16	1,873.09	1,655.89	217.20	8.624	
13,200.00	7,289.00	6,554.00	6,551.42	71.15	165.57	-67.05	178.30	6,371.16	1,845.95	1,627.72	218.24	8.458	
13,300.00	7,289.00	6,554.00	6,551.42	72.19	165.57	-67.05	178.30	6,371.16	1,823.90	1,604.67	219.23	8.319	
13,400.00	7,289.00	6,554.00	6,551.42	73.24	165.57	-67.05	178.30	6,371.16	1,807.12	1,586.95	220.17	8.208	
13,500.00	7,289.00	6,554.00	6,551.42	74.28	165.57	-67.05	178.30	6,371.16	1,795.76	1,574.72	221.04	8.124	
13,600.00	7,289.00	6,554.00	6,551.42	75.33	165.57	-67.05	178.30	6,371.16	1,789.92	1,568.09	221.84	8.069	
13,654.64	7,289.00	6,554.00	6,551.42	75.90	165.57	-67.05	178.30	6,371.16	1,789.09	1,566.86	222.23	8.051 CC, ES	
13,700.00	7,289.00	6,554.00	6,551.42	76.38	165.57	-67.05	178.30	6,371.16	1,789.67	1,567.13	222.54	8.042 SF	
13,800.00	7,289.00	6,554.00	6,551.42	77.43	165.57	-67.05	178.30	6,371.16	1,794.99	1,571.84	223.15	8.044	
13,900.00	7,289.00	6,554.00	6,551.42	78.49	165.57	-67.05	178.30	6,371.16	1,805.84	1,582.18	223.66	8.074	
14,000.00	7,289.00	6,554.00	6,551.42	79.54	165.57	-67.05	178.30	6,371.16	1,822.12	1,598.06	224.06	8.132	
14,100.00	7,289.00	6,554.00	6,551.42	80.60	165.57	-67.05	178.30	6,371.16	1,843.69	1,619.33	224.36	8.217	
14,200.00	7,289.00	6,554.00	6,551.42	81.66	165.57	-67.05	178.30	6,371.16	1,870.36	1,645.80	224.56	8.329	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	
14,300.00	7,289.00	6,554.00	6,551.42	82.72	165.57	-67.05	178.30	6,371.16	1,901.93	1,677.26	8.466
14,400.00	7,289.00	6,554.00	6,551.42	83.78	165.57	-67.05	178.30	6,371.16	1,938.15	1,713.47	8.626
14,500.00	7,289.00	6,554.00	6,551.42	84.85	165.57	-67.05	178.30	6,371.16	1,978.76	1,754.16	8.810
14,600.00	7,289.00	6,554.00	6,551.42	85.91	165.57	-67.05	178.30	6,371.16	2,023.50	1,799.05	9.015
14,700.00	7,289.00	6,554.00	6,551.42	86.98	165.57	-67.05	178.30	6,371.16	2,072.11	1,847.87	9.241
14,800.00	7,289.00	6,554.00	6,551.42	88.05	165.57	-67.05	178.30	6,371.16	2,124.31	1,900.35	9.485
14,900.00	7,289.00	6,554.00	6,551.42	89.12	165.57	-67.05	178.30	6,371.16	2,179.86	1,956.22	9.747
15,000.00	7,289.00	6,554.00	6,551.42	90.19	165.57	-67.05	178.30	6,371.16	2,238.49	2,015.22	10.026
15,100.00	7,289.00	6,554.00	6,551.42	91.26	165.57	-67.05	178.30	6,371.16	2,299.98	2,077.11	10.320
15,200.00	7,289.00	6,554.00	6,551.42	92.34	165.57	-67.05	178.30	6,371.16	2,364.10	2,141.65	10.627
15,300.00	7,289.00	6,554.00	6,551.42	93.41	165.57	-67.05	178.30	6,371.16	2,430.65	2,208.63	10.948
15,400.00	7,289.00	6,554.00	6,551.42	94.49	165.57	-67.05	178.30	6,371.16	2,499.43	2,277.86	11.281
15,500.00	7,289.00	6,554.00	6,551.42	95.56	165.57	-67.05	178.30	6,371.16	2,570.25	2,349.14	11.624
15,600.00	7,289.00	6,554.00	6,551.42	96.64	165.57	-67.05	178.30	6,371.16	2,642.97	2,422.32	11.978
15,700.00	7,289.00	6,554.00	6,551.42	97.72	165.57	-67.05	178.30	6,371.16	2,717.42	2,497.22	12.341
15,800.00	7,289.00	6,554.00	6,551.42	98.80	165.57	-67.05	178.30	6,371.16	2,793.46	2,573.72	12.713
15,900.00	7,289.00	6,554.00	6,551.42	99.88	165.57	-67.05	178.30	6,371.16	2,870.97	2,651.68	13.092
16,000.00	7,289.00	6,554.00	6,551.42	100.96	165.57	-67.05	178.30	6,371.16	2,949.84	2,730.99	13.479
16,100.00	7,289.00	6,554.00	6,551.42	102.05	165.57	-67.05	178.30	6,371.16	3,029.96	2,811.54	13.872
16,200.00	7,289.00	6,554.00	6,551.42	103.13	165.57	-67.05	178.30	6,371.16	3,111.22	2,893.22	14.272
16,300.00	7,289.00	6,554.00	6,551.42	104.21	165.57	-67.05	178.30	6,371.16	3,193.55	2,975.96	14.677
16,400.00	7,289.00	6,554.00	6,551.42	105.30	165.57	-67.05	178.30	6,371.16	3,276.87	3,059.67	15.087
16,500.00	7,289.00	6,554.00	6,551.42	106.39	165.57	-67.05	178.30	6,371.16	3,361.09	3,144.27	15.502
16,600.00	7,289.00	6,554.00	6,551.42	107.47	165.57	-67.05	178.30	6,371.16	3,446.16	3,229.70	15.921
16,700.00	7,289.00	6,554.00	6,551.42	108.56	165.57	-67.05	178.30	6,371.16	3,532.01	3,315.91	16.344
16,800.00	7,289.00	6,554.00	6,551.42	109.65	165.57	-67.05	178.30	6,371.16	3,618.58	3,402.83	16.771
16,900.00	7,289.00	6,554.00	6,551.42	110.74	165.57	-67.05	178.30	6,371.16	3,705.84	3,490.40	17.202
17,000.00	7,289.00	6,554.00	6,551.42	111.83	165.57	-67.05	178.30	6,371.16	3,793.72	3,578.60	17.636
17,100.00	7,289.00	6,554.00	6,551.42	112.92	165.57	-67.05	178.30	6,371.16	3,882.19	3,667.37	18.072
17,200.00	7,289.00	6,554.00	6,551.42	114.01	165.57	-67.05	178.30	6,371.16	3,971.20	3,756.67	18.511
17,300.00	7,289.00	6,554.00	6,551.42	115.10	165.57	-67.05	178.30	6,371.16	4,060.73	3,846.47	18.953
17,400.00	7,289.00	6,554.00	6,551.42	116.19	165.57	-67.05	178.30	6,371.16	4,150.73	3,936.74	19.397
17,500.00	7,289.00	6,554.00	6,551.42	117.28	165.57	-67.05	178.30	6,371.16	4,241.19	4,027.45	19.843
17,600.00	7,289.00	6,554.00	6,551.42	118.37	165.57	-67.05	178.30	6,371.16	4,332.06	4,118.56	20.291
17,700.00	7,289.00	6,554.00	6,551.42	119.47	165.57	-67.05	178.30	6,371.16	4,423.32	4,210.05	20.741
17,800.00	7,289.00	6,554.00	6,551.42	120.56	165.57	-67.05	178.30	6,371.16	4,514.96	4,301.91	21.192
17,900.00	7,289.00	6,554.00	6,551.42	121.66	165.57	-67.05	178.30	6,371.16	4,606.94	4,394.10	21.645
18,000.00	7,289.00	6,554.00	6,551.42	122.75	165.57	-67.05	178.30	6,371.16	4,699.26	4,486.61	22.099
18,100.00	7,289.00	6,554.00	6,551.42	123.85	165.57	-67.05	178.30	6,371.16	4,791.88	4,579.42	22.554
18,200.00	7,289.00	6,554.00	6,551.42	124.94	165.57	-67.05	178.30	6,371.16	4,884.79	4,672.51	23.011
18,274.81	7,289.00	6,554.00	6,551.42	125.76	165.57	-67.05	178.30	6,371.16	4,954.48	4,742.33	23.354

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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-NOLY					Rule Assigned:							Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance				Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
10,100.00	7,289.00	6,590.00	6,586.51	41.08	178.10	-68.28	188.67	7,691.65	5,187.97	4,979.66	208.31	24.905			
10,200.00	7,289.00	6,590.00	6,586.51	41.93	178.10	-68.28	188.67	7,691.65	5,094.11	4,885.60	208.51	24.431			
10,300.00	7,289.00	6,590.00	6,586.51	42.80	178.10	-68.28	188.67	7,691.65	5,000.50	4,791.76	208.73	23.956			
10,400.00	7,289.00	6,590.00	6,586.51	43.68	178.10	-68.28	188.67	7,691.65	4,907.13	4,698.16	208.97	23.483			
10,500.00	7,289.00	6,590.00	6,586.51	44.57	178.10	-68.28	188.67	7,691.65	4,814.03	4,604.82	209.22	23.010			
10,600.00	7,289.00	6,590.00	6,586.51	45.47	178.10	-68.28	188.67	7,691.65	4,721.21	4,511.74	209.48	22.538			
10,700.00	7,289.00	6,590.00	6,586.51	46.38	178.10	-68.28	188.67	7,691.65	4,628.70	4,418.94	209.76	22.067			
10,800.00	7,289.00	6,590.00	6,586.51	47.30	178.10	-68.28	188.67	7,691.65	4,536.50	4,326.44	210.06	21.596			
10,900.00	7,289.00	6,590.00	6,586.51	48.23	178.10	-68.28	188.67	7,691.65	4,444.63	4,234.26	210.37	21.127			
11,000.00	7,289.00	6,590.00	6,586.51	49.16	178.10	-68.28	188.67	7,691.65	4,353.13	4,142.42	210.71	20.659			
11,100.00	7,289.00	6,590.00	6,586.51	50.11	178.10	-68.28	188.67	7,691.65	4,262.01	4,050.94	211.07	20.193			
11,200.00	7,289.00	6,590.00	6,586.51	51.06	178.10	-68.28	188.67	7,691.65	4,171.29	3,959.84	211.45	19.727			
11,300.00	7,289.00	6,590.00	6,586.51	52.02	178.10	-68.28	188.67	7,691.65	4,081.01	3,869.16	211.85	19.263			
11,400.00	7,289.00	6,590.00	6,586.51	52.98	178.10	-68.28	188.67	7,691.65	3,991.19	3,778.91	212.28	18.801			
11,500.00	7,289.00	6,590.00	6,586.51	53.95	178.10	-68.28	188.67	7,691.65	3,901.87	3,689.13	212.74	18.341			
11,600.00	7,289.00	6,590.00	6,586.51	54.93	178.10	-68.28	188.67	7,691.65	3,813.07	3,599.85	213.22	17.883			
11,700.00	7,289.00	6,590.00	6,586.51	55.91	178.10	-68.28	188.67	7,691.65	3,724.85	3,511.11	213.73	17.427			
11,800.00	7,289.00	6,590.00	6,586.51	56.90	178.10	-68.28	188.67	7,691.65	3,637.23	3,422.95	214.28	16.974			
11,900.00	7,289.00	6,590.00	6,586.51	57.89	178.10	-68.28	188.67	7,691.65	3,550.27	3,335.41	214.86	16.524			
12,000.00	7,289.00	6,590.00	6,586.51	58.89	178.10	-68.28	188.67	7,691.65	3,464.01	3,248.54	215.47	16.076			
12,100.00	7,289.00	6,590.00	6,586.51	59.89	178.10	-68.28	188.67	7,691.65	3,378.51	3,162.39	216.12	15.632			
12,200.00	7,289.00	6,590.00	6,586.51	60.90	178.10	-68.28	188.67	7,691.65	3,293.83	3,077.02	216.81	15.192			
12,300.00	7,289.00	6,590.00	6,586.51	61.91	178.10	-68.28	188.67	7,691.65	3,210.03	2,992.49	217.54	14.756			
12,400.00	7,289.00	6,590.00	6,586.51	62.92	178.10	-68.28	188.67	7,691.65	3,127.18	2,908.86	218.32	14.324			
12,500.00	7,289.00	6,590.00	6,586.51	63.94	178.10	-68.28	188.67	7,691.65	3,045.36	2,826.23	219.14	13.897			
12,600.00	7,289.00	6,590.00	6,586.51	64.96	178.10	-68.28	188.67	7,691.65	2,964.66	2,744.66	220.00	13.476			
12,700.00	7,289.00	6,590.00	6,586.51	65.98	178.10	-68.28	188.67	7,691.65	2,885.16	2,664.25	220.91	13.060			
12,800.00	7,289.00	6,590.00	6,586.51	67.01	178.10	-68.28	188.67	7,691.65	2,806.98	2,585.10	221.88	12.651			
12,900.00	7,289.00	6,590.00	6,586.51	68.04	178.10	-68.28	188.67	7,691.65	2,730.22	2,507.33	222.89	12.249			
13,000.00	7,289.00	6,590.00	6,586.51	69.08	178.10	-68.28	188.67	7,691.65	2,655.01	2,431.05	223.96	11.855			
13,100.00	7,289.00	6,590.00	6,586.51	70.11	178.10	-68.28	188.67	7,691.65	2,581.48	2,356.40	225.08	11.469			
13,200.00	7,289.00	6,590.00	6,586.51	71.15	178.10	-68.28	188.67	7,691.65	2,509.78	2,283.53	226.25	11.093			
13,300.00	7,289.00	6,590.00	6,586.51	72.19	178.10	-68.28	188.67	7,691.65	2,440.07	2,212.60	227.47	10.727			
13,400.00	7,289.00	6,590.00	6,586.51	73.24	178.10	-68.28	188.67	7,691.65	2,372.54	2,143.79	228.75	10.372			
13,500.00	7,289.00	6,590.00	6,586.51	74.28	178.10	-68.28	188.67	7,691.65	2,307.36	2,077.29	230.07	10.029			
13,600.00	7,289.00	6,590.00	6,586.51	75.33	178.10	-68.28	188.67	7,691.65	2,244.74	2,013.31	231.43	9.699			
13,700.00	7,289.00	6,590.00	6,586.51	76.38	178.10	-68.28	188.67	7,691.65	2,184.91	1,952.08	232.83	9.384			
13,800.00	7,289.00	6,590.00	6,586.51	77.43	178.10	-68.28	188.67	7,691.65	2,128.10	1,893.83	234.26	9.084			
13,900.00	7,289.00	6,590.00	6,586.51	78.49	178.10	-68.28	188.67	7,691.65	2,074.55	1,838.83	235.72	8.801			
14,000.00	7,289.00	6,590.00	6,586.51	79.54	178.10	-68.28	188.67	7,691.65	2,024.53	1,787.34	237.18	8.536			
14,100.00	7,289.00	6,590.00	6,586.51	80.60	178.10	-68.28	188.67	7,691.65	1,978.30	1,739.65	238.65	8.289			
14,200.00	7,289.00	6,590.00	6,586.51	81.66	178.10	-68.28	188.67	7,691.65	1,936.14	1,696.04	240.11	8.064			
14,300.00	7,289.00	6,590.00	6,586.51	82.72	178.10	-68.28	188.67	7,691.65	1,898.32	1,656.79	241.53	7.859			
14,400.00	7,289.00	6,590.00	6,586.51	83.78	178.10	-68.28	188.67	7,691.65	1,865.10	1,622.19	242.91	7.678			
14,500.00	7,289.00	6,590.00	6,586.51	84.85	178.10	-68.28	188.67	7,691.65	1,836.72	1,592.50	244.23	7.521			
14,600.00	7,289.00	6,590.00	6,586.51	85.91	178.10	-68.28	188.67	7,691.65	1,813.43	1,567.96	245.46	7.388			
14,700.00	7,289.00	6,590.00	6,586.51	86.98	178.10	-68.28	188.67	7,691.65	1,795.41	1,548.81	246.60	7.281			
14,800.00	7,289.00	6,590.00	6,586.51	88.05	178.10	-68.28	188.67	7,691.65	1,782.82	1,535.20	247.62	7.200			
14,900.00	7,289.00	6,590.00	6,586.51	89.12	178.10	-68.28	188.67	7,691.65	1,775.79	1,527.27	248.52	7.146			
14,975.17	7,289.00	6,590.00	6,586.51	89.92	178.10	-68.28	188.67	7,691.65	1,774.19	1,525.10	249.10	7.122 CC, ES			
15,000.00	7,289.00	6,590.00	6,586.51	90.19	178.10	-68.28	188.67	7,691.65	1,774.37	1,525.10	249.27	7.118			
15,100.00	7,289.00	6,590.00	6,586.51	91.26	178.10	-68.28	188.67	7,691.65	1,778.58	1,528.70	249.88	7.118 SF			

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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					Rule Assigned:							Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
15,200.00	7,289.00	6,590.00	6,586.51	92.34	178.10	-68.28	188.67	7,691.65	1,788.38	1,538.05	250.33	7.144			
15,300.00	7,289.00	6,590.00	6,586.51	93.41	178.10	-68.28	188.67	7,691.65	1,803.69	1,553.06	250.63	7.197			
15,400.00	7,289.00	6,590.00	6,586.51	94.49	178.10	-68.28	188.67	7,691.65	1,824.35	1,573.57	250.78	7.275			
15,500.00	7,289.00	6,590.00	6,586.51	95.56	178.10	-68.28	188.67	7,691.65	1,850.19	1,599.41	250.78	7.378			
15,600.00	7,289.00	6,590.00	6,586.51	96.64	178.10	-68.28	188.67	7,691.65	1,881.01	1,630.35	250.66	7.504			
15,700.00	7,289.00	6,590.00	6,586.51	97.72	178.10	-68.28	188.67	7,691.65	1,916.55	1,666.14	250.40	7.654			
15,800.00	7,289.00	6,590.00	6,586.51	98.80	178.10	-68.28	188.67	7,691.65	1,956.56	1,706.51	250.04	7.825			
15,900.00	7,289.00	6,590.00	6,586.51	99.88	178.10	-68.28	188.67	7,691.65	2,000.77	1,751.18	249.58	8.016			
16,000.00	7,289.00	6,590.00	6,586.51	100.96	178.10	-68.28	188.67	7,691.65	2,048.91	1,799.87	249.05	8.227			
16,100.00	7,289.00	6,590.00	6,586.51	102.05	178.10	-68.28	188.67	7,691.65	2,100.72	1,852.28	248.44	8.456			
16,200.00	7,289.00	6,590.00	6,586.51	103.13	178.10	-68.28	188.67	7,691.65	2,155.92	1,908.14	247.78	8.701			
16,300.00	7,289.00	6,590.00	6,586.51	104.21	178.10	-68.28	188.67	7,691.65	2,214.26	1,967.18	247.08	8.962			
16,400.00	7,289.00	6,590.00	6,586.51	105.30	178.10	-68.28	188.67	7,691.65	2,275.50	2,029.16	246.35	9.237			
16,500.00	7,289.00	6,590.00	6,586.51	106.39	178.10	-68.28	188.67	7,691.65	2,339.42	2,093.82	245.59	9.526			
16,600.00	7,289.00	6,590.00	6,586.51	107.47	178.10	-68.28	188.67	7,691.65	2,405.79	2,160.96	244.83	9.826			
16,700.00	7,289.00	6,590.00	6,586.51	108.56	178.10	-68.28	188.67	7,691.65	2,474.43	2,230.37	244.06	10.139			
16,800.00	7,289.00	6,590.00	6,586.51	109.65	178.10	-68.28	188.67	7,691.65	2,545.15	2,301.85	243.29	10.461			
16,900.00	7,289.00	6,590.00	6,586.51	110.74	178.10	-68.28	188.67	7,691.65	2,617.77	2,375.24	242.53	10.793			
17,000.00	7,289.00	6,590.00	6,586.51	111.83	178.10	-68.28	188.67	7,691.65	2,692.16	2,450.37	241.78	11.135			
17,100.00	7,289.00	6,590.00	6,586.51	112.92	178.10	-68.28	188.67	7,691.65	2,768.15	2,527.10	241.05	11.484			
17,200.00	7,289.00	6,590.00	6,586.51	114.01	178.10	-68.28	188.67	7,691.65	2,845.64	2,605.30	240.33	11.840			
17,300.00	7,289.00	6,590.00	6,586.51	115.10	178.10	-68.28	188.67	7,691.65	2,924.48	2,684.85	239.63	12.204			
17,400.00	7,289.00	6,590.00	6,586.51	116.19	178.10	-68.28	188.67	7,691.65	3,004.59	2,765.63	238.96	12.574			
17,500.00	7,289.00	6,590.00	6,586.51	117.28	178.10	-68.28	188.67	7,691.65	3,085.86	2,847.56	238.30	12.949			
17,600.00	7,289.00	6,590.00	6,586.51	118.37	178.10	-68.28	188.67	7,691.65	3,168.20	2,930.53	237.67	13.330			
17,700.00	7,289.00	6,590.00	6,586.51	119.47	178.10	-68.28	188.67	7,691.65	3,251.53	3,014.48	237.06	13.716			
17,800.00	7,289.00	6,590.00	6,586.51	120.56	178.10	-68.28	188.67	7,691.65	3,335.78	3,099.31	236.47	14.107			
17,900.00	7,289.00	6,590.00	6,586.51	121.66	178.10	-68.28	188.67	7,691.65	3,420.88	3,184.98	235.90	14.501			
18,000.00	7,289.00	6,590.00	6,586.51	122.75	178.10	-68.28	188.67	7,691.65	3,506.76	3,271.40	235.36	14.900			
18,100.00	7,289.00	6,590.00	6,586.51	123.85	178.10	-68.28	188.67	7,691.65	3,593.37	3,358.54	234.84	15.302			
18,200.00	7,289.00	6,590.00	6,586.51	124.94	178.10	-68.28	188.67	7,691.65	3,680.67	3,446.33	234.34	15.707			
18,274.81	7,289.00	6,590.00	6,586.51	125.76	178.10	-68.28	188.67	7,691.65	3,746.39	3,512.41	233.98	16.012			



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned:				Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
11,900.00	7,289.00	6,630.00	6,627.95	57.89	154.10	-67.66	49.24	9,038.24	4,708.45	4,520.07	188.38	24.995		
12,000.00	7,289.00	6,630.00	6,627.95	58.89	154.10	-67.66	49.24	9,038.24	4,614.69	4,425.94	188.75	24.448		
12,100.00	7,289.00	6,630.00	6,627.95	59.89	154.10	-67.66	49.24	9,038.24	4,521.20	4,332.05	189.15	23.903		
12,200.00	7,289.00	6,630.00	6,627.95	60.90	154.10	-67.66	49.24	9,038.24	4,427.99	4,238.42	189.57	23.359		
12,300.00	7,289.00	6,630.00	6,627.95	61.91	154.10	-67.66	49.24	9,038.24	4,335.08	4,145.07	190.01	22.816		
12,400.00	7,289.00	6,630.00	6,627.95	62.92	154.10	-67.66	49.24	9,038.24	4,242.50	4,052.02	190.47	22.274		
12,500.00	7,289.00	6,630.00	6,627.95	63.94	154.10	-67.66	49.24	9,038.24	4,150.26	3,959.29	190.96	21.733		
12,600.00	7,289.00	6,630.00	6,627.95	64.96	154.10	-67.66	49.24	9,038.24	4,058.38	3,866.90	191.48	21.194		
12,700.00	7,289.00	6,630.00	6,627.95	65.98	154.10	-67.66	49.24	9,038.24	3,966.91	3,774.87	192.03	20.657		
12,800.00	7,289.00	6,630.00	6,627.95	67.01	154.10	-67.66	49.24	9,038.24	3,875.85	3,683.23	192.62	20.122		
12,900.00	7,289.00	6,630.00	6,627.95	68.04	154.10	-67.66	49.24	9,038.24	3,785.24	3,592.01	193.23	19.589		
13,000.00	7,289.00	6,630.00	6,627.95	69.08	154.10	-67.66	49.24	9,038.24	3,695.12	3,501.24	193.88	19.059		
13,100.00	7,289.00	6,630.00	6,627.95	70.11	154.10	-67.66	49.24	9,038.24	3,605.52	3,410.95	194.57	18.531		
13,200.00	7,289.00	6,630.00	6,627.95	71.15	154.10	-67.66	49.24	9,038.24	3,516.48	3,321.18	195.30	18.005		
13,300.00	7,289.00	6,630.00	6,627.95	72.19	154.10	-67.66	49.24	9,038.24	3,428.04	3,231.97	196.07	17.484		
13,400.00	7,289.00	6,630.00	6,627.95	73.24	154.10	-67.66	49.24	9,038.24	3,340.26	3,143.37	196.89	16.965		
13,500.00	7,289.00	6,630.00	6,627.95	74.28	154.10	-67.66	49.24	9,038.24	3,253.18	3,055.43	197.75	16.451		
13,600.00	7,289.00	6,630.00	6,627.95	75.33	154.10	-67.66	49.24	9,038.24	3,166.87	2,968.20	198.67	15.940		
13,700.00	7,289.00	6,630.00	6,627.95	76.38	154.10	-67.66	49.24	9,038.24	3,081.38	2,881.74	199.64	15.435		
13,800.00	7,289.00	6,630.00	6,627.95	77.43	154.10	-67.66	49.24	9,038.24	2,996.79	2,796.13	200.66	14.935		
13,900.00	7,289.00	6,630.00	6,627.95	78.49	154.10	-67.66	49.24	9,038.24	2,913.18	2,711.43	201.75	14.440		
14,000.00	7,289.00	6,630.00	6,627.95	79.54	154.10	-67.66	49.24	9,038.24	2,830.63	2,627.74	202.89	13.952		
14,100.00	7,289.00	6,630.00	6,627.95	80.60	154.10	-67.66	49.24	9,038.24	2,749.24	2,545.14	204.10	13.470		
14,200.00	7,289.00	6,630.00	6,627.95	81.66	154.10	-67.66	49.24	9,038.24	2,669.12	2,463.74	205.37	12.996		
14,300.00	7,289.00	6,630.00	6,627.95	82.72	154.10	-67.66	49.24	9,038.24	2,590.37	2,383.66	206.72	12.531		
14,400.00	7,289.00	6,630.00	6,627.95	83.78	154.10	-67.66	49.24	9,038.24	2,513.14	2,305.01	208.13	12.075		
14,500.00	7,289.00	6,630.00	6,627.95	84.85	154.10	-67.66	49.24	9,038.24	2,437.57	2,227.95	209.62	11.629		
14,600.00	7,289.00	6,630.00	6,627.95	85.91	154.10	-67.66	49.24	9,038.24	2,363.81	2,152.64	211.18	11.194		
14,700.00	7,289.00	6,630.00	6,627.95	86.98	154.10	-67.66	49.24	9,038.24	2,292.04	2,079.24	212.80	10.771		
14,800.00	7,289.00	6,630.00	6,627.95	88.05	154.10	-67.66	49.24	9,038.24	2,222.46	2,007.96	214.50	10.361		
14,900.00	7,289.00	6,630.00	6,627.95	89.12	154.10	-67.66	49.24	9,038.24	2,155.27	1,939.01	216.26	9.966		
15,000.00	7,289.00	6,630.00	6,627.95	90.19	154.10	-67.66	49.24	9,038.24	2,090.70	1,872.62	218.08	9.587		
15,100.00	7,289.00	6,630.00	6,627.95	91.26	154.10	-67.66	49.24	9,038.24	2,029.01	1,809.06	219.95	9.225		
15,200.00	7,289.00	6,630.00	6,627.95	92.34	154.10	-67.66	49.24	9,038.24	1,970.47	1,748.61	221.86	8.882		
15,300.00	7,289.00	6,630.00	6,627.95	93.41	154.10	-67.66	49.24	9,038.24	1,915.36	1,691.56	223.80	8.558		
15,400.00	7,289.00	6,630.00	6,627.95	94.49	154.10	-67.66	49.24	9,038.24	1,863.99	1,638.25	225.74	8.257		
15,500.00	7,289.00	6,630.00	6,627.95	95.56	154.10	-67.66	49.24	9,038.24	1,816.67	1,589.00	227.67	7.979		
15,600.00	7,289.00	6,630.00	6,627.95	96.64	154.10	-67.66	49.24	9,038.24	1,773.74	1,544.17	229.57	7.726		
15,700.00	7,289.00	6,630.00	6,627.95	97.72	154.10	-67.66	49.24	9,038.24	1,735.52	1,504.11	231.40	7.500		
15,800.00	7,289.00	6,630.00	6,627.95	98.80	154.10	-67.66	49.24	9,038.24	1,702.31	1,469.17	233.15	7.301		
15,900.00	7,289.00	6,630.00	6,627.95	99.88	154.10	-67.66	49.24	9,038.24	1,674.43	1,439.67	234.77	7.132		
16,000.00	7,289.00	6,630.00	6,627.95	100.96	154.10	-67.66	49.24	9,038.24	1,652.15	1,415.91	236.24	6.994		
16,100.00	7,289.00	6,630.00	6,627.95	102.05	154.10	-67.66	49.24	9,038.24	1,635.68	1,398.15	237.53	6.886		
16,200.00	7,289.00	6,630.00	6,627.95	103.13	154.10	-67.66	49.24	9,038.24	1,625.21	1,386.59	238.62	6.811		
16,300.00	7,289.00	6,630.00	6,627.95	104.21	154.10	-67.66	49.24	9,038.24	1,620.85	1,381.37	239.48	6.768		
16,320.72	7,289.00	6,630.00	6,627.95	104.44	154.10	-67.66	49.24	9,038.24	1,620.72	1,381.09	239.63	6.764 CC, ES		
16,400.00	7,289.00	6,630.00	6,627.95	105.30	154.10	-67.66	49.24	9,038.24	1,622.66	1,382.55	240.10	6.758 SF		
16,500.00	7,289.00	6,630.00	6,627.95	106.39	154.10	-67.66	49.24	9,038.24	1,630.60	1,390.12	240.48	6.780		
16,600.00	7,289.00	6,630.00	6,627.95	107.47	154.10	-67.66	49.24	9,038.24	1,644.60	1,403.98	240.62	6.835		
16,700.00	7,289.00	6,630.00	6,627.95	108.56	154.10	-67.66	49.24	9,038.24	1,664.51	1,423.97	240.53	6.920		
16,800.00	7,289.00	6,630.00	6,627.95	109.65	154.10	-67.66	49.24	9,038.24	1,690.10	1,449.88	240.22	7.036		
16,900.00	7,289.00	6,630.00	6,627.95	110.74	154.10	-67.66	49.24	9,038.24	1,721.13	1,481.42	239.71	7.180		

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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		Offset		Semi Major Axis		Highside Toolface (")	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
17,000.00	7,289.00	6,630.00	6,627.95	111.83	154.10	-67.66	49.24	9,038.24	1,757.31	1,518.28	239.03	7.352	
17,100.00	7,289.00	6,630.00	6,627.95	112.92	154.10	-67.66	49.24	9,038.24	1,798.33	1,560.14	238.19	7.550	
17,200.00	7,289.00	6,630.00	6,627.95	114.01	154.10	-67.66	49.24	9,038.24	1,843.87	1,606.63	237.24	7.772	
17,300.00	7,289.00	6,630.00	6,627.95	115.10	154.10	-67.66	49.24	9,038.24	1,893.60	1,657.41	236.18	8.017	
17,400.00	7,289.00	6,630.00	6,627.95	116.19	154.10	-67.66	49.24	9,038.24	1,947.20	1,712.14	235.06	8.284	
17,500.00	7,289.00	6,630.00	6,627.95	117.28	154.10	-67.66	49.24	9,038.24	2,004.35	1,770.48	233.88	8.570	
17,600.00	7,289.00	6,630.00	6,627.95	118.37	154.10	-67.66	49.24	9,038.24	2,064.77	1,832.11	232.66	8.875	
17,700.00	7,289.00	6,630.00	6,627.95	119.47	154.10	-67.66	49.24	9,038.24	2,128.18	1,896.75	231.43	9.196	
17,800.00	7,289.00	6,630.00	6,627.95	120.56	154.10	-67.66	49.24	9,038.24	2,194.31	1,964.11	230.20	9.532	
17,900.00	7,289.00	6,630.00	6,627.95	121.66	154.10	-67.66	49.24	9,038.24	2,262.93	2,033.96	228.97	9.883	
18,000.00	7,289.00	6,630.00	6,627.95	122.75	154.10	-67.66	49.24	9,038.24	2,333.82	2,106.06	227.76	10.247	
18,100.00	7,289.00	6,630.00	6,627.95	123.85	154.10	-67.66	49.24	9,038.24	2,406.77	2,180.20	226.58	10.622	
18,200.00	7,289.00	6,630.00	6,627.95	124.94	154.10	-67.66	49.24	9,038.24	2,481.62	2,256.19	225.42	11.009	
18,274.81	7,289.00	6,630.00	6,627.95	125.76	154.10	-67.66	49.24	9,038.24	2,538.74	2,314.16	224.58	11.304	



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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 - W14_ GOVERNMENT AB #009_1527964 - MWD/Inc - MWD/Inc												Offset Site Error:	0.00 usft
Survey Program: 100-OWSG MWD Rev 5												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
16,200.00	7,289.00	6,678.00	6,603.96	103.13	15.72	-67.61	101.18	10,364.06	2,207.39	2,114.31	93.09	23.713	
16,300.00	7,289.00	6,678.00	6,603.96	104.21	15.72	-67.61	101.18	10,364.06	2,143.18	2,047.59	95.59	22.421	
16,400.00	7,289.00	6,678.00	6,603.96	105.30	15.72	-67.61	101.18	10,364.06	2,081.79	1,983.63	98.16	21.209	
16,500.00	7,289.00	6,678.00	6,603.96	106.39	15.72	-67.61	101.18	10,364.06	2,023.48	1,922.70	100.78	20.078	
16,600.00	7,289.00	6,678.00	6,603.96	107.47	15.72	-67.61	101.18	10,364.06	1,968.52	1,865.09	103.43	19.032	
16,700.00	7,289.00	6,678.00	6,603.96	108.56	15.72	-67.61	101.18	10,364.06	1,917.21	1,811.12	106.09	18.071	
16,800.00	7,289.00	6,678.00	6,603.96	109.65	15.72	-67.61	101.18	10,364.06	1,869.85	1,761.12	108.73	17.197	
16,900.00	7,289.00	6,678.00	6,603.96	110.74	15.72	-67.61	101.18	10,364.06	1,826.73	1,715.42	111.31	16.411	
17,000.00	7,289.00	6,678.00	6,603.96	111.83	15.72	-67.61	101.18	10,364.06	1,788.18	1,674.38	113.80	15.714	
17,100.00	7,289.00	6,678.00	6,603.96	112.92	15.72	-67.61	101.18	10,364.06	1,754.48	1,638.34	116.14	15.106	
17,200.00	7,289.00	6,678.00	6,603.96	114.01	15.72	-67.61	101.18	10,364.06	1,725.93	1,607.62	118.31	14.589	
17,300.00	7,289.00	6,678.00	6,603.96	115.10	15.72	-67.61	101.18	10,364.06	1,702.78	1,582.54	120.24	14.162	
17,400.00	7,289.00	6,678.00	6,603.96	116.19	15.72	-67.61	101.18	10,364.06	1,685.25	1,563.35	121.90	13.825	
17,500.00	7,289.00	6,678.00	6,603.96	117.28	15.72	-67.61	101.18	10,364.06	1,673.53	1,550.27	123.26	13.578	
17,600.00	7,289.00	6,678.00	6,603.96	118.37	15.72	-67.61	101.18	10,364.06	1,667.73	1,543.46	124.28	13.420	
17,646.88	7,289.00	6,678.00	6,603.96	118.89	15.72	-67.61	101.18	10,364.06	1,667.07	1,542.44	124.63	13.376	CC, ES
17,700.00	7,289.00	6,678.00	6,603.96	119.47	15.72	-67.61	101.18	10,364.06	1,667.92	1,542.98	124.94	13.350	SF
17,800.00	7,289.00	6,678.00	6,603.96	120.56	15.72	-67.61	101.18	10,364.06	1,674.09	1,548.84	125.25	13.366	
17,900.00	7,289.00	6,678.00	6,603.96	121.66	15.72	-67.61	101.18	10,364.06	1,686.18	1,560.98	125.20	13.468	
18,000.00	7,289.00	6,678.00	6,603.96	122.75	15.72	-67.61	101.18	10,364.06	1,704.06	1,579.25	124.81	13.653	
18,100.00	7,289.00	6,678.00	6,603.96	123.85	15.72	-67.61	101.18	10,364.06	1,727.56	1,603.45	124.11	13.920	
18,200.00	7,289.00	6,678.00	6,603.96	124.94	15.72	-67.61	101.18	10,364.06	1,756.44	1,633.31	123.13	14.265	
18,274.81	7,289.00	6,678.00	6,603.96	125.76	15.72	-67.61	101.18	10,364.06	1,781.41	1,659.18	122.23	14.574	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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 - W15_GOVERNMENT AB FEDERAL #011_1540853 - MWD - MWD											Offset Site Error: 0.00 usft
Survey Program: 359-OWSG MWD Rev 5											Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	
13,700.00	7,289.00	6,684.00	6,681.41	76.38	20.00	-21.66	-1,230.74	7,458.12	1,205.79	1,154.35	
13,800.00	7,289.00	6,684.00	6,681.41	77.43	20.00	-21.66	-1,230.74	7,458.12	1,121.45	1,069.57	
13,900.00	7,289.00	6,684.00	6,681.41	78.49	20.00	-21.66	-1,230.74	7,458.12	1,039.90	987.50	
14,000.00	7,289.00	6,684.00	6,681.41	79.54	20.00	-21.66	-1,230.74	7,458.12	961.83	908.84	
14,100.00	7,289.00	6,684.00	6,681.41	80.60	20.00	-21.66	-1,230.74	7,458.12	888.17	834.52	
14,200.00	7,289.00	6,684.00	6,681.41	81.66	20.00	-21.66	-1,230.74	7,458.12	820.11	765.73	
14,300.00	7,289.00	6,684.00	6,681.41	82.72	20.00	-21.66	-1,230.74	7,458.12	759.16	704.00	
14,400.00	7,289.00	6,684.00	6,681.41	83.78	20.00	-21.66	-1,230.74	7,458.12	707.14	651.23	
14,500.00	7,289.00	6,684.00	6,681.41	84.85	20.00	-21.66	-1,230.74	7,458.12	666.17	609.58	
14,600.00	7,289.00	6,684.00	6,681.41	85.91	20.00	-21.66	-1,230.74	7,458.12	638.37	581.23	
14,700.00	7,289.00	6,684.00	6,681.41	86.98	20.00	-21.66	-1,230.74	7,458.12	625.49	568.00	
14,731.34	7,289.00	6,684.00	6,681.41	87.32	20.00	-21.66	-1,230.74	7,458.12	624.71	567.14	10.852 CC, ES, SF
14,800.00	7,289.00	6,684.00	6,681.41	88.05	20.00	-21.66	-1,230.74	7,458.12	628.47	570.81	
14,900.00	7,289.00	6,684.00	6,681.41	89.12	20.00	-21.66	-1,230.74	7,458.12	647.08	589.48	
15,000.00	7,289.00	6,684.00	6,681.41	90.19	20.00	-21.66	-1,230.74	7,458.12	680.03	622.70	
15,100.00	7,289.00	6,684.00	6,681.41	91.26	20.00	-21.66	-1,230.74	7,458.12	725.38	668.49	
15,200.00	7,289.00	6,684.00	6,681.41	92.34	20.00	-21.66	-1,230.74	7,458.12	780.96	724.62	
15,300.00	7,289.00	6,684.00	6,681.41	93.41	20.00	-21.66	-1,230.74	7,458.12	844.77	789.01	
15,400.00	7,289.00	6,684.00	6,681.41	94.49	20.00	-21.66	-1,230.74	7,458.12	915.08	859.88	
15,500.00	7,289.00	6,684.00	6,681.41	95.56	20.00	-21.66	-1,230.74	7,458.12	990.50	935.81	
15,600.00	7,289.00	6,684.00	6,681.41	96.64	20.00	-21.66	-1,230.74	7,458.12	1,069.97	1,015.73	
15,700.00	7,289.00	6,684.00	6,681.41	97.72	20.00	-21.66	-1,230.74	7,458.12	1,152.63	1,098.78	
15,800.00	7,289.00	6,684.00	6,681.41	98.80	20.00	-21.66	-1,230.74	7,458.12	1,237.86	1,184.34	
15,900.00	7,289.00	6,684.00	6,681.41	99.88	20.00	-21.66	-1,230.74	7,458.12	1,325.15	1,271.90	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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 - W16_GOVERNMENT AB FEDERAL #014_1540854 - MWD - MWD												Offset Site Error:	0.00 usft
Survey Program: 155-OWSG MWD Rev 5												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
12,700.00	7,289.00	6,555.00	6,552.38	65.98	19.42	-28.35	-1,084.77	6,436.59	1,294.51	1,242.35	52.16	24.817	
12,800.00	7,289.00	6,555.00	6,552.38	67.01	19.42	-28.35	-1,084.77	6,436.59	1,218.03	1,165.39	52.64	23.140	
12,900.00	7,289.00	6,555.00	6,552.38	68.04	19.42	-28.35	-1,084.77	6,436.59	1,145.17	1,092.01	53.15	21.545	
13,000.00	7,289.00	6,555.00	6,552.38	69.08	19.42	-28.35	-1,084.77	6,436.59	1,076.67	1,022.97	53.71	20.048	
13,100.00	7,289.00	6,555.00	6,552.38	70.11	19.42	-28.35	-1,084.77	6,436.59	1,013.43	959.15	54.28	18.670	
13,200.00	7,289.00	6,555.00	6,552.38	71.15	19.42	-28.35	-1,084.77	6,436.59	956.49	901.63	54.85	17.437	
13,300.00	7,289.00	6,555.00	6,552.38	72.19	19.42	-28.35	-1,084.77	6,436.59	907.02	851.63	55.39	16.374	
13,400.00	7,289.00	6,555.00	6,552.38	73.24	19.42	-28.35	-1,084.77	6,436.59	866.32	810.45	55.86	15.508	
13,500.00	7,289.00	6,555.00	6,552.38	74.28	19.42	-28.35	-1,084.77	6,436.59	835.66	779.43	56.22	14.863	
13,600.00	7,289.00	6,555.00	6,552.38	75.33	19.42	-28.35	-1,084.77	6,436.59	816.18	759.72	56.46	14.457	
13,700.00	7,289.00	6,555.00	6,552.38	76.38	19.42	-28.35	-1,084.77	6,436.59	808.68	752.12	56.56	14.298	
13,710.91	7,289.00	6,555.00	6,552.38	76.49	19.42	-28.35	-1,084.77	6,436.59	808.61	752.04	56.56	14.296	CC, ES, SF
13,800.00	7,289.00	6,555.00	6,552.38	77.43	19.42	-28.35	-1,084.77	6,436.59	813.50	756.95	56.55	14.387	
13,900.00	7,289.00	6,555.00	6,552.38	78.49	19.42	-28.35	-1,084.77	6,436.59	830.42	773.99	56.43	14.715	
14,000.00	7,289.00	6,555.00	6,552.38	79.54	19.42	-28.35	-1,084.77	6,436.59	858.73	802.50	56.23	15.271	
14,100.00	7,289.00	6,555.00	6,552.38	80.60	19.42	-28.35	-1,084.77	6,436.59	897.35	841.39	55.96	16.036	
14,200.00	7,289.00	6,555.00	6,552.38	81.66	19.42	-28.35	-1,084.77	6,436.59	945.02	889.39	55.63	16.989	
14,300.00	7,289.00	6,555.00	6,552.38	82.72	19.42	-28.35	-1,084.77	6,436.59	1,000.44	945.18	55.26	18.105	
14,400.00	7,289.00	6,555.00	6,552.38	83.78	19.42	-28.35	-1,084.77	6,436.59	1,062.40	1,007.53	54.88	19.360	
14,500.00	7,289.00	6,555.00	6,552.38	84.85	19.42	-28.35	-1,084.77	6,436.59	1,129.83	1,075.33	54.50	20.730	
14,600.00	7,289.00	6,555.00	6,552.38	85.91	19.42	-28.35	-1,084.77	6,436.59	1,201.81	1,147.66	54.15	22.195	
14,700.00	7,289.00	6,555.00	6,552.38	86.98	19.42	-28.35	-1,084.77	6,436.59	1,277.56	1,223.74	53.82	23.738	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
16,200.00	7,289.00	6,652.00	6,649.47	103.13	25.17	-31.05	-1,075.63	10,295.59	1,541.98	1,478.85	63.13	24.426	
16,300.00	7,289.00	6,652.00	6,649.47	104.21	25.17	-31.05	-1,075.63	10,295.59	1,453.87	1,389.63	64.24	22.631	
16,400.00	7,289.00	6,652.00	6,649.47	105.30	25.17	-31.05	-1,075.63	10,295.59	1,367.39	1,301.89	65.50	20.876	
16,500.00	7,289.00	6,652.00	6,649.47	106.39	25.17	-31.05	-1,075.63	10,295.59	1,282.88	1,215.95	66.93	19.168	
16,600.00	7,289.00	6,652.00	6,649.47	107.47	25.17	-31.05	-1,075.63	10,295.59	1,200.75	1,132.21	68.54	17.518	
16,700.00	7,289.00	6,652.00	6,649.47	108.56	25.17	-31.05	-1,075.63	10,295.59	1,121.53	1,051.17	70.36	15.940	
16,800.00	7,289.00	6,652.00	6,649.47	109.65	25.17	-31.05	-1,075.63	10,295.59	1,045.88	973.49	72.40	14.447	
16,900.00	7,289.00	6,652.00	6,649.47	110.74	25.17	-31.05	-1,075.63	10,295.59	974.62	899.99	74.64	13.058	
17,000.00	7,289.00	6,652.00	6,649.47	111.83	25.17	-31.05	-1,075.63	10,295.59	908.80	831.74	77.07	11.792	
17,100.00	7,289.00	6,652.00	6,649.47	112.92	25.17	-31.05	-1,075.63	10,295.59	849.68	770.06	79.61	10.673	
17,200.00	7,289.00	6,652.00	6,649.47	114.01	25.17	-31.05	-1,075.63	10,295.59	798.73	716.58	82.16	9.722	
17,300.00	7,289.00	6,652.00	6,649.47	115.10	25.17	-31.05	-1,075.63	10,295.59	757.63	673.09	84.54	8.962	
17,400.00	7,289.00	6,652.00	6,649.47	116.19	25.17	-31.05	-1,075.63	10,295.59	728.03	641.50	86.53	8.413	
17,500.00	7,289.00	6,652.00	6,649.47	117.28	25.17	-31.05	-1,075.63	10,295.59	711.38	623.45	87.92	8.091	
17,569.87	7,289.00	6,652.00	6,649.47	118.04	25.17	-31.05	-1,075.63	10,295.59	707.94	619.50	88.44	8.005 CC, ES	
17,600.00	7,289.00	6,652.00	6,649.47	118.37	25.17	-31.05	-1,075.63	10,295.59	708.58	620.05	88.53	8.003 SF	
17,700.00	7,289.00	6,652.00	6,649.47	119.47	25.17	-31.05	-1,075.63	10,295.59	719.80	631.51	88.29	8.153	
17,800.00	7,289.00	6,652.00	6,649.47	120.56	25.17	-31.05	-1,075.63	10,295.59	744.41	657.16	87.24	8.533	
17,900.00	7,289.00	6,652.00	6,649.47	121.66	25.17	-31.05	-1,075.63	10,295.59	781.13	695.56	85.57	9.128	
18,000.00	7,289.00	6,652.00	6,649.47	122.75	25.17	-31.05	-1,075.63	10,295.59	828.37	744.86	83.51	9.919	
18,100.00	7,289.00	6,652.00	6,649.47	123.85	25.17	-31.05	-1,075.63	10,295.59	884.44	803.17	81.27	10.883	
18,200.00	7,289.00	6,652.00	6,649.47	124.94	25.17	-31.05	-1,075.63	10,295.59	947.76	868.75	79.02	11.994	
18,274.81	7,289.00	6,652.00	6,649.47	125.76	25.17	-31.05	-1,075.63	10,295.59	999.07	921.67	77.40	12.909	

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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 - W18_GOVERNMENT AB FEDERAL #012_1541049 - MWD - MWD												Offset Site Error: 0.00 usft			
Survey Program: 144-OWSG MWD Rev 5				Reference Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned: Distance				Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
15,200.00	7,289.00	6,784.00	6,661.38	92.34	24.55	-35.63	-1,018.12	9,219.19	1,490.04	1,428.15	61.89	24.075			
15,300.00	7,289.00	6,784.00	6,661.38	93.41	24.55	-35.63	-1,018.12	9,219.19	1,404.08	1,340.92	63.17	22.229			
15,400.00	7,289.00	6,784.00	6,661.38	94.49	24.55	-35.63	-1,018.12	9,219.19	1,320.10	1,255.50	64.60	20.436			
15,500.00	7,289.00	6,784.00	6,661.38	95.56	24.55	-35.63	-1,018.12	9,219.19	1,238.50	1,172.30	66.20	18.708			
15,600.00	7,289.00	6,784.00	6,661.38	96.64	24.55	-35.63	-1,018.12	9,219.19	1,159.78	1,091.79	67.99	17.059			
15,700.00	7,289.00	6,784.00	6,661.38	97.72	24.55	-35.63	-1,018.12	9,219.19	1,084.58	1,014.62	69.96	15.503			
15,800.00	7,289.00	6,784.00	6,661.38	98.80	24.55	-35.63	-1,018.12	9,219.19	1,013.67	941.56	72.11	14.058			
15,900.00	7,289.00	6,784.00	6,661.38	99.88	24.55	-35.63	-1,018.12	9,219.19	948.02	873.63	74.39	12.744			
16,000.00	7,289.00	6,784.00	6,661.38	100.96	24.55	-35.63	-1,018.12	9,219.19	888.80	812.07	76.73	11.583			
16,100.00	7,289.00	6,784.00	6,661.38	102.05	24.55	-35.63	-1,018.12	9,219.19	837.36	758.36	79.01	10.598			
16,200.00	7,289.00	6,784.00	6,661.38	103.13	24.55	-35.63	-1,018.12	9,219.19	795.23	714.19	81.05	9.812			
16,300.00	7,289.00	6,784.00	6,661.38	104.21	24.55	-35.63	-1,018.12	9,219.19	763.95	681.31	82.64	9.244			
16,400.00	7,289.00	6,784.00	6,661.38	105.30	24.55	-35.63	-1,018.12	9,219.19	744.87	661.28	83.59	8.911			
16,493.92	7,289.00	6,784.00	6,661.38	106.32	24.55	-35.63	-1,018.12	9,219.19	738.92	655.13	83.80	8.818	CC, ES, SF		
16,500.00	7,289.00	6,784.00	6,661.38	106.39	24.55	-35.63	-1,018.12	9,219.19	738.95	655.16	83.79	8.819			
16,600.00	7,289.00	6,784.00	6,661.38	107.47	24.55	-35.63	-1,018.12	9,219.19	746.50	663.29	83.21	8.971			
16,700.00	7,289.00	6,784.00	6,661.38	108.56	24.55	-35.63	-1,018.12	9,219.19	767.12	685.15	81.97	9.358			
16,800.00	7,289.00	6,784.00	6,661.38	109.65	24.55	-35.63	-1,018.12	9,219.19	799.81	719.57	80.24	9.967			
16,900.00	7,289.00	6,784.00	6,661.38	110.74	24.55	-35.63	-1,018.12	9,219.19	843.16	764.94	78.21	10.780			
17,000.00	7,289.00	6,784.00	6,661.38	111.83	24.55	-35.63	-1,018.12	9,219.19	895.62	819.56	76.06	11.775			
17,100.00	7,289.00	6,784.00	6,661.38	112.92	24.55	-35.63	-1,018.12	9,219.19	955.69	881.78	73.91	12.930			
17,200.00	7,289.00	6,784.00	6,661.38	114.01	24.55	-35.63	-1,018.12	9,219.19	1,022.04	950.17	71.87	14.220			
17,300.00	7,289.00	6,784.00	6,661.38	115.10	24.55	-35.63	-1,018.12	9,219.19	1,093.52	1,023.54	69.98	15.626			
17,400.00	7,289.00	6,784.00	6,661.38	116.19	24.55	-35.63	-1,018.12	9,219.19	1,169.19	1,100.92	68.27	17.126			
17,500.00	7,289.00	6,784.00	6,661.38	117.28	24.55	-35.63	-1,018.12	9,219.19	1,248.29	1,181.55	66.74	18.704			
17,600.00	7,289.00	6,784.00	6,661.38	118.37	24.55	-35.63	-1,018.12	9,219.19	1,330.20	1,264.82	65.38	20.345			
17,700.00	7,289.00	6,784.00	6,661.38	119.47	24.55	-35.63	-1,018.12	9,219.19	1,414.44	1,350.25	64.19	22.036			
17,800.00	7,289.00	6,784.00	6,661.38	120.56	24.55	-35.63	-1,018.12	9,219.19	1,500.62	1,437.48	63.14	23.766			

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



Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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 3288+30 @ 3318.00usft

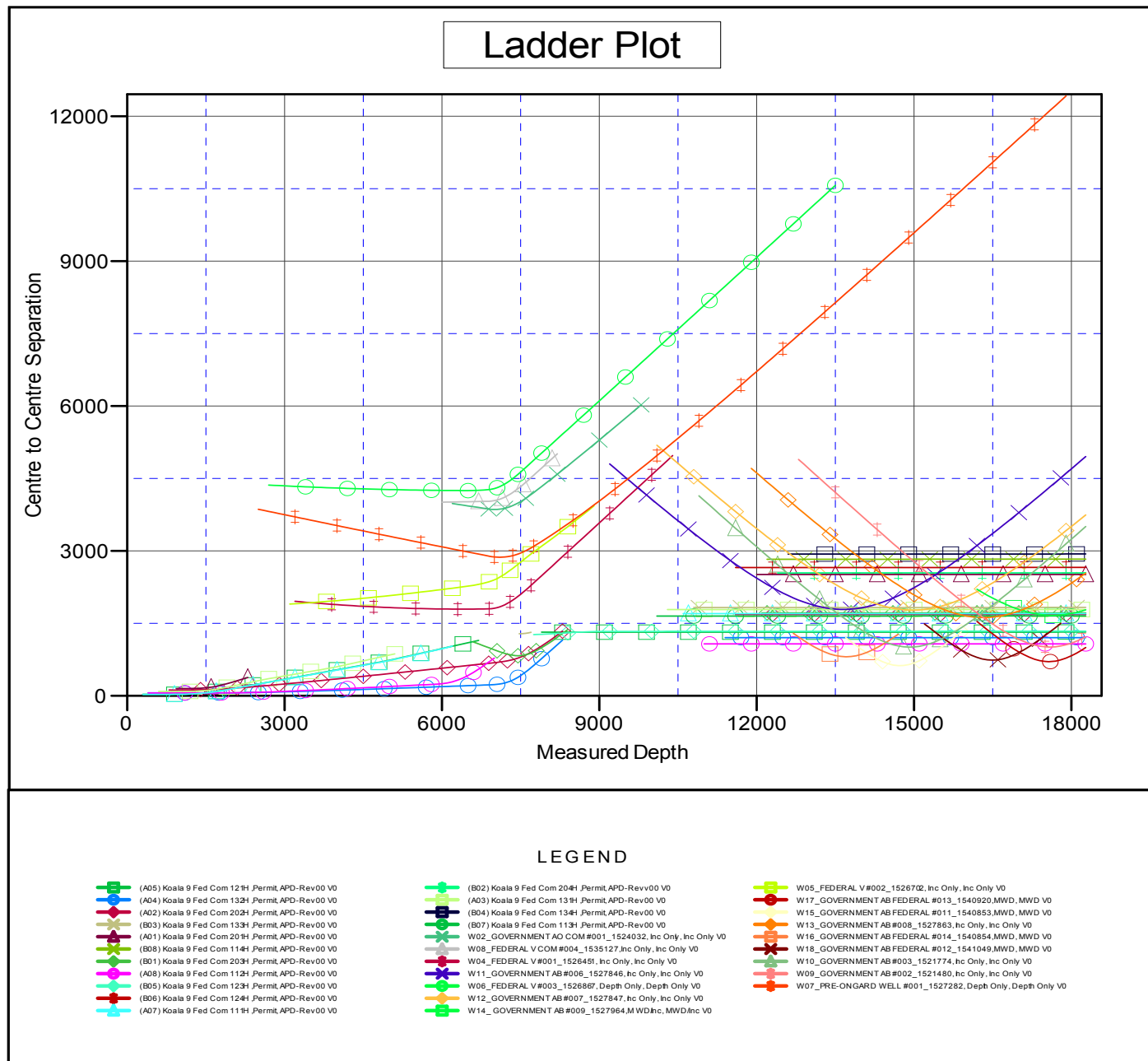
Offset Depths are relative to Offset Datum

Central Meridian is -104.33333334

Coordinates are relative to: (A06) Koala 9 Fed Com 122H

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

Grid Convergence at Surface is: 0.08°



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



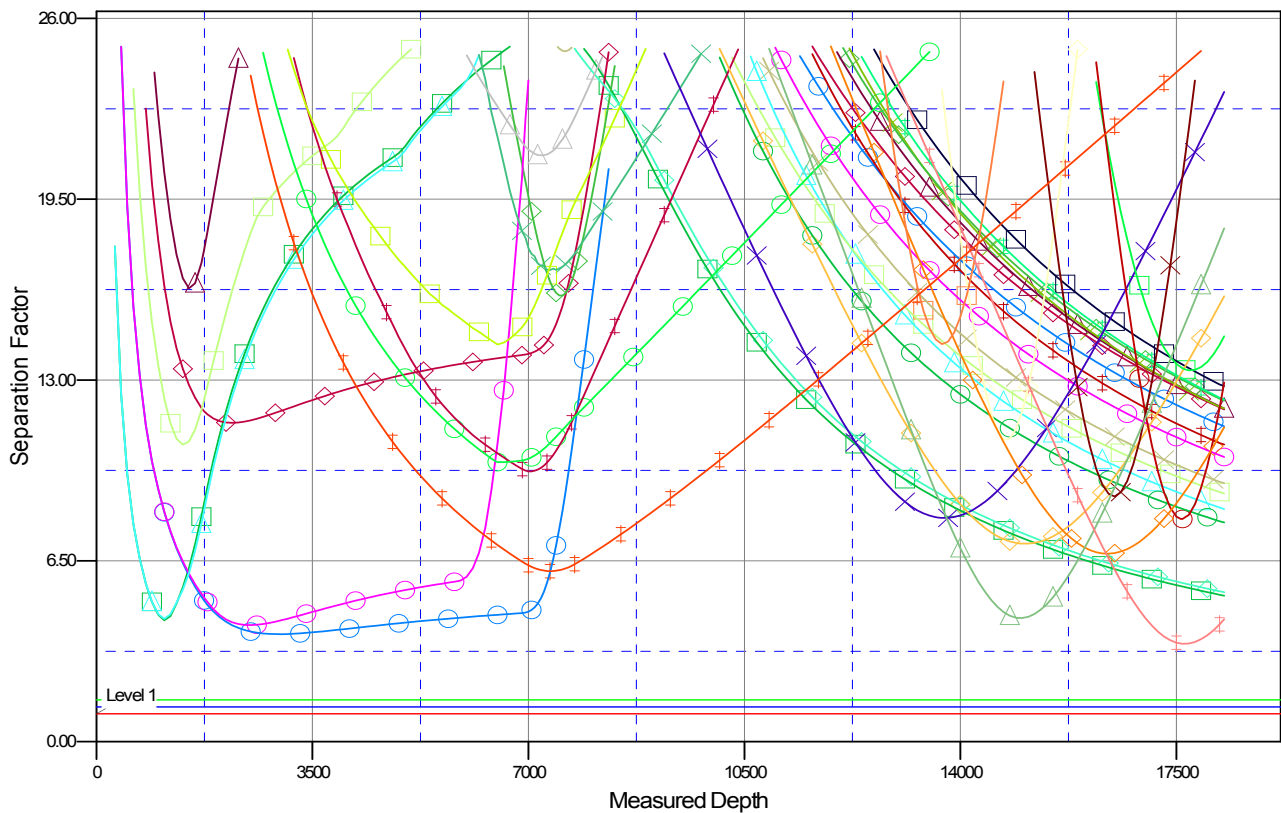
Anticollision Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A06) Koala 9 Fed Com 122H
Project:	(Permit) Eddy County, NM (83-NME)	TVD Reference:	3288+30 @ 3318.00usft
Reference Site:	(Permit) Koala 9 Fed Com	MD Reference:	3288+30 @ 3318.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	(A06) Koala 9 Fed Com 122H	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 3288+30 @ 3318.00usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.33333334

Coordinates are relative to: (A06) Koala 9 Fed Com 122H
 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	(B02) Koala 9 Fed Com 204H ,Permit,APD-Rev00 V0	W05_FEDERAL V#002_1526702, Inc Only, Inc Only V0
(A04) Koala 9 Fed Com 132H ,Permit,APD-Rev00 V0	(A03) Koala 9 Fed Com 131H ,Permit,APD-Rev00 V0	W17_GOVERNMENT AB FEDERAL #013_1540920,MWD, MWD V0
(A02) Koala 9 Fed Com 203H ,Permit,APD-Rev00 V0	(B04) Koala 9 Fed Com 134H ,Permit,APD-Rev00 V0	W15_GOVERNMENT AB FEDERAL #011_1540853,MWD, MWD V0
(B03) Koala 9 Fed Com 133H ,Permit,APD-Rev00 V0	(B07) Koala 9 Fed Com 113H ,Permit,APD-Rev00 V0	W13_GOVERNMENT AB #008_1527863, Inc Only, Inc Only V0
(A01) Koala 9 Fed Com 201H ,Permit,APD-Rev00 V0	W02_GOVERNMENT AO COM #001_1524032, Inc Only, Inc Only V0	W16_GOVERNMENT AB FEDERAL #014_1540854,MWD, MWD V0
(B08) Koala 9 Fed Com 114H ,Permit,APD-Rev00 V0	W08_FEDERAL V COM #004_1535127, Inc Only, Inc Only V0	W18_GOVERNMENT AB FEDERAL #012_1541049,MWD, MWD V0
(B01) Koala 9 Fed Com 203H ,Permit,APD-Rev00 V0	W04_FEDERAL V#001_1526491, Inc Only, Inc Only V0	W10_GOVERNMENT AB #003_1521774, Inc Only, Inc Only V0
(A08) Koala 9 Fed Com 112H ,Permit,APD-Rev00 V0	W11_GOVERNMENT AB #006_1527846, Inc Only, Inc Only V0	W09_GOVERNMENT AB #002_1521480, Inc Only, Inc Only V0
(B05) Koala 9 Fed Com 123H ,Permit,APD-Rev00 V0	W06_FEDERAL V#003_1526807, Depth Only, Depth Only V0	W07_PRE-ONGARD WELL #001_1527282, Depth Only, Depth Only V0
(B06) Koala 9 Fed Com 124H ,Permit,APD-Rev00 V0	W12_GOVERNMENT AB #007_1527847, Inc Only, Inc Only V0	
(A07) Koala 9 Fed Com 111H ,Permit,APD-Rev00 V0	W14_GOVERNMENT AB #009_1527964 MWD Inc, MWD Inc V0	

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

Permian Resources - Koala 9 Fed Com 122H

1. Geologic Formations

Formation	Elevation	TVD	Target
Rustler	-3077	241	No
Top of Salt	-2936	382	No
Capitan	NP	NP	No
Tansill	-2550	768	No
Yates	-2475	843	No
Seven Rivers	-2100	1218	No
Queen	-1509	1809	No
Grayburg	-1300	2018	No
San Andres	-900	2418	No
Delaware Mountain Group	-325	2993	No
Bone Spring Lime	1250	4568	No
1st Bone Spring Sand	2800	6118	No
2nd Bone Spring Sand	3875	7193	Yes
3rd Bone Spring Sand	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 Attachment: 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	266	0	266	266	J55	54.5	BTC	8.60	3.42	Dry	7.94	Dry	7.45
Intermediate	12.25	9.625	0	2943	0	2943	2943	J55	36	BTC	3.13	1.72	Dry	3.10	Dry	2.74
Production	8.75	5.5	0	7799	0	7289	7799	P110RY	17	GeoConn	1.97	2.06	Dry	2.44	Dry	2.44
Production	7.875	5.5	7799	18274	7289	7289	10475	P110RY	17	GeoConn	1.97	2.06	Dry	2.44	Dry	2.44
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	Quantity (sx)	Yield	Density	Cu Ft	Excess %	Cement Type	Additives
Surface	Tail	0	266	210	1.34	14.8	280	50%	Class C	Accelerator
Intermediate	Lead	0	2350	520	2.08	12.7	1080	50%	Class C	Salt, Extender, and LCM
Intermediate	Tail	2350	2943	210	1.34	14.8	280	50%	Class C	Accelerator
Production	Lead	2443	6893	640	2.41	11.5	1540	40%	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder
Production	Tail	6893	18274	1480	1.73	12.5	2560	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 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.

Cuttings Volume: 8210 Cu Ft

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight	Max Weight
0	266	Water Based Mud	8.6	9.5
266	2943	Salt Saturated	10	10
2943	7799	Brine	9	10
7799	18274	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	3800	psi
Anticipated Surface Pressure	2186.7	psi
Anticipated Bottom Hole Temperature	131	°F
Anticipated Abnormal pressure, temp, or geo hazards	No	

8. Other Information

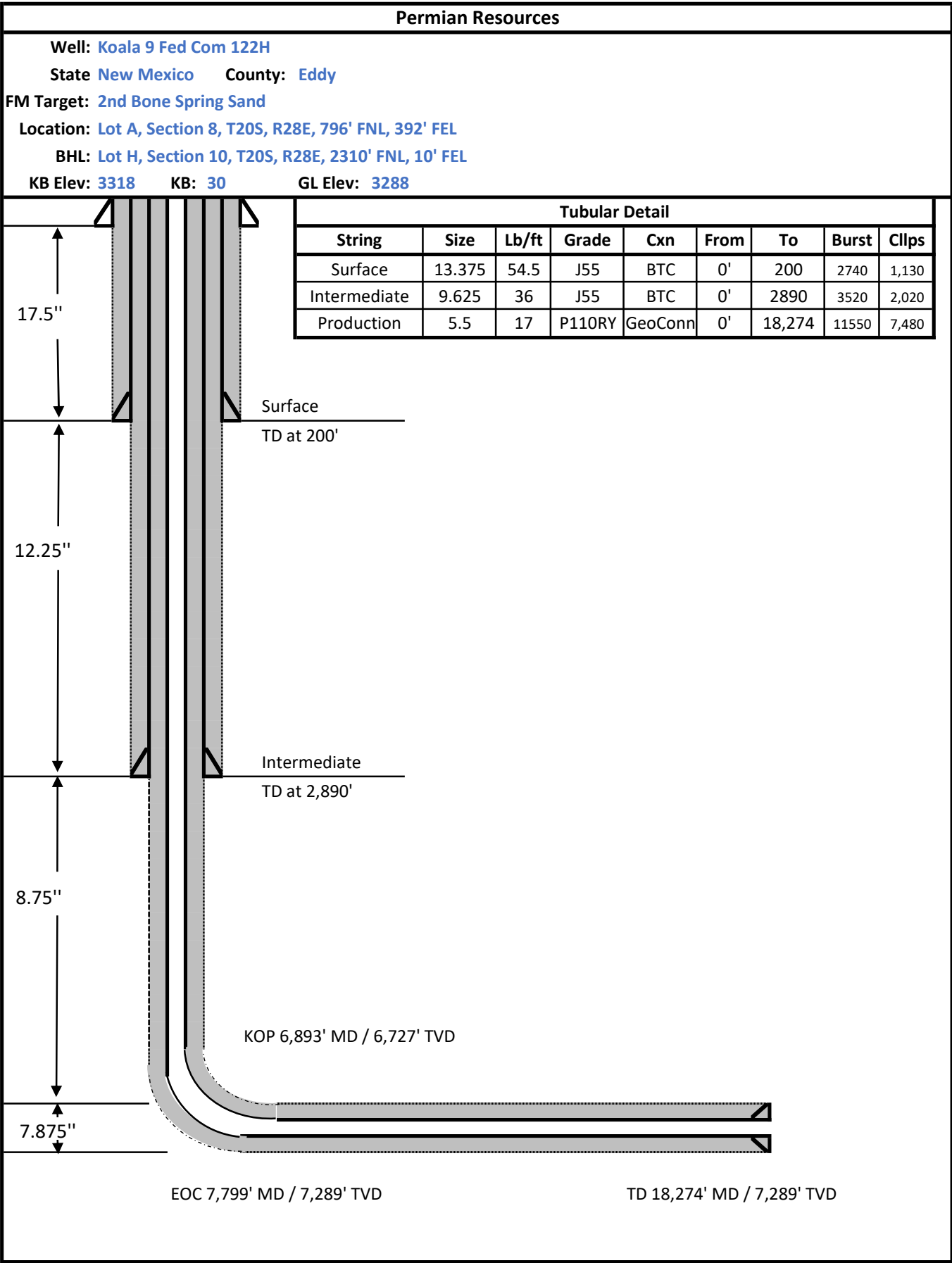
Well Plan and AC Report: attached

Batching Drilling Procedure: attached

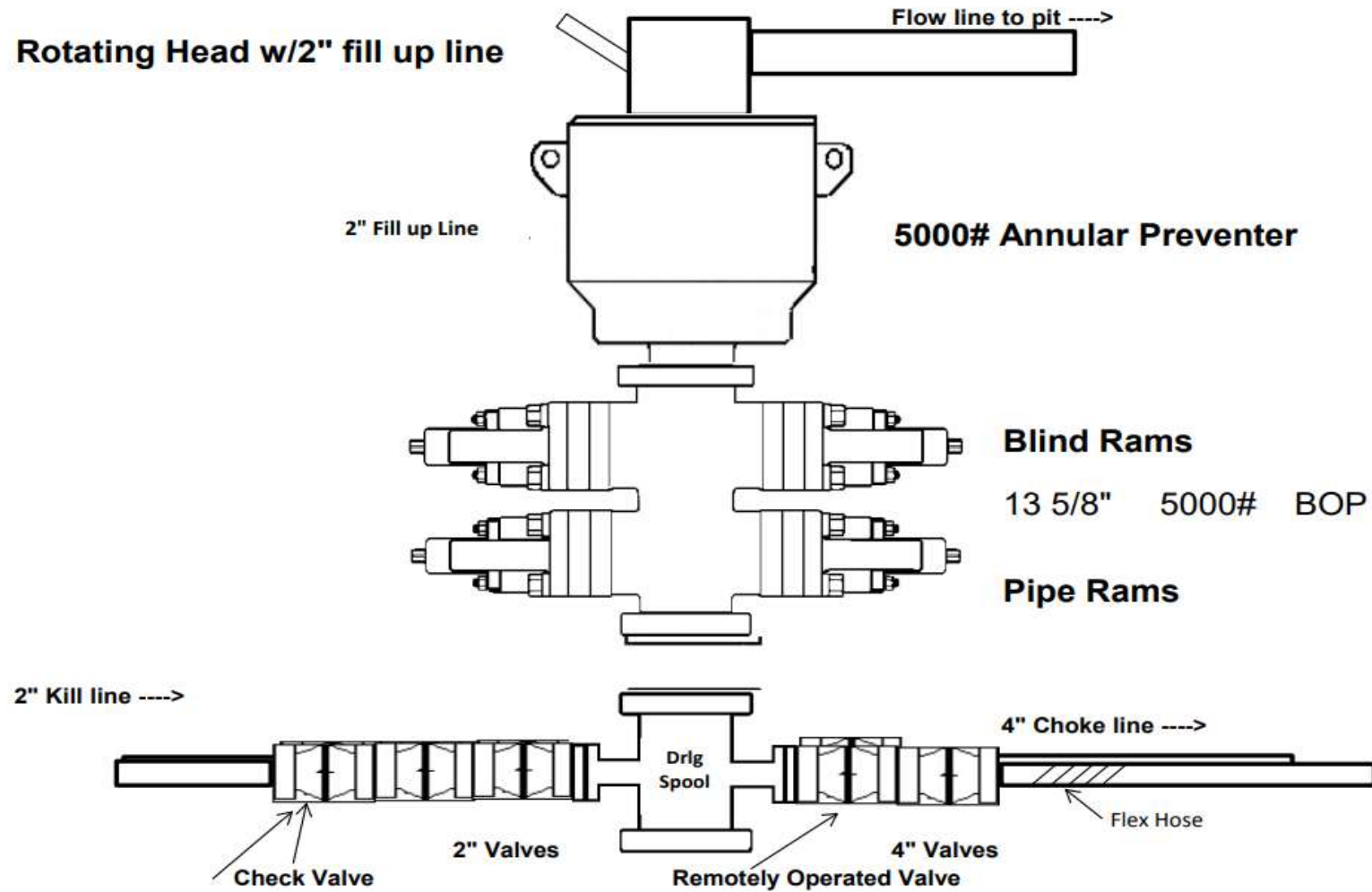
WBD: attached

Flex Hose Specs: attached

Offline Cementing Procedure Attached:



5,000 psi BOP Schematic





ContiTech

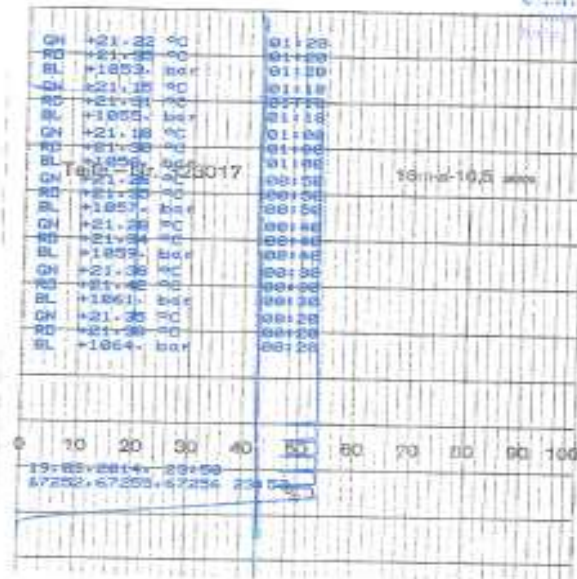
CONTITECH RUBBER Industrial Kft.	No:QC-DB- 210/ 2014 Page: 9 / 113
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QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°: 504	
PURCHASER: ContiTech Oil & Marine Corp.				P.O. N°: 4500408659	
CONTITECH RUBBER order N°: 538236		HOSE TYPE: 3" ID		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 temperature					
See attachment. (1 page)					
↑ 10 mm = 10 Min. → 10 mm = 20 MPa					
COUPLINGS Type		Serial N°		Quality	
3" coupling with		9251 9254		AISI 4130	
4 1/16" 10K API b.w. Flange end				AISI 4130	
				A0578N	
				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.				ContiTech Rubber Industrial SRL Quality Control Dept.  	

Centech Rubber Industrial Co., Ltd. (Incorporated in Hong Kong) H 4701 P.O. Box 152, Sengco, Hong Kong
Phone: +86 87584 737 / Fax: +86 82546 728 / e-mail: info@centechrubber.hk / Internet: www.centech-rubber.hk / www.centech.hk
The Court of Chancery County or Registry Court / Registry Court No: Cg 99-09-00050 / EU 197 No: H11153709
Harris Data Communications, Inc., (Incorporated in the United States of America) H 4701 P.O. Box 152, Sengco, Hong Kong

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

Page: 1 / 1





CONTITECH RUBBER
Industrial Kft.

No:QC-DB- 210/ 2014

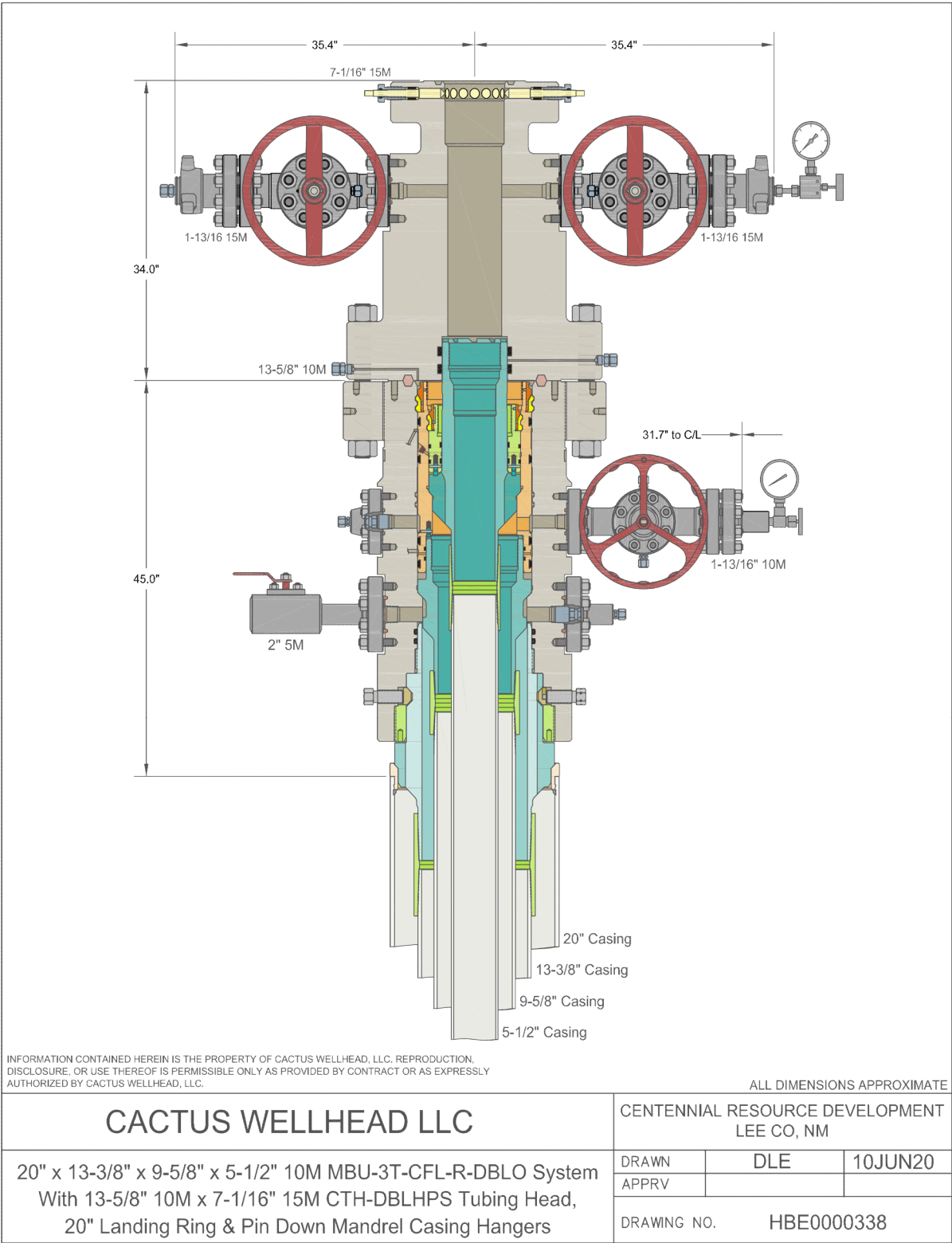
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ContiTech

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 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.

Intermediate or Intermediate II

- 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

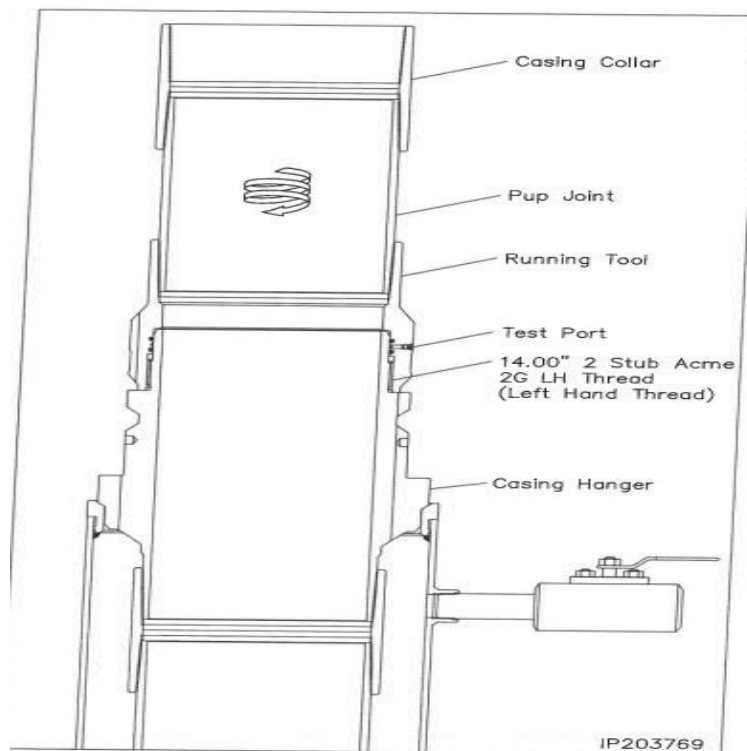


Illustration 1-1

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.

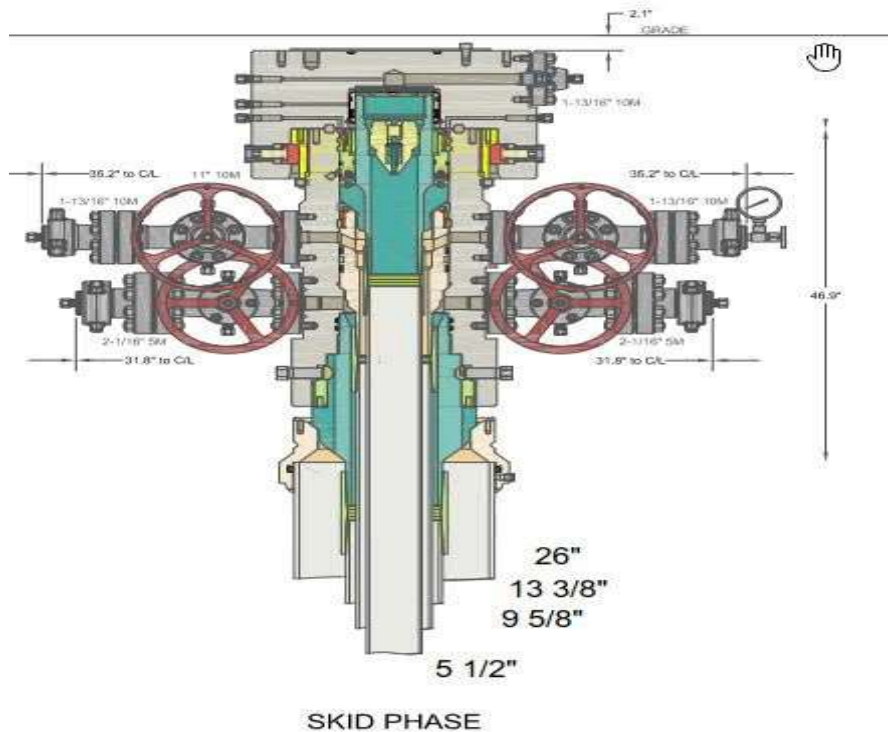


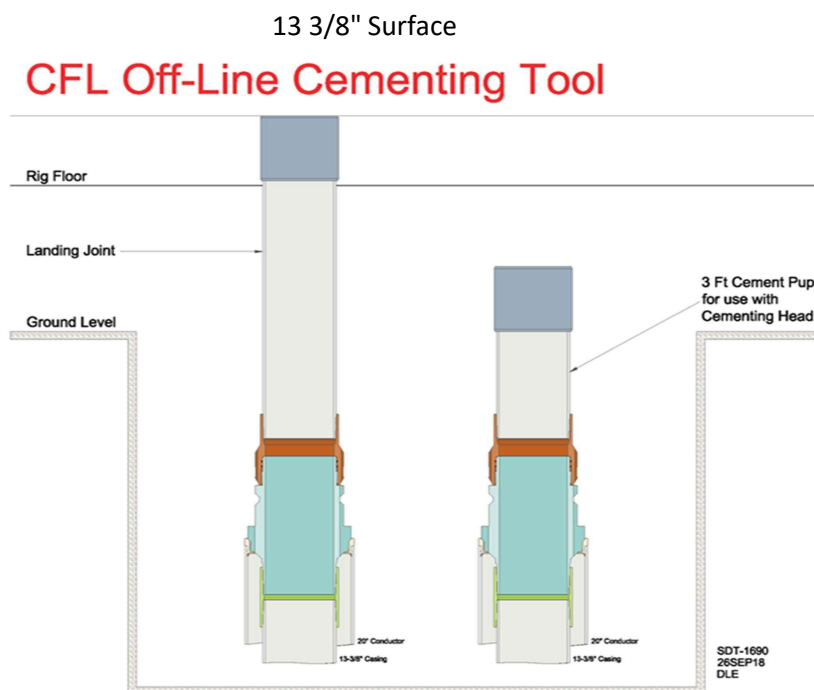
Illustration 2-2

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.

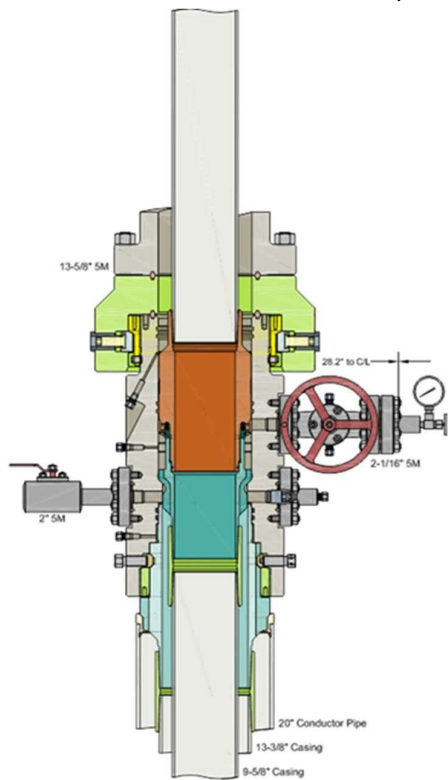
1. Big Rig will remove the nightcap and install and test BOPE.
2. Install wear bushing then drill Intermediate shoe-track plus 20' and conduct FIT to minimum MW equivalent to control the formation pressure to TD of well.
3. Drill Vertical hole to KOP – Trip out for Curve BHA.
4. Drill Curve, landing in production interval – Trip for Lateral BHA.
5. Drill Lateral / Production hole to Permitted BHL, perform cleanup cycles and trip out to run 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 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

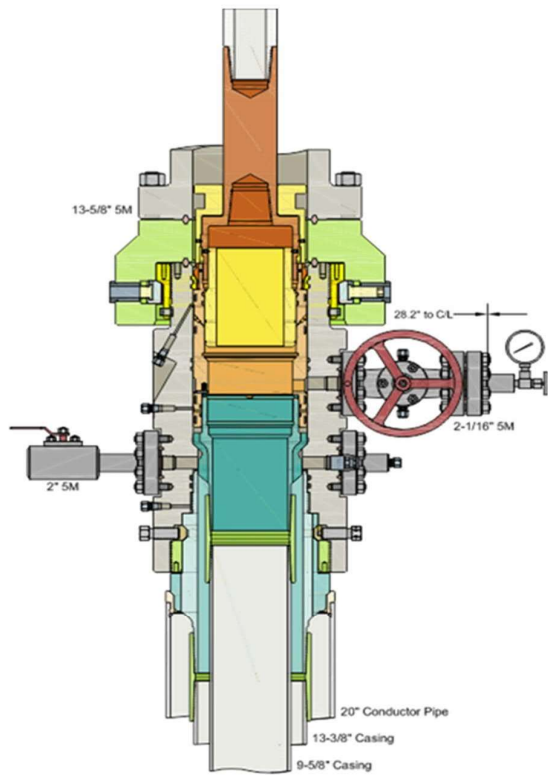
1. Drill hole to Total Depth with Rig and perform wellbore cleanup cycles.
2. Run and casing to Depth.
3. Land casing with mandrel.
4. Circulate 1.5 csg capacity.
5. Flow test – Confirm well is static and floats are holding.
6. Set Annular packoff and pressure test. Test to 5k.
7. Nipple down BOP and 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.



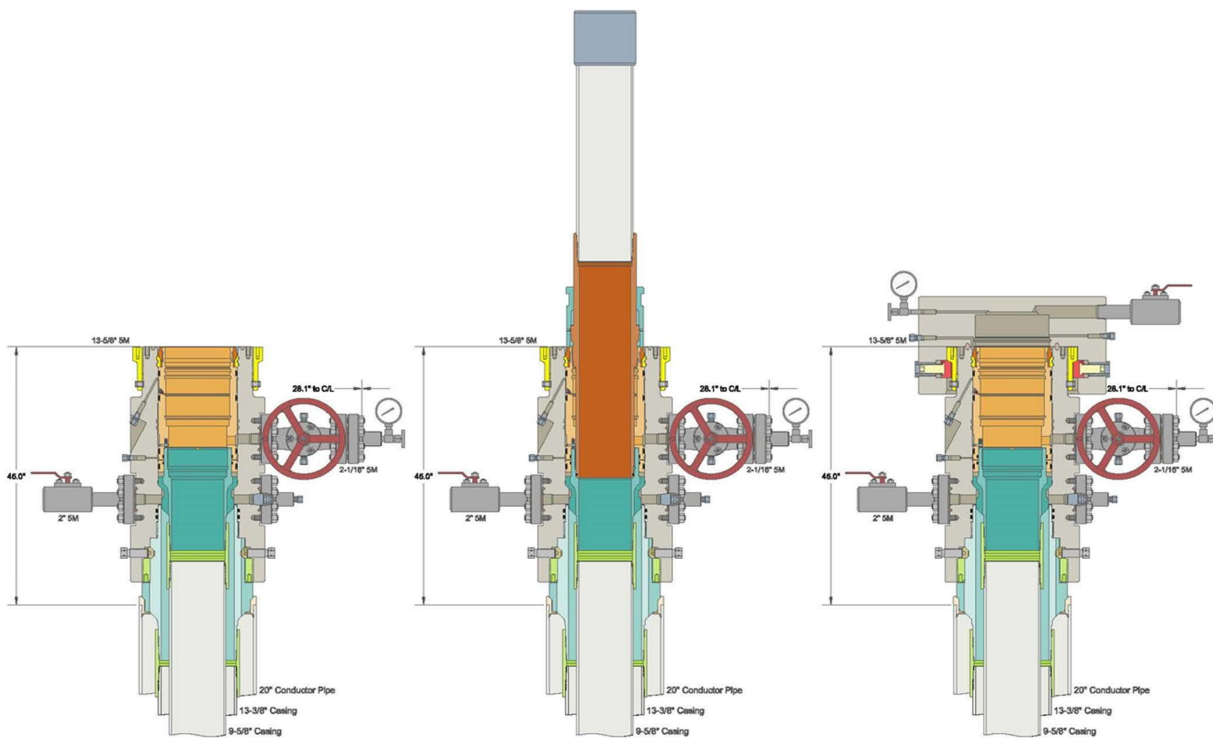
9 5/8" Intermediate



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

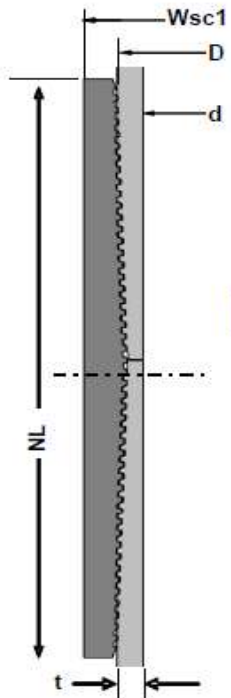


Run 13-5/8" Packoff
Test Upper and Lower Seals
Engage Lockring
Retrieve Running Tool



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



Geometry		Imperial		S.I.	
Pipe Body					
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		Imperial		S.I.	
Performance Properties for Pipe Body					
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					

Legal Notice

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Statements regarding the suitability of products for certain types of applications are based on Metal One's knowledge of typical requirements that are often placed on Metal One products in standard well configurations. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application.

The products described in this Connection Data Sheet are not recommended for use in deep water offshore applications. For more information, please refer to http://www.mto.co.jp/mto-con/ Images/top/WebsiteTerms_Active_20333287_1.pdf the contents of which are incorporated by reference into this Connection Data Sheet.



CONTITECH RUBBER
Industrial Kft.

No:QC-DB- 210/ 2014

Page: 15 / 113

ContiTech

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

Printed: TIRETECHZICsontosG - 2014.03.10 15:22:17

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

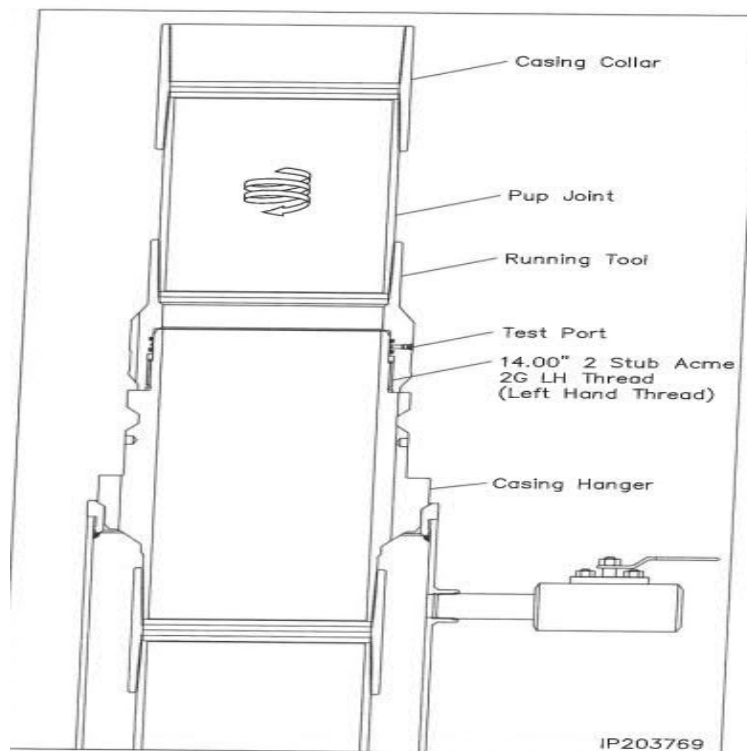


Illustration 1-1

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.

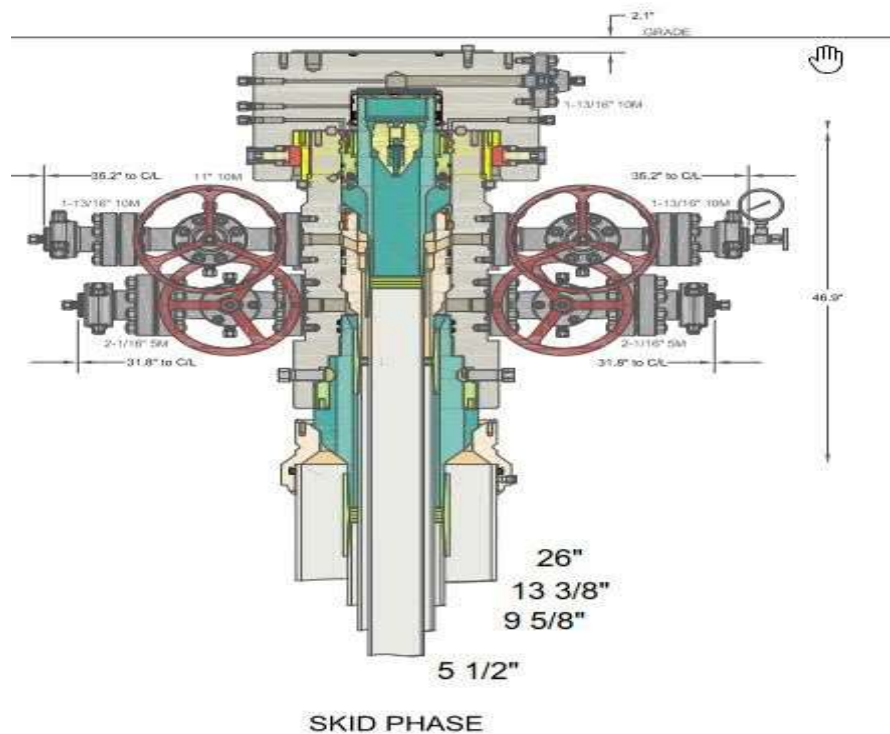


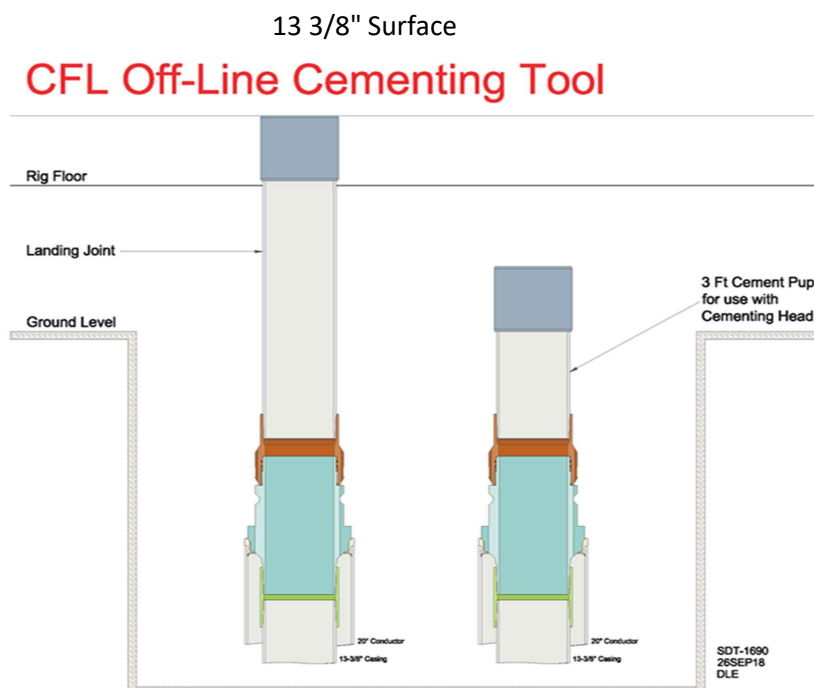
Illustration 2-2

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.

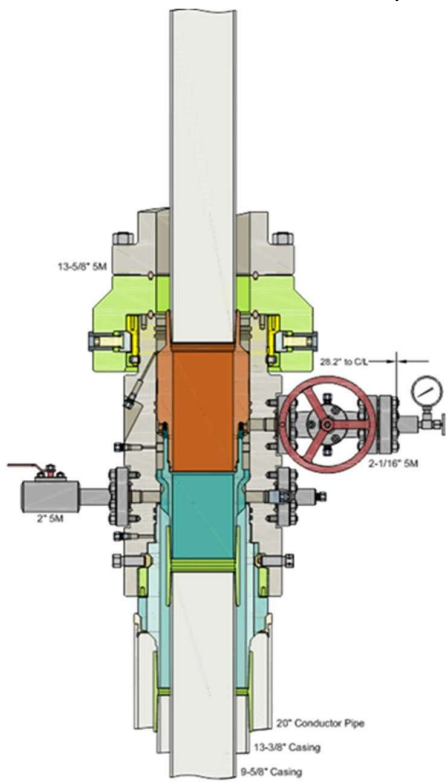
1. Big Rig will remove the nightcap and install and test BOPE.
2. Install wear bushing then drill Intermediate shoe-track plus 20' and conduct FIT to minimum MW equivalent to control the formation pressure to TD of well.
3. Drill Vertical hole to KOP – Trip out for Curve BHA.
4. Drill Curve, landing in production interval – Trip for Lateral BHA.
5. Drill Lateral / Production hole to Permitted BHL, perform cleanup cycles and trip out to run 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 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

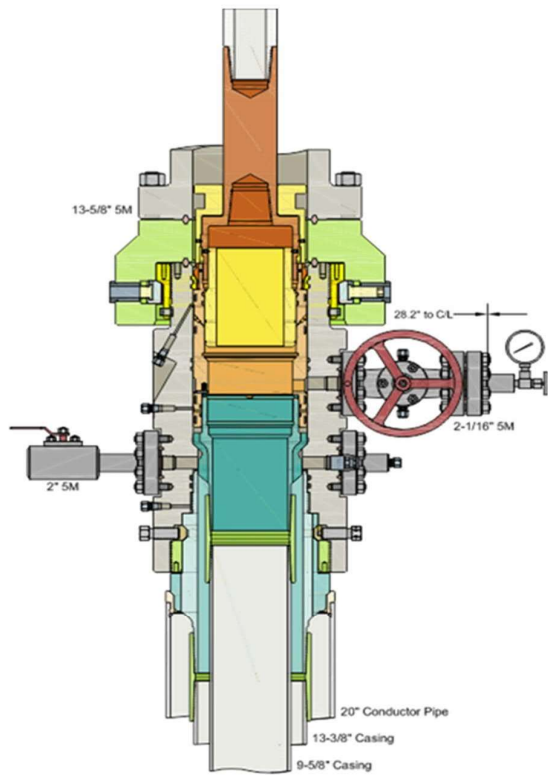
1. Drill hole to Total Depth with Rig and perform wellbore cleanup cycles.
2. Run and casing to Depth.
3. Land casing with mandrel.
4. Circulate 1.5 csg capacity.
5. Flow test – Confirm well is static and floats are holding.
6. Set Annular packoff and pressure test. Test to 5k.
7. Nipple down BOP and 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.



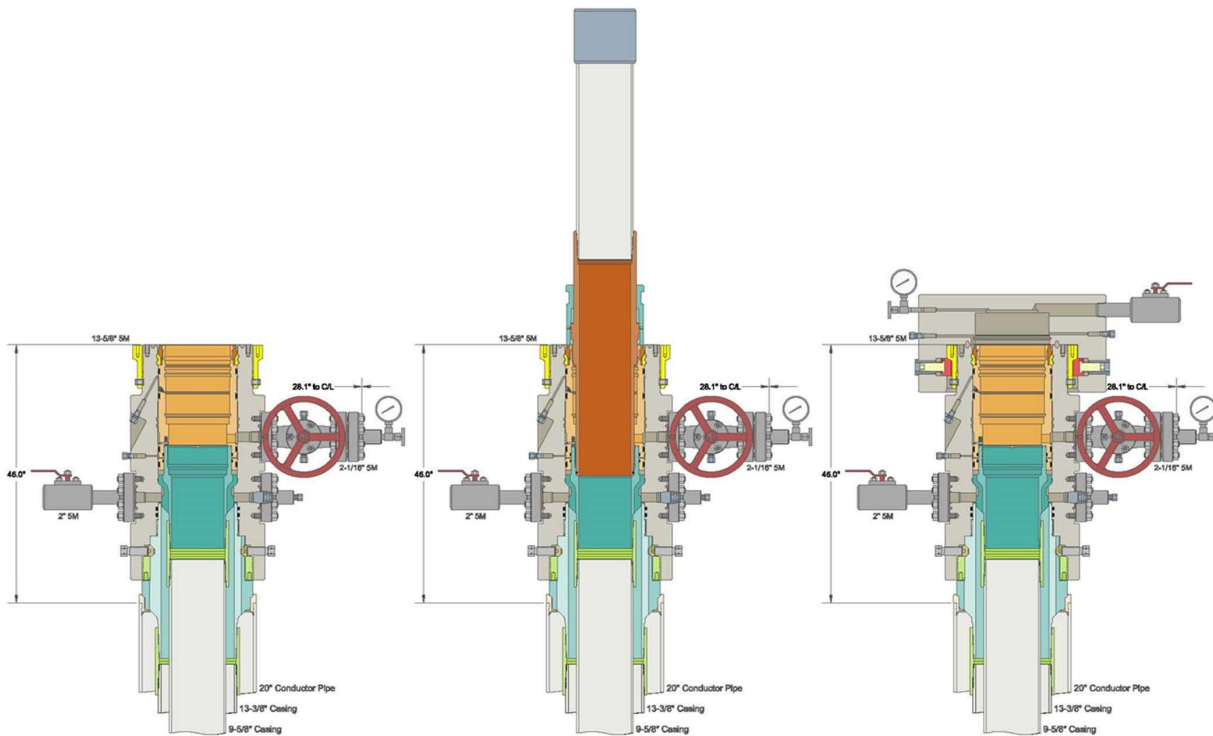
9 5/8" Intermediate



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





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

SUPO Data Report

12/11/2025

APD ID: 10400085979

Submission Date: 06/09/2022

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM

Well Number: 122H

Well Type: OIL WELL

Well Work Type: Drill

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

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Koala_9_Fed_Com_SUPO_North_Section_1_20220609060233.pdf

Existing Road Purpose: ACCESS

Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

Koala_9_Fed_Com_SUPO_North_Section_2_20220609060243.pdf

New road type: LOCAL

Length: 1562.57

Feet

Width (ft.): 30

Max slope (%): 1

Max grade (%): 1

Army Corp of Engineers (ACOE) permit required? N

ACOE Permit Number(s):

New road travel width: 24

New road access erosion control: No drainage crossed.

New road access plan or profile prepared? N

New road access plan

Operator Name: COLGATE OPERATING LLC**Well Name:** KOALA 9 FED COM**Well Number:** 122H**Access road engineering design?** N**Access road engineering design****Turnout?** N**Access surfacing type:** GRAVEL**Access topsoil source:** ONSITE**Access surfacing type description:****Access onsite topsoil source depth:** 6**Offsite topsoil source description:****Onsite topsoil removal process:** Grader**Access other construction information:****Access miscellaneous information:****Number of access turnouts:****Access turnout map:**

Drainage Control

New road drainage crossing: OTHER

Other Description: The 1680.08' of new resource roads will be crowned, ditched, have a 24' wide driving surface, and be surfaced with caliche. Pipelines that are crossed will be padded. Maximum disturbed width = 30'. Maximum grade = 1 %. Maximum cut or fill = 1 '. _No vehicle turnout, gate, cattle guard, or culvert is needed. Upgrading will consist of filling potholes with caliche as needed.

Drainage Control comments: No drainage crossed**Road Drainage Control Structures (DCS) description:** None**Road Drainage Control Structures (DCS) attachment:**

Access Additional Attachments

Section 3 - Location of Existing Wells

Existing Wells Map? YES**Existing Well map Attachment:**

Koala_9_Fed_Com_SUPO_North_Section_3_20220609060447.pdf

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: A 300' x 500' CTB will be built immediately south of the Dundee 4 Fed Com south well pad. There will be a common border between the two facilities. Flare and/ or CBU will be on the west side of the CTB. Process equipment (e. g., separator, heater-treater, meters, compressor) will be on the north and east sides of the CTB. Tanks will be on the south side of the CTB. Buried four-inch O.D. HDPE

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM

Well Number: 122H

flowlines and three-inch O.D. HDPE gas lines will run for 1,195.68' between the Koala pad and the CTB. Trench(es) will be parallel to the Koala north pad road. Neither power line nor gas line plans have been finalized. A third-party midstream company will acquire a right-of-way and pipe gas and saltwater from the CTB.

Production Facilities map:

Koala_9_Fed_Com_SUPO_North_Section_4_20220609060457.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: OTHER

Describe type: Alfadale Water Station

Water source use type:

SURFACE CASING
INTERMEDIATE/PRODUCTION CASING
STIMULATION

Source latitude:

Source longitude:

Source datum:

City:

Water source permit type:

PRIVATE CONTRACT

Water source transport method:

TRUCKING

Source land ownership: PRIVATE

Source transportation land ownership: PRIVATE

Water source volume (barrels): 170000

Source volume (acre-feet): 21.91182638

Source volume (gal): 7140000

Water source and transportation

Koala_9_Fed_Com_SUPO_North_Section_5_20220609060614.pdf

Water source comments: Water will be trucked from the existing Alfadale water station on private land in SESW 6-1 9s-28e.

New water well? N

New Water Well Info

Well latitude:

Well Longitude:

Well datum:

Well target aquifer:

Est. depth to top of aquifer(ft):

Est thickness of aquifer:

Aquifer comments:

Aquifer documentation:

Operator Name: COLGATE OPERATING LLC**Well Name:** KOALA 9 FED COM**Well Number:** 122H**Well depth (ft):****Well casing type:****Well casing outside diameter (in.):****Well casing inside diameter (in.):****New water well casing?****Used casing source:****Drilling method:****Drill material:****Grout material:****Grout depth:****Casing length (ft.):****Casing top depth (ft.):****Well Production type:****Completion Method:****Water well additional information:****State appropriation permit:****Additional information attachment:**

Section 6 - Construction Materials

Using any construction materials: YES

Construction Materials description: M One Call (811) will be notified before construction starts. A 2" surface poly water line will be re-routed by Colgate before construction starts. Top 6" of soil and brush will be stockpiled south of the well pad and east of the CTB. CTB topsoil pile will be no higher than 3 6" and will be seeded in place. V-door will face east. Closed loop mud system will be used. Caliche will be hauled from an existing caliche pit on private land in SENE 1 8-1 8s-28e.

Construction Materials source location

Koala_9_Fed_Com_SUPO_North_Section_6_20220609060626.pdf

Section 7 - Methods for Handling

Waste type: DRILLING**Waste content description:** Drill cuttings, mud, salts, and other chemicals.**Amount of waste:** 550 barrels**Waste disposal frequency :** Daily**Safe containment description:** Steel mud tanks**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY**Disposal location ownership:** COMMERCIAL**Disposal type description:**

Disposal location description: ontents (drill cuttings, mud, salts, and other chemicals) of the mud tanks will be hauled to R360's state approved (NM-01 -0006) disposal site at Halfway.

Waste type: SEWAGE**Waste content description:** Black and Grey Water**Amount of waste:** 5 barrels**Waste disposal frequency :** Daily**Safe containment description:** Plastic holding tanks and chemical toilets

Operator Name: COLGATE OPERATING LLC**Well Name:** KOALA 9 FED COM**Well Number:** 122H**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** Human waste will be disposed of in chemical toilets and hauled to the Carlsbad wastewater treatment plant.**Waste type:** GARBAGE**Waste content description:** Trash**Amount of waste:** 10 barrels**Waste disposal frequency :** Daily**Safe containment description:** Portable trash cage.**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** All trash will be placed in a portable trash cage. It will be hauled to the Eddy County landfill.**Reserve Pit****Reserve Pit being used?** NO**Temporary disposal of produced water into reserve pit?** NO**Reserve pit length (ft.)** **Reserve pit width (ft.)****Reserve pit depth (ft.)** **Reserve pit volume (cu. yd.)****Is at least 50% of the reserve pit in cut?****Reserve pit liner****Reserve pit liner specifications and installation description****Cuttings Area****Cuttings Area being used?** NO**Are you storing cuttings on location?** Y**Description of cuttings location** Steel mud tanks**Cuttings area length (ft.)** **Cuttings area width (ft.)****Cuttings area depth (ft.)** **Cuttings area volume (cu. yd.)****Is at least 50% of the cuttings area in cut?****Cuttings area liner**

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM

Well Number: 122H

Cuttings area liner specifications and installation description

Section 8 - Ancillary

Are you requesting any Ancillary Facilities?: N

Ancillary Facilities

Comments:

Section 9 - Well Site

Well Site Layout Diagram:

Koala_9_Fed_Com_SUPO_North_Section_9_20220609060647.pdf

Comments: Also see Rig Layout diagram for depictions of the well pad, trash cage, access onto the location, parking, living facilities, and rig orientation.

Section 10 - Plans for Surface

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: KOALA 9 FED COM NORTH

Multiple Well Pad Number: 2

Recontouring

Koala_9_Fed_Com_SUPO_North_Section_10_20220609060657.pdf

Drainage/Erosion control construction: Crowned and ditched

Drainage/Erosion control reclamation: Harrowed on the contour

Well pad proposed disturbance (acres): 5.74	Well pad interim reclamation (acres): 1.72	Well pad long term disturbance (acres): 4.02
Road proposed disturbance (acres): 1.16	Road interim reclamation (acres): 0	Road long term disturbance (acres): 1.16
Powerline proposed disturbance (acres): 0	Powerline interim reclamation (acres): 0	Powerline long term disturbance (acres): 0
Pipeline proposed disturbance (acres): 0.82	Pipeline interim reclamation (acres): 0.82	Pipeline long term disturbance (acres): 0
Other proposed disturbance (acres): 3.44	Other interim reclamation (acres): 0	Other long term disturbance (acres): 3.44
Total proposed disturbance: 11.16	Total interim reclamation: 2.54	Total long term disturbance: 8.62

Disturbance Comments:

Reconstruction method: South 1 50' of the well pad will be interim reclaimed. After the last well is plugged, then the remainder of the pad and roads will be reclaimed within 6 months of plugging. Disturbed areas will be contoured to match pre-construction grades.

Topsoil redistribution: Soil and brush will be evenly spread over disturbed areas and harrowed on the contour. Disturbed areas will be seeded in accordance with BLM requirements. Roads will be blocked. Noxious weeds will be controlled. CTB will be similarly reclaimed once its last well is plugged.

Operator Name: COLGATE OPERATING LLC**Well Name:** KOALA 9 FED COM**Well Number:** 122H**Soil treatment:** None**Existing Vegetation at the well pad:** Mesquite and/or Creosote bush**Existing Vegetation at the well pad****Existing Vegetation Community at the road:** Mesquite and/or Creosote bush**Existing Vegetation Community at the road****Existing Vegetation Community at the pipeline:** Mesquite and/or Creosote bush**Existing Vegetation Community at the pipeline****Existing Vegetation Community at other disturbances:** Mesquite and/or Creosote bush**Existing Vegetation Community at other disturbances****Non native seed used?** N**Non native seed description:****Seedling transplant description:****Will seedlings be transplanted for this project?** N**Seedling transplant description attachment:****Will seed be harvested for use in site reclamation?** N**Seed harvest description:****Seed harvest description attachment:****Seed****Seed Table****Seed Summary****Total pounds/Acre:****Seed Type****Pounds/Acre****Seed reclamation****Operator Contact/Responsible Official****First Name:****Last Name:****Phone:****Email:**

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM

Well Number: 122H

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? N

Existing invasive species treatment description:

Existing invasive species treatment

Weed treatment plan description: To BLM Standards

Weed treatment plan

Monitoring plan description: To BLM Standards

Monitoring plan

Success standards: To BLM Standards

Pit closure description: No pit

Pit closure attachment:

Section 11 - Surface

Disturbance type: EXISTING ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT,PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM

Well Number: 122H

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT,PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Operator Name: COLGATE OPERATING LLC**Well Name:** KOALA 9 FED COM**Well Number:** 122H**Disturbance type:** PIPELINE**Describe:****Surface Owner:** BUREAU OF LAND MANAGEMENT**Other surface owner description:****BIA Local Office:****BOR Local Office:****COE Local Office:****DOD Local Office:****NPS Local Office:****State Local Office:****Military Local Office:****USFWS Local Office:****Other Local Office:****USFS Region:****USFS Forest/Grassland:****USFS Ranger District:**

Section 12 - Other

Right of Way needed? N**Use APD as ROW?****ROW Type(s):****ROW**

SUPO Additional Information: Lone Mountain Archaeological conducted block inspections and field reports NMCRIS-149416 on December 27, 2021 and NMCRIS-149810 on March 30, 2022. On-site inspection was conducted with Jeff Robertson (BLM) on April 6, 2022.

Use a previously conducted onsite? N**Previous Onsite information:****Other SUPO**

Operator Name: COLGATE OPERATING LLC

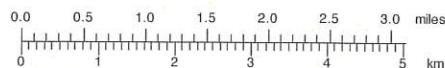
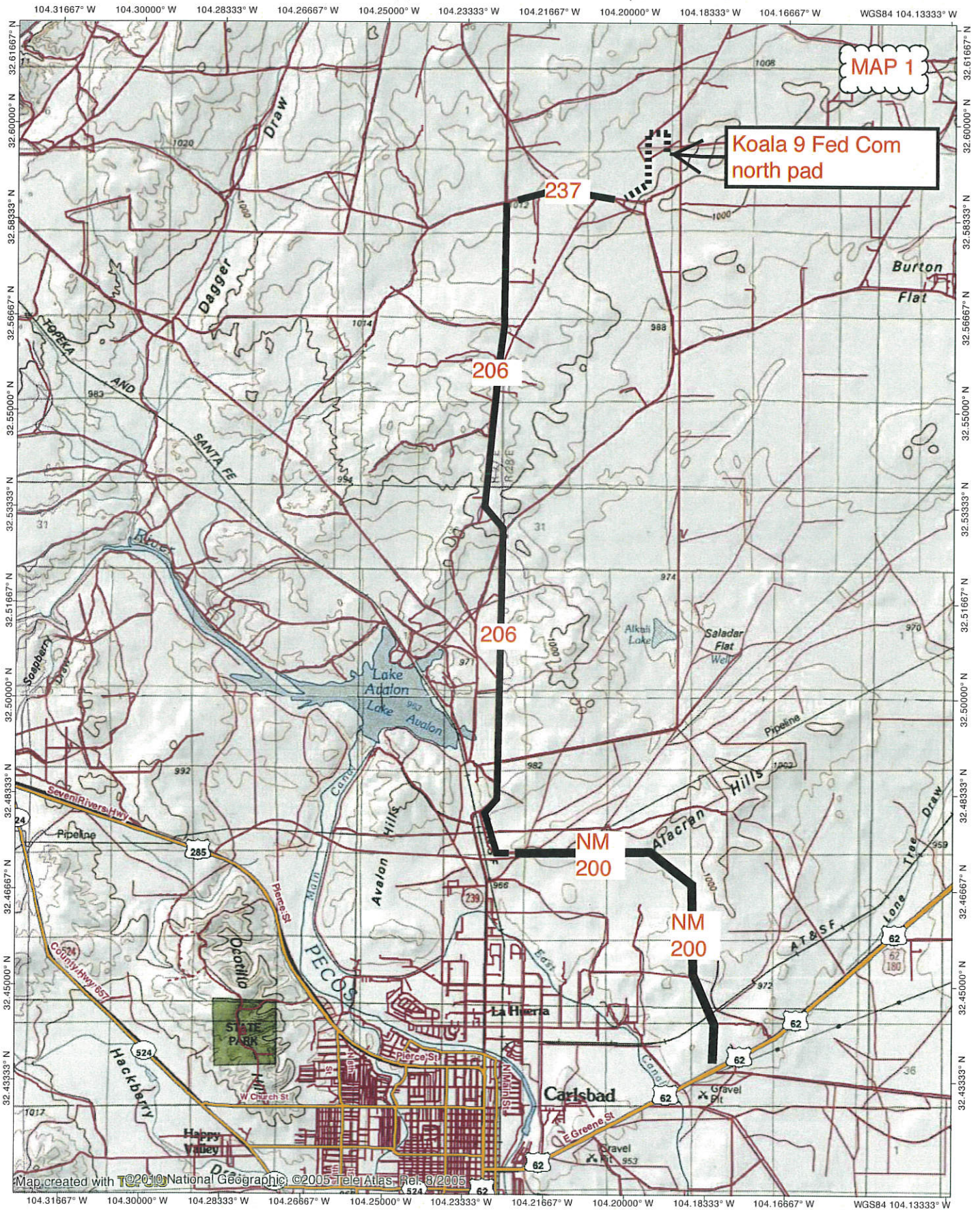
Well Name: KOALA 9 FED COM

Well Number: 122H

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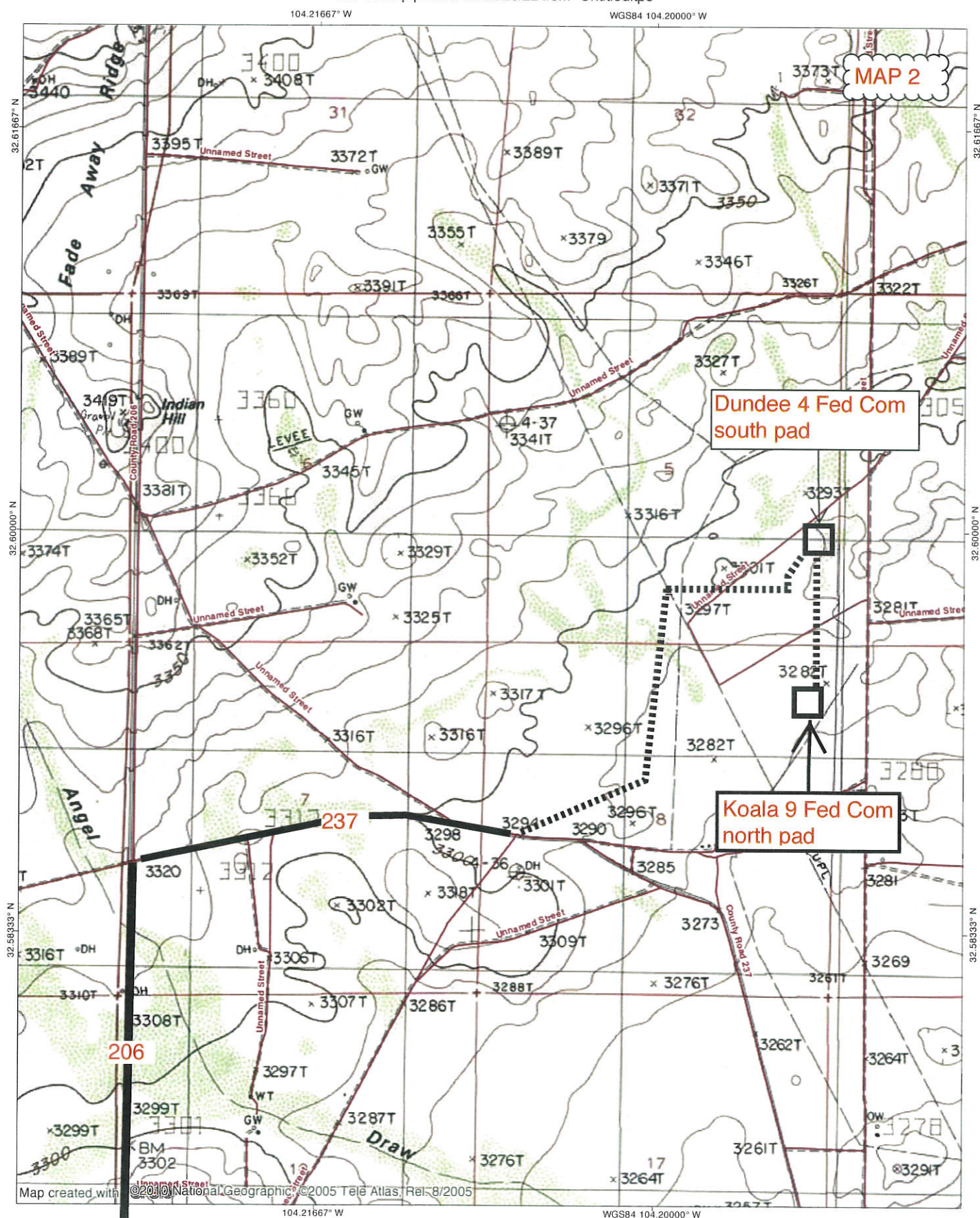
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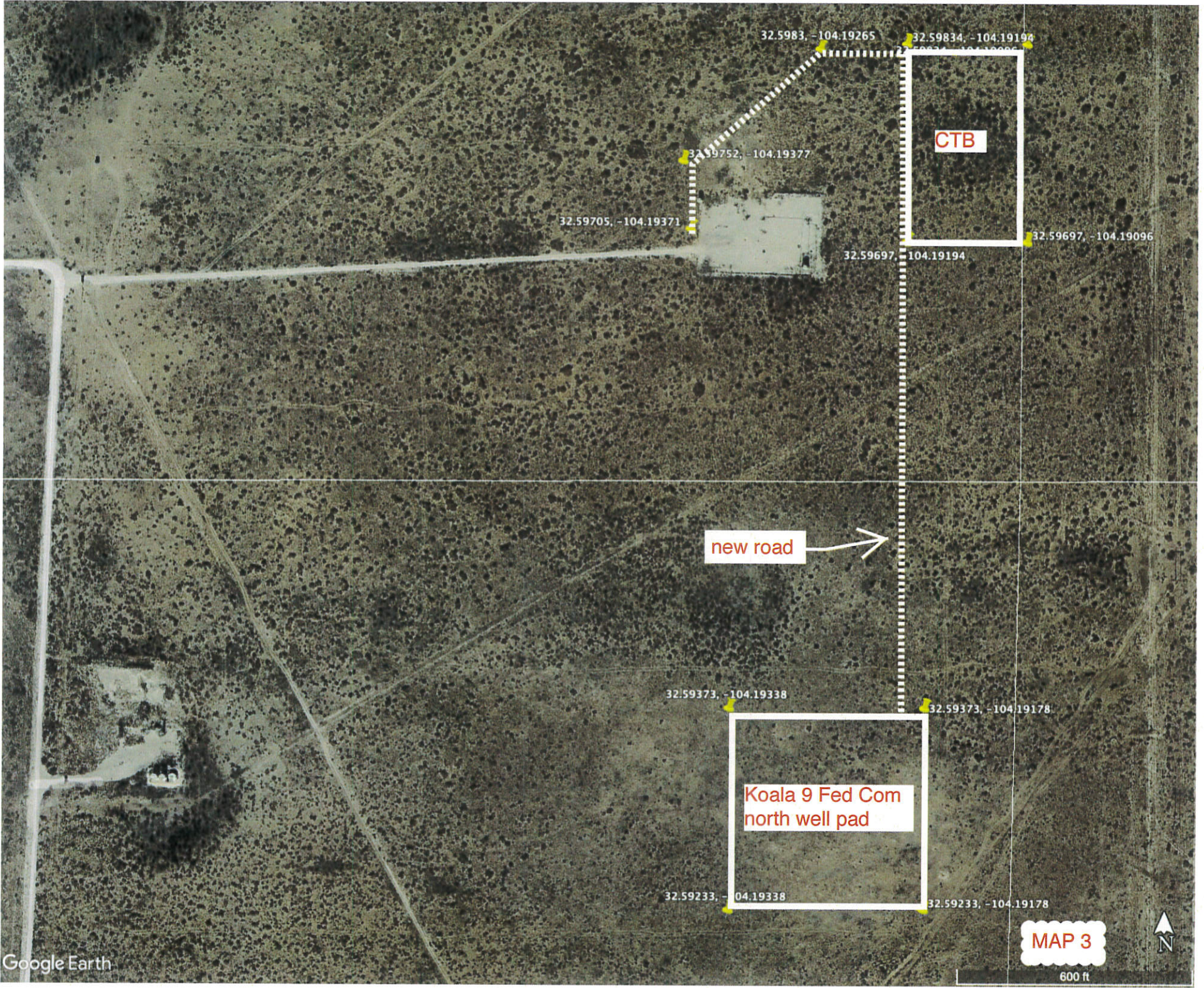
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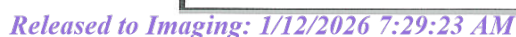


TN/MN
6.5°
02/26/22

TOPO! map printed on 02/26/22 from "Untitled.tpo"







CENTERLINE DESCRIPTION

MAP 4b

ACCESS ROAD "B"

BEING THE CENTERLINE OF A PROPOSED ACCESS ROAD EASEMENT, SITUATED IN SECTION 5, TOWNSHIP 20 SOUTH, RANGE 28 EAST, NEW MEXICO PRINCIPAL MERIDIAN, EDDY COUNTY, NEW MEXICO. SAID CENTERLINE BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT A POINT, IN SAID SECTION 5, FROM WHICH AN IRON PIPE WITH A BRASS CAP FOUND FOR THE EAST QUARTER CORNER OF SAID SECTION 5 BEARS N 18°11'21" E, A DISTANCE OF 1666.85 FEET (TIE). SAID POINT OF BEGINNING HAVING A NEW MEXICO STATE PLANE COORDINATES OF 1983, EAST ZONE, VALUE OF N:581418.47, E:584673.92 FEET FOR REFERENCE;

THENCE S 48°54'51" W, A DISTANCE OF 442.71 FEET TO A POINT;

THENCE S 00°04'34" E, A DISTANCE OF 177.14 FEET TO THE POINT OF TERMINATION OF SAID CENTERLINE IN SAID SECTION 5, FROM WHICH AN IRON PIPE WITH A BRASS CAP FOUND FOR THE SOUTH QUARTER CORNER OF SAID SECTION 5 BEARS S 71°31'56" W, A DISTANCE OF 1909.34 FEET (TIE). SAID POINT OF TERMINATION HAVING A NEW MEXICO STATE PLANE COORDINATES OF 1983, EAST ZONE, VALUE OF N:580950.38, E:584340.48 FEET FOR REFERENCE.

SAID CENTERLINE CONTAINING A TOTAL OF 619.85 FEET OR 37.57 RODS IN SAID SECTION 5.

NOTES:

1. BEARINGS, DISTANCES, AREA AND COORDINATES SHOWN HEREON ARE CORRELATED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE, AS DETERMINED BY GPS OPUS OBSERVATIONS. ALL BEARINGS AND DISTANCES SHOWN ARE GRID.
2. LATITUDE & LONGITUDE ARE NAD 83 DECIMAL GEOGRAPHIC.
3. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND THE REVIEW OF THE ABSTRACT OF TITLE. THERE MAY BE EASEMENTS AND/OR COVENANTS AFFECTING THIS PROPERTY NOT SHOWN HEREON. LOCATION OF ALL IMPROVEMENTS WAS BEYOND COMMISSIONED SCOPE OF THIS PROJECT AND HAS BEEN SPECIFICALLY OMITTED. VESTING DOCUMENTS NOT FURNISHED FOR THIS SURVEY.

#	DATE	BY:	DESCRIPTION	CHK

PROJECT NO. 8475



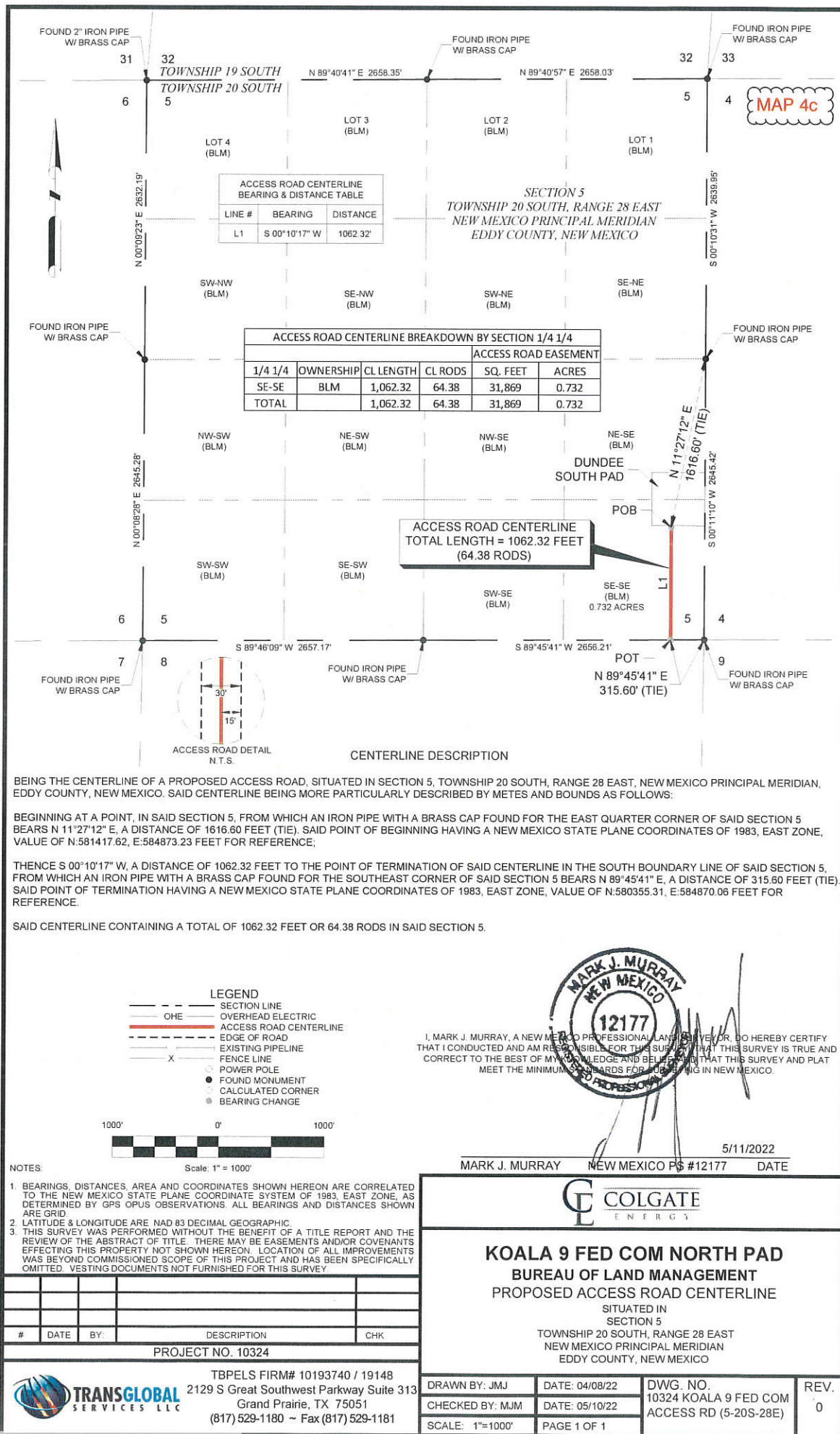
TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181

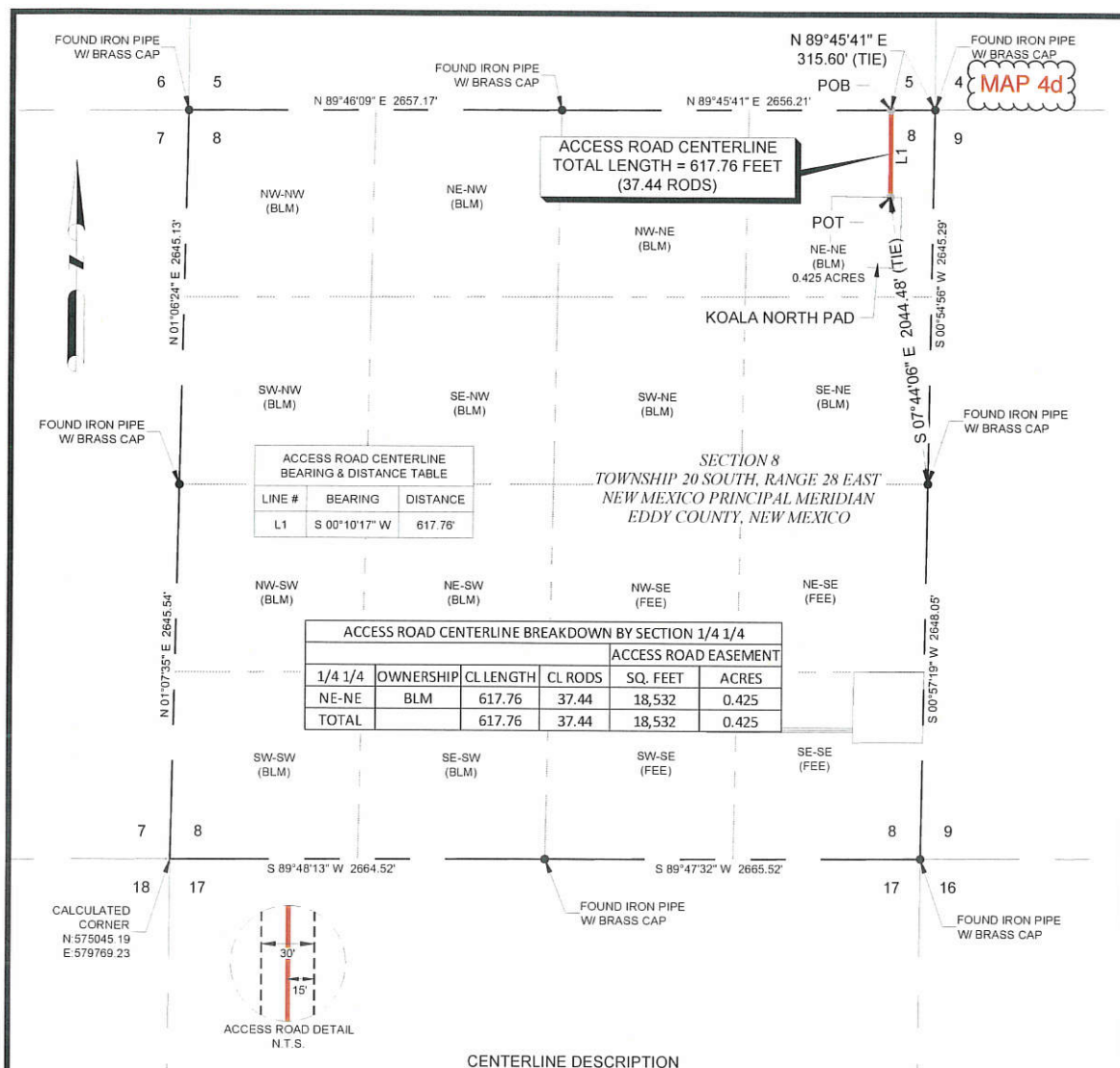


DUNDEE 4 FED COM
BUREAU OF LAND MANAGEMENT
PROPOSED EASEMENT CENTERLINE

SITUATED IN
SECTION 5
TOWNSHIP 20 SOUTH, RANGE 28 EAST
NEW MEXICO PRINCIPAL MERIDIAN
EDDY COUNTY, NEW MEXICO

DRAWN BY: BAB	DATE: 02/21/22	DWG. NO. 8475 DUNDEE ACCESS ROAD (5-20S-28E)	REV. 0
CHECKED BY: MJM	DATE: 02/21/22		
SCALE: 1"=1000'	PAGE 2 OF 2		



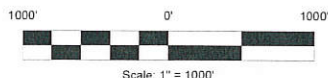
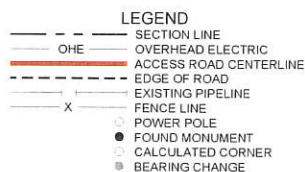


BEING THE CENTERLINE OF A PROPOSED ACCESS ROAD, SITUATED IN SECTION 8, TOWNSHIP 20 SOUTH, RANGE 28 EAST, NEW MEXICO PRINCIPAL MERIDIAN, EDDY COUNTY, NEW MEXICO. SAID CENTERLINE BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT A POINT, IN THE NORTH BOUNDARY LINE OF SAID SECTION 8, FROM WHICH AN IRON PIPE WITH A BRASS CAP FOUND FOR THE NORTHEAST CORNER OF SAID SECTION 8 BEARS N 89°45'41" E, A DISTANCE OF 315.60 FEET (TIE). SAID POINT OF BEGINNING HAVING A NEW MEXICO STATE PLANE COORDINATES OF 1983, EAST ZONE, VALUE OF N:580355.31, E:584870.06 FEET FOR REFERENCE;

THENCE S 00°10'17" W, A DISTANCE OF 617.76 FEET TO THE POINT OF TERMINATION OF SAID CENTERLINE IN SAID SECTION 8, FROM WHICH AN IRON PIPE WITH A BRASS CAP FOUND FOR THE EAST QUARTER CORNER OF SAID SECTION 8 BEARS S 07°44'06" E, A DISTANCE OF 2044.48 FEET (TIE). SAID POINT OF TERMINATION HAVING A NEW MEXICO STATE PLANE COORDINATES OF 1983, EAST ZONE, VALUE OF N:579737.55, E:584868.21 FEET FOR REFERENCE.

SAID CENTERLINE CONTAINING A TOTAL OF 617.76 FEET OR 37.44 RODS IN SAID SECTION 8.



NOTES:

- BEARINGS, DISTANCES, AREA AND COORDINATES SHOWN HEREON ARE CORRELATED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE, AS DETERMINED BY GPS OPUS OBSERVATIONS. ALL BEARINGS AND DISTANCES SHOWN ARE GRID.
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#	DATE	BY	DESCRIPTION	CHK
PROJECT NO. 10324				
TBPELS FIRM# 10193740 / 19148				
2129 S Great Southwest Parkway Suite 313				
Grand Prairie, TX 75051				
(817) 529-1180 ~ Fax (817) 529-1181				



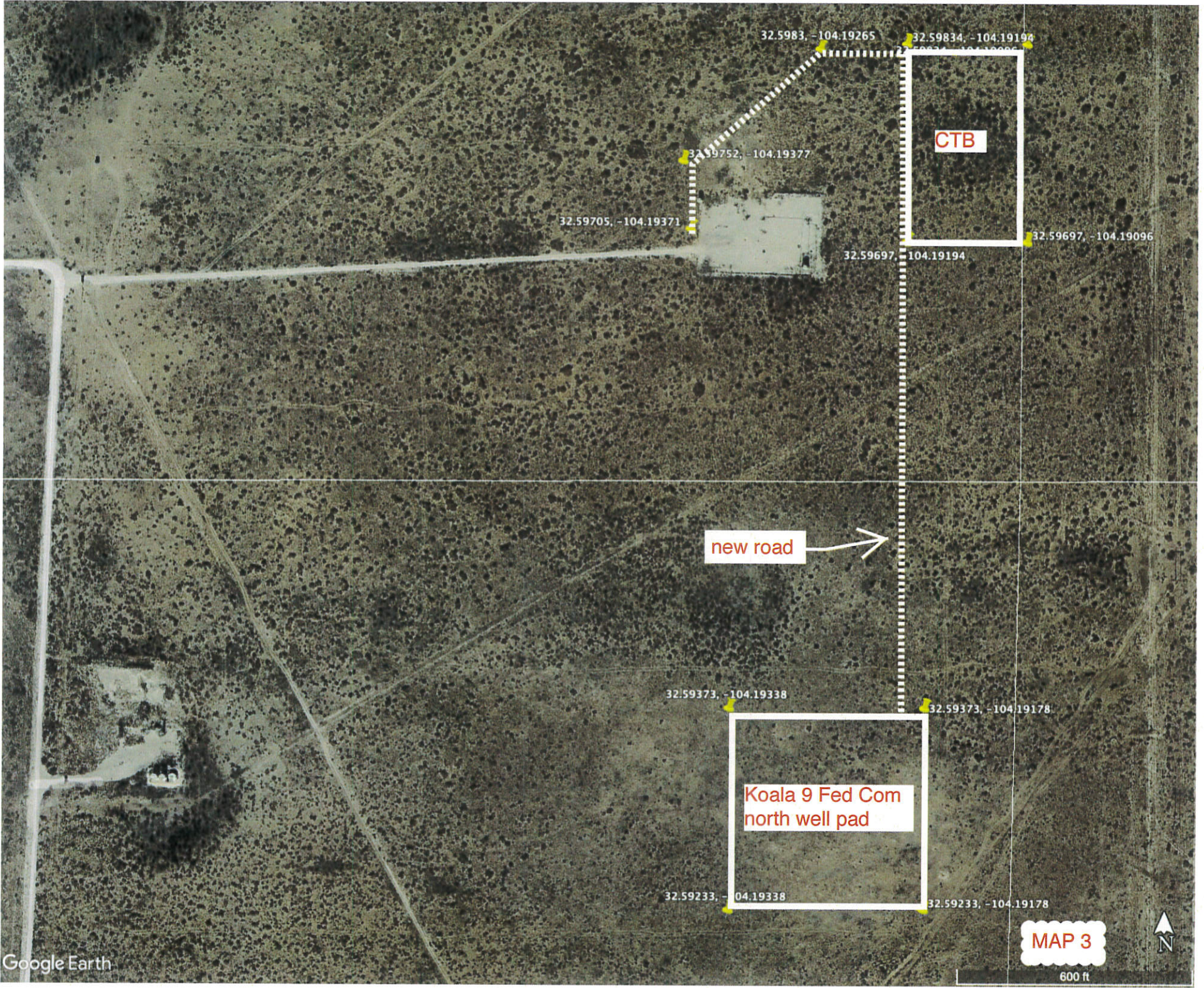
MARK J. MURRAY, A NEW MEXICO PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THAT I CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY. THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

MARK J. MURRAY NEW MEXICO PS #12177 DATE 5/11/2022



KOALA 9 FED COM NORTH PAD
BUREAU OF LAND MANAGEMENT
PROPOSED ACCESS ROAD CENTERLINE
 SITUATED IN
 SECTION 8
 TOWNSHIP 20 SOUTH, RANGE 28 EAST
 NEW MEXICO PRINCIPAL MERIDIAN
 EDDY COUNTY, NEW MEXICO

DRAWN BY: MJM	DATE: 04/08/22	DWG. NO. 10324 Koala 9 Fed Com Access Rd North Pad (8-20S-28E)	REV. 0
CHECKED BY: MJM	DATE: 05/10/22		
SCALE: 1"=1000'	PAGE 1 OF 1		





CENTERLINE DESCRIPTION

MAP 4b

ACCESS ROAD "B"

BEING THE CENTERLINE OF A PROPOSED ACCESS ROAD EASEMENT, SITUATED IN SECTION 5, TOWNSHIP 20 SOUTH, RANGE 28 EAST, NEW MEXICO PRINCIPAL MERIDIAN, EDDY COUNTY, NEW MEXICO. SAID CENTERLINE BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

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#	DATE	BY:	DESCRIPTION	CHK

PROJECT NO. 8475



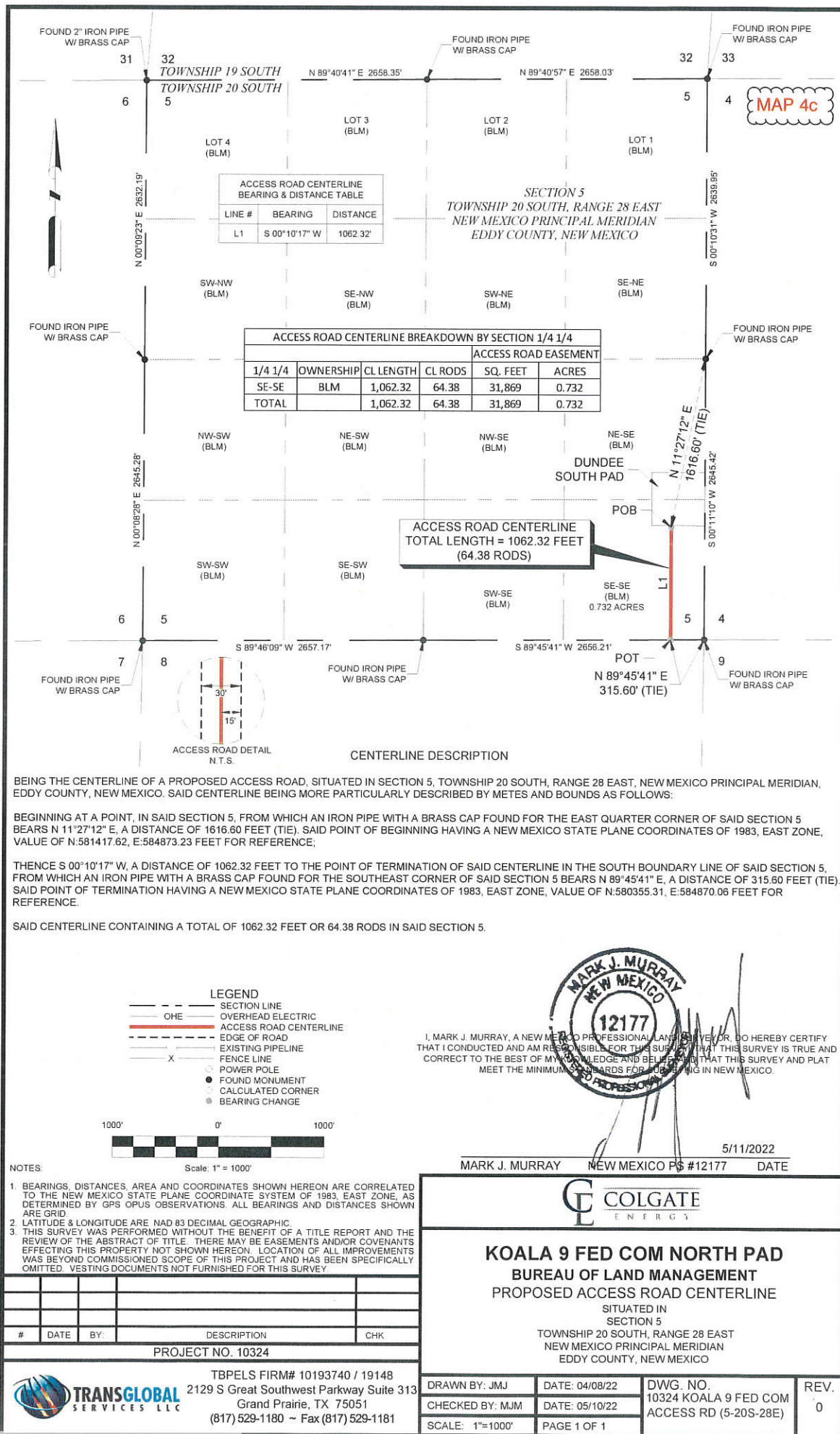
TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181

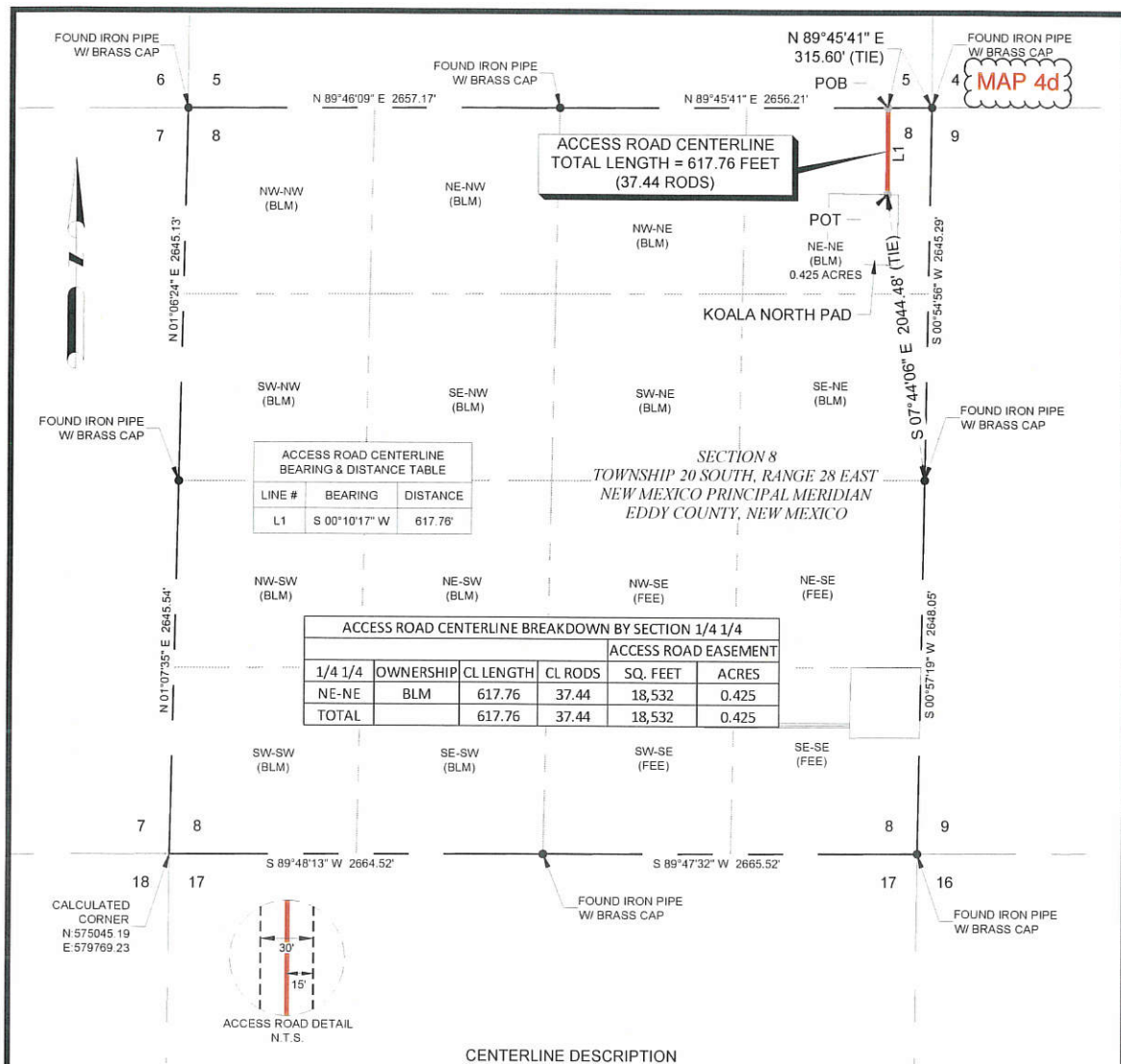


DUNDEE 4 FED COM
BUREAU OF LAND MANAGEMENT
PROPOSED EASEMENT CENTERLINE

SITUATED IN
SECTION 5
TOWNSHIP 20 SOUTH, RANGE 28 EAST
NEW MEXICO PRINCIPAL MERIDIAN
EDDY COUNTY, NEW MEXICO

DRAWN BY: BAB	DATE: 02/21/22	DWG. NO. 8475 DUNDEE ACCESS ROAD (5-20S-28E)	REV. 0
CHECKED BY: MJM	DATE: 02/21/22		
SCALE: 1"=1000'	PAGE 2 OF 2		



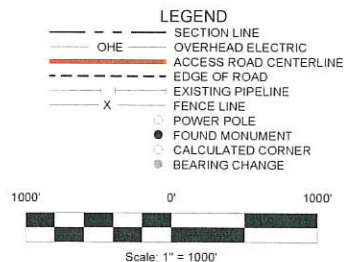


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SAID CENTERLINE CONTAINING A TOTAL OF 617.76 FEET OR 37.44 RODS IN SAID SECTION 8.



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#	DATE	BY	DESCRIPTION	CHK
PROJECT NO. 10324				
TBPELS FIRM# 10193740 / 19148				
2129 S Great Southwest Parkway Suite 313				
Grand Prairie, TX 75051				
(817) 529-1180 ~ Fax (817) 529-1181				



MARK J. MURRAY, A NEW MEXICO PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THAT I CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY. THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

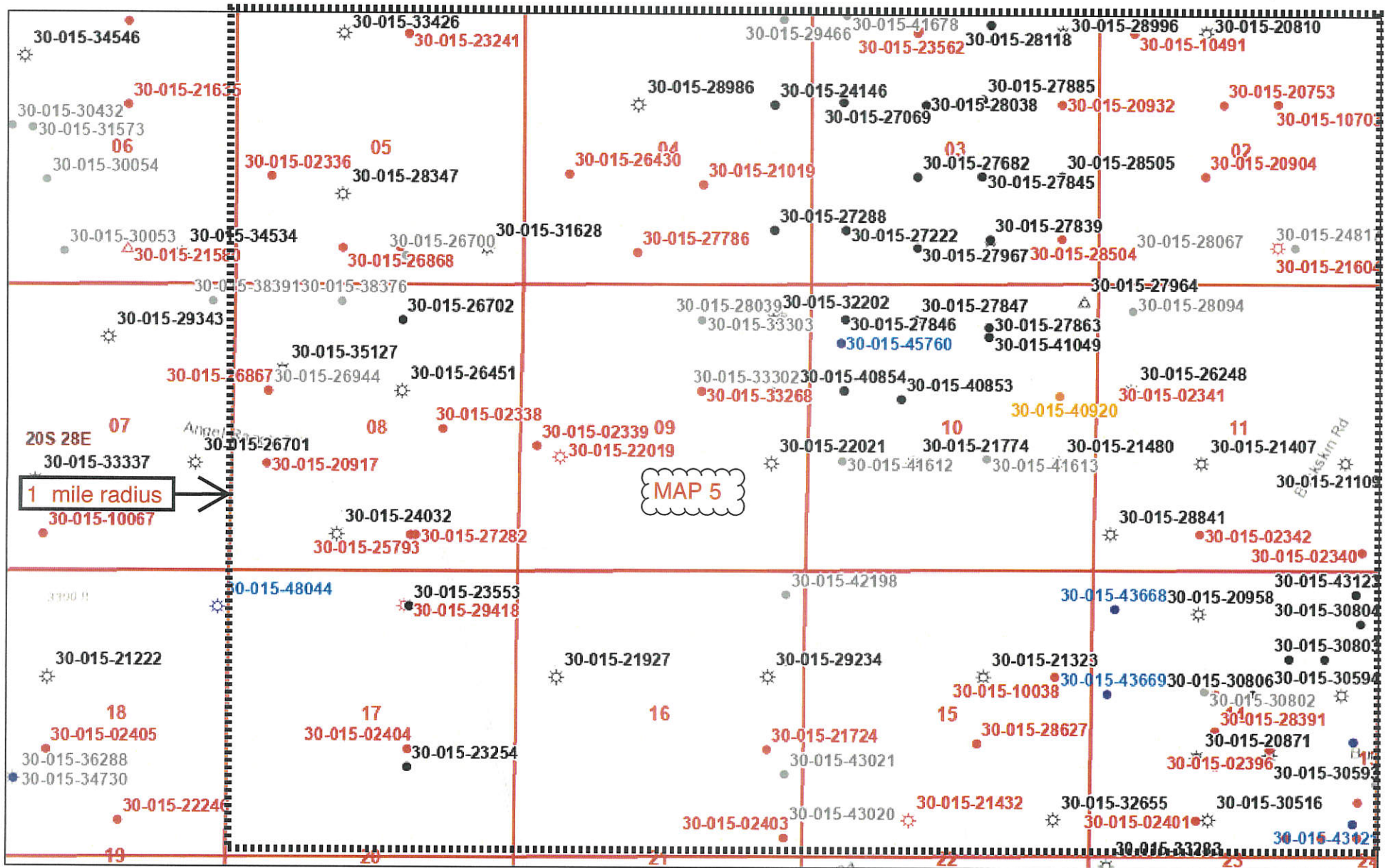
MARK J. MURRAY NEW MEXICO PS #12177 DATE 5/11/2022



KOALA 9 FED COM NORTH PAD
BUREAU OF LAND MANAGEMENT
PROPOSED ACCESS ROAD CENTERLINE
 SITUATED IN
 SECTION 8
 TOWNSHIP 20 SOUTH, RANGE 28 EAST
 NEW MEXICO PRINCIPAL MERIDIAN
 EDDY COUNTY, NEW MEXICO

DRAWN BY: MJM	DATE: 04/08/22	DWG. NO. 10324 Koala 9 Fed Com Access Rd North Pad (8-20S-28E)	REV. 0
CHECKED BY: MJM	DATE: 05/10/22		
SCALE: 1"=1000'	PAGE 1 OF 1		

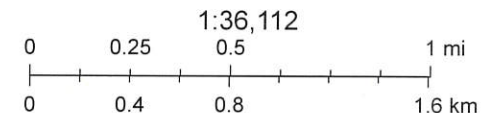
OCD Well Locations



5/14/2022, 2:01:59 PM

- Wells - Large Scale
- Gas, Plugged
 - Gas, Active
 - Gas, Cancelled
 - Gas, New
 - Oil, New
 - Oil, Active
 - Oil, Plugged
 - Oil, Cancelled
 - Oil, Temporarily Abandoned
 - Salt Water Injection, Active
 - Salt Water Injection, Plugged
 - PLSS First Division

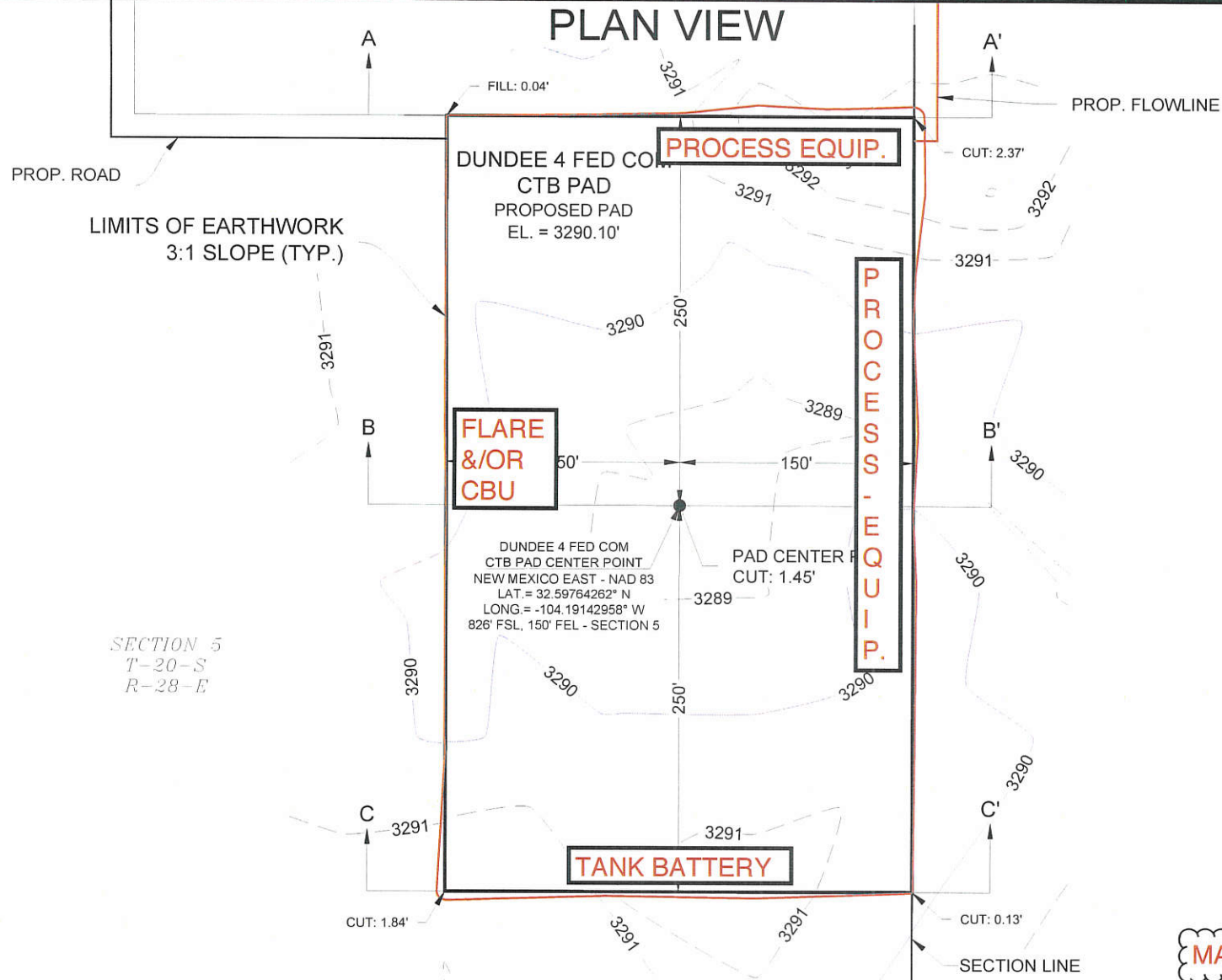
MAP 5



Oil Conservation Division of the New Mexico Energy, Minerals and Natural Resources Department., Sources: Esri, HERE, Garmin, Intermap, increment

New Mexico Oil Conservation Division

NM OCD Oil and Gas Map. <http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=4d017f2306164de29fd2fb9f8f35ca75>: New Mexico Oil Conservation Division



SECTION 5
T-20-S
R-28-E

DUNDEE 4 FED COM
CTB PAD CENTER POINT
NEW MEXICO EAST - NAD 83
LAT. = 32.59764262° N
LONG. = -104.19142958° W
826' FSL, 150' FEL - SECTION 5

PAD CENTER
CUT: 1.45'

TANK BATTERY

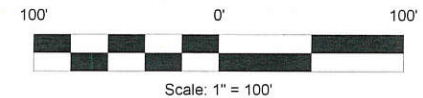


DUNDEE 4 FED COM CTB PAD GRADING AND CROSS SECTIONS

SITUATED IN
SECTION 5, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO

MAP 6a

500' X 300' = 3.44 ACRES



CUT	FILL	NET
1794.20 CU. YD	1794.20 CU. YD	0.00 CU. YD (FILL)

EARTHWORK QUANTITIES ARE ESTIMATED

PROJECT NO. 8475

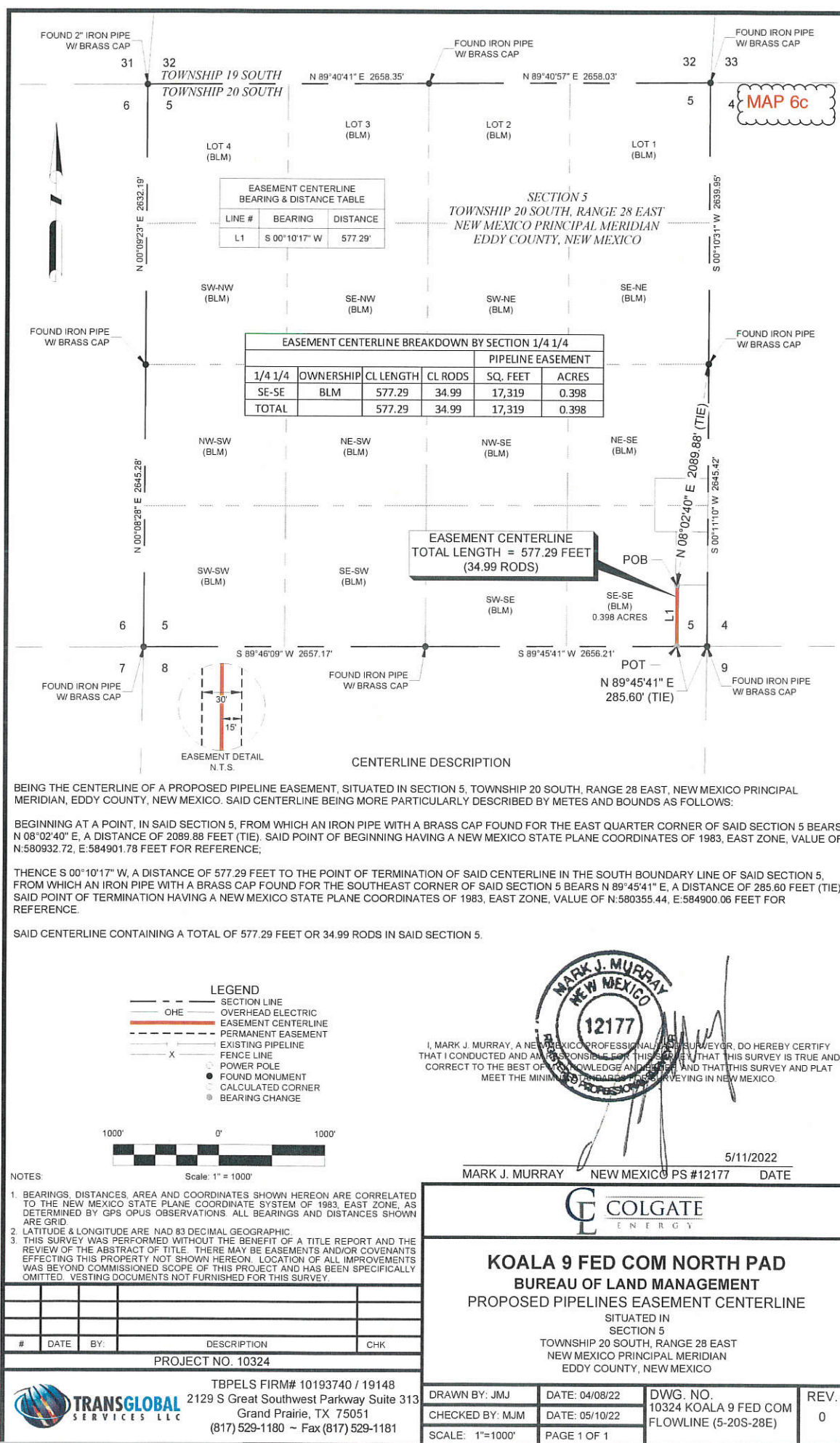
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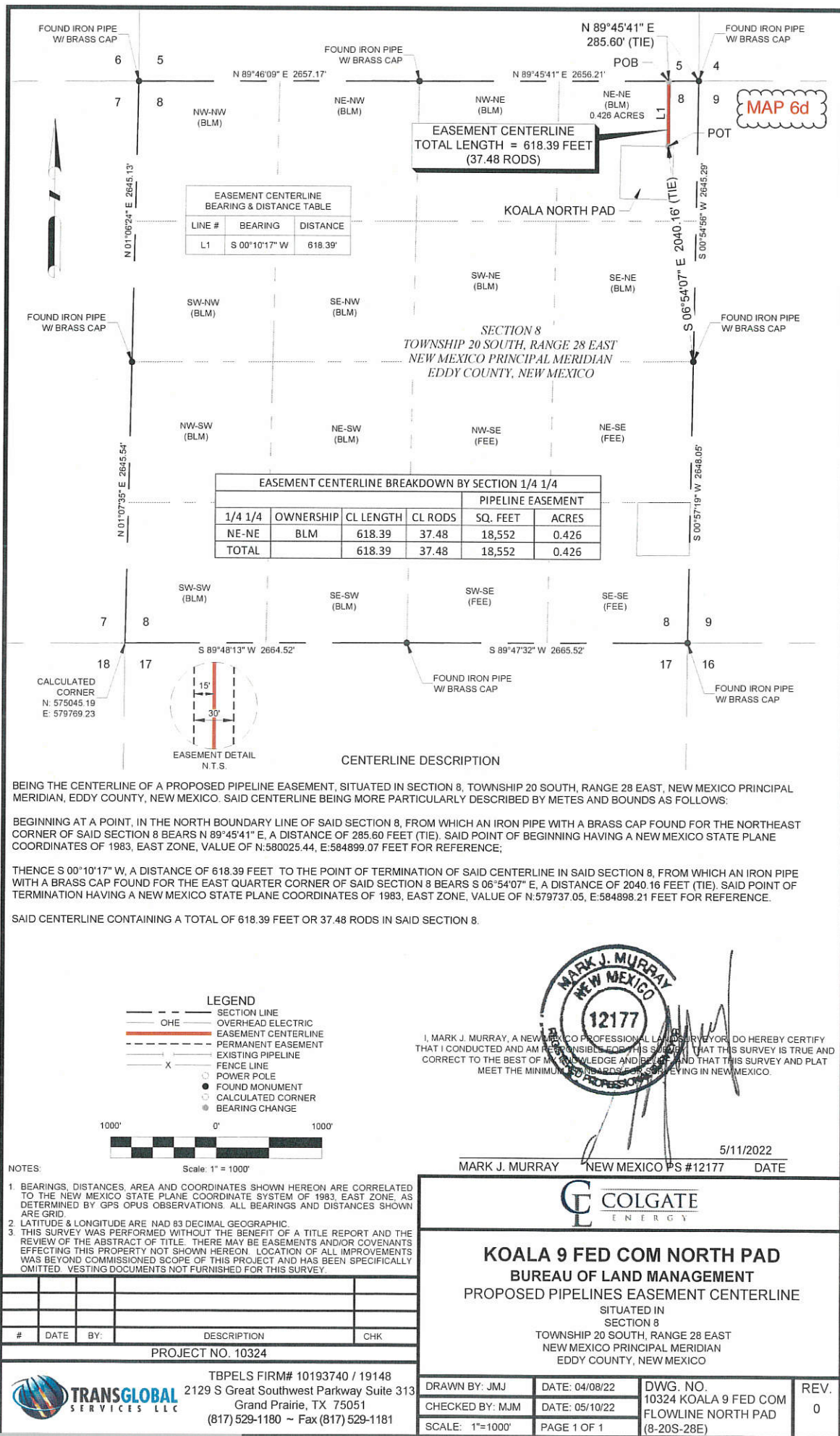
SHEET 1-2

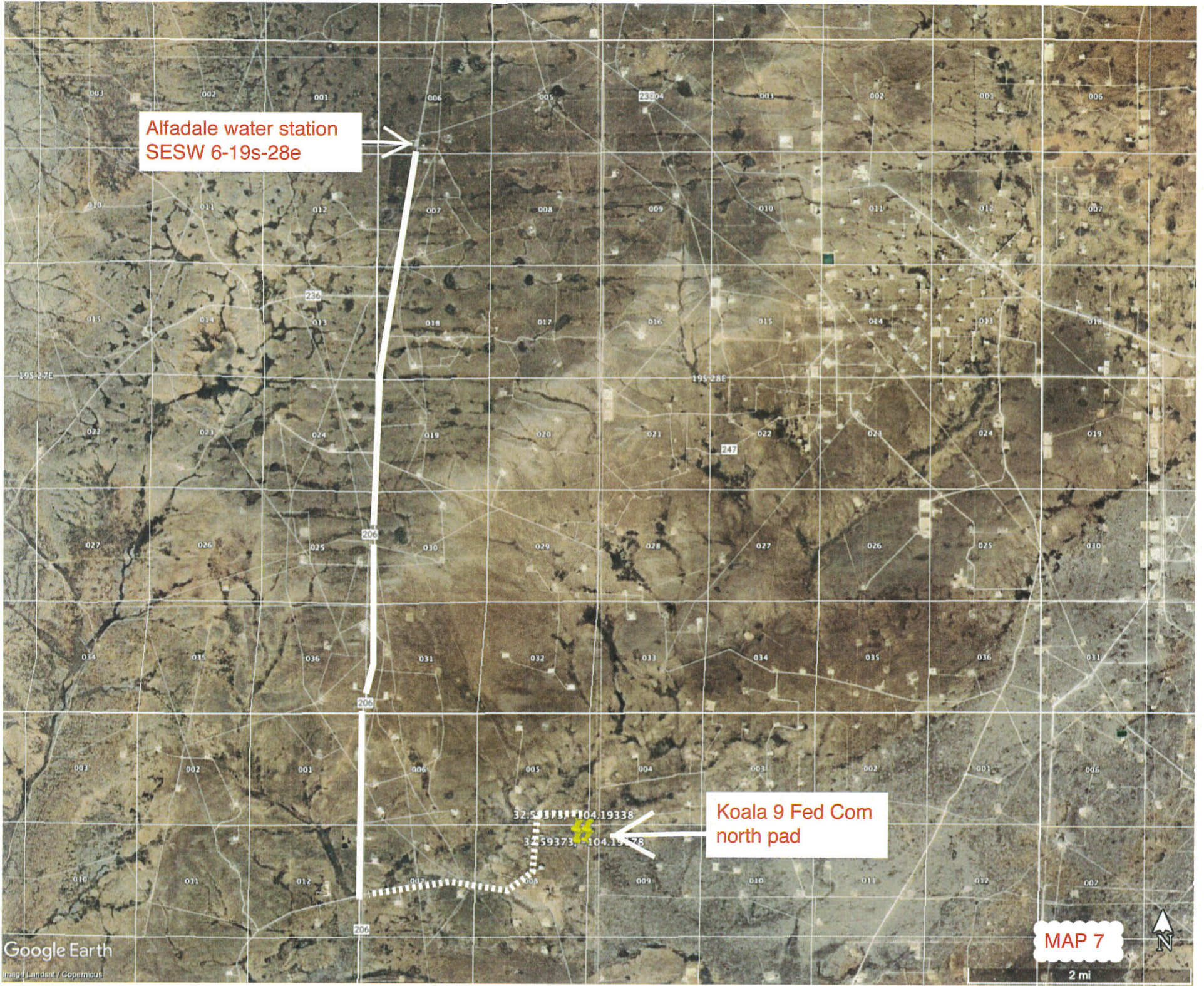


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(817) 529-1180 ~ Fax (817) 529-1181









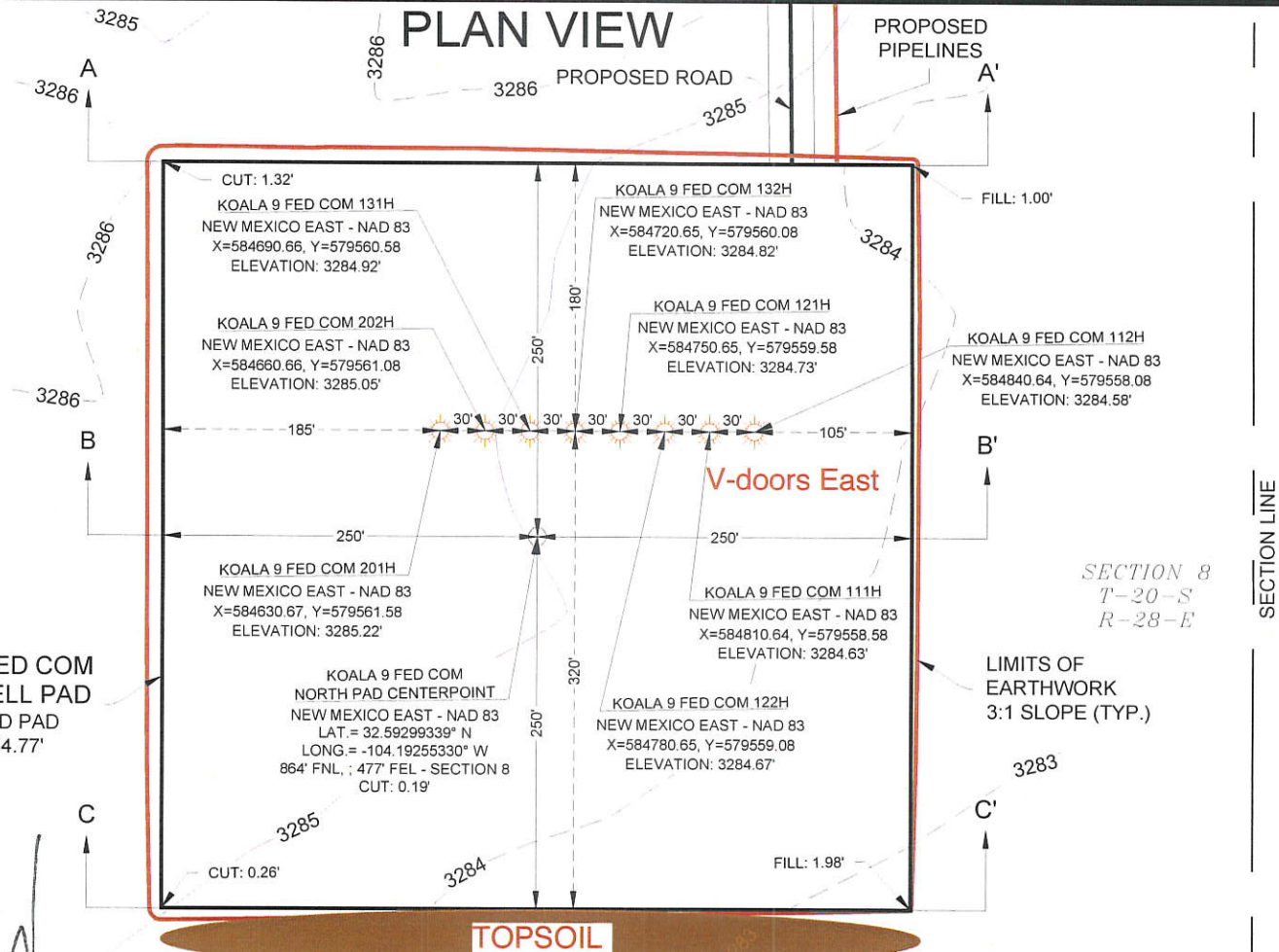
Alfadale water station
SESW 6-19s-28e

Koala 9 Fed Com
north pad

MAP 7

2 mi

Google Earth
Image Landsat / Copernicus



SECTION LINE

SECTION 8
T-20-S
R-28-E

LIMITS OF
EARTHWORK
3:1 SLOPE (TYP.)

KOALA 9 FED COM
NORTH WELL PAD
PROPOSED PAD
EL. = 3284.77'

TOPSOIL

MAP 8a

I, MARK J. MURRAY, A NEW MEXICO PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THAT I CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

5/11/2022

MARK J. MURRAY NEW MEXICO PS #12177 DATE



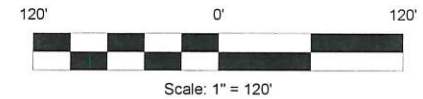
TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181



KOALA 9 FED COM NORTH WELL PAD PAD GRADING AND CROSS SECTIONS

SITUATED IN
SECTION 8, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO

500' x 500' = 5.74 ACRES



CUT	FILL	NET
2,825.85 CU. YD	2,825.88 CU. YD	0.03 CU. YD (CUT)

EARTHWORK QUANTITIES ARE ESTIMATED

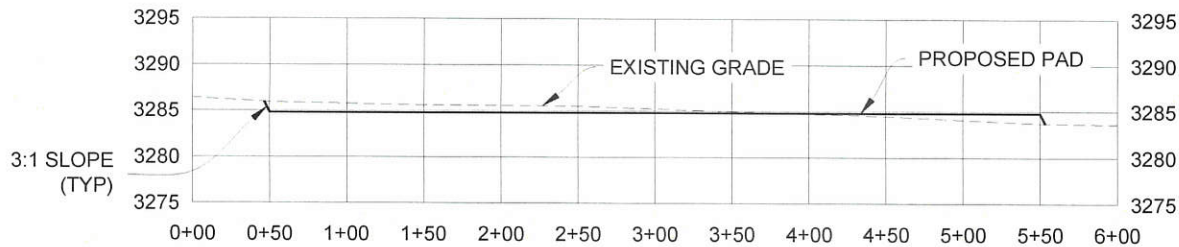
PROJECT NO. 10324

DATE: 5/10/2022

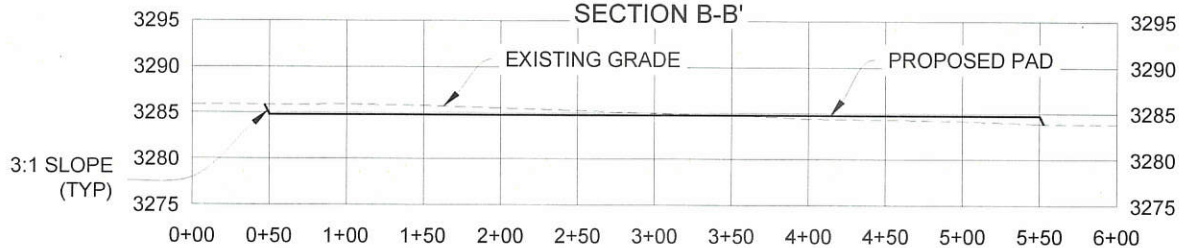
SHEET 1-2

CROSS-SECTIONS

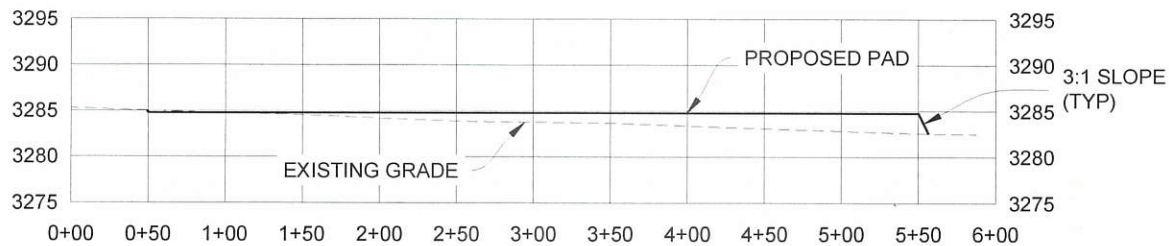
SECTION A-A'



SECTION B-B'



SECTION C-C'



MAP 8b

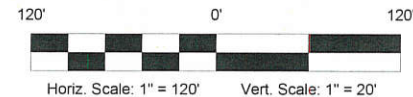


TBPELS FIRM# 10193740 / 19148
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Grand Prairie, TX 75051
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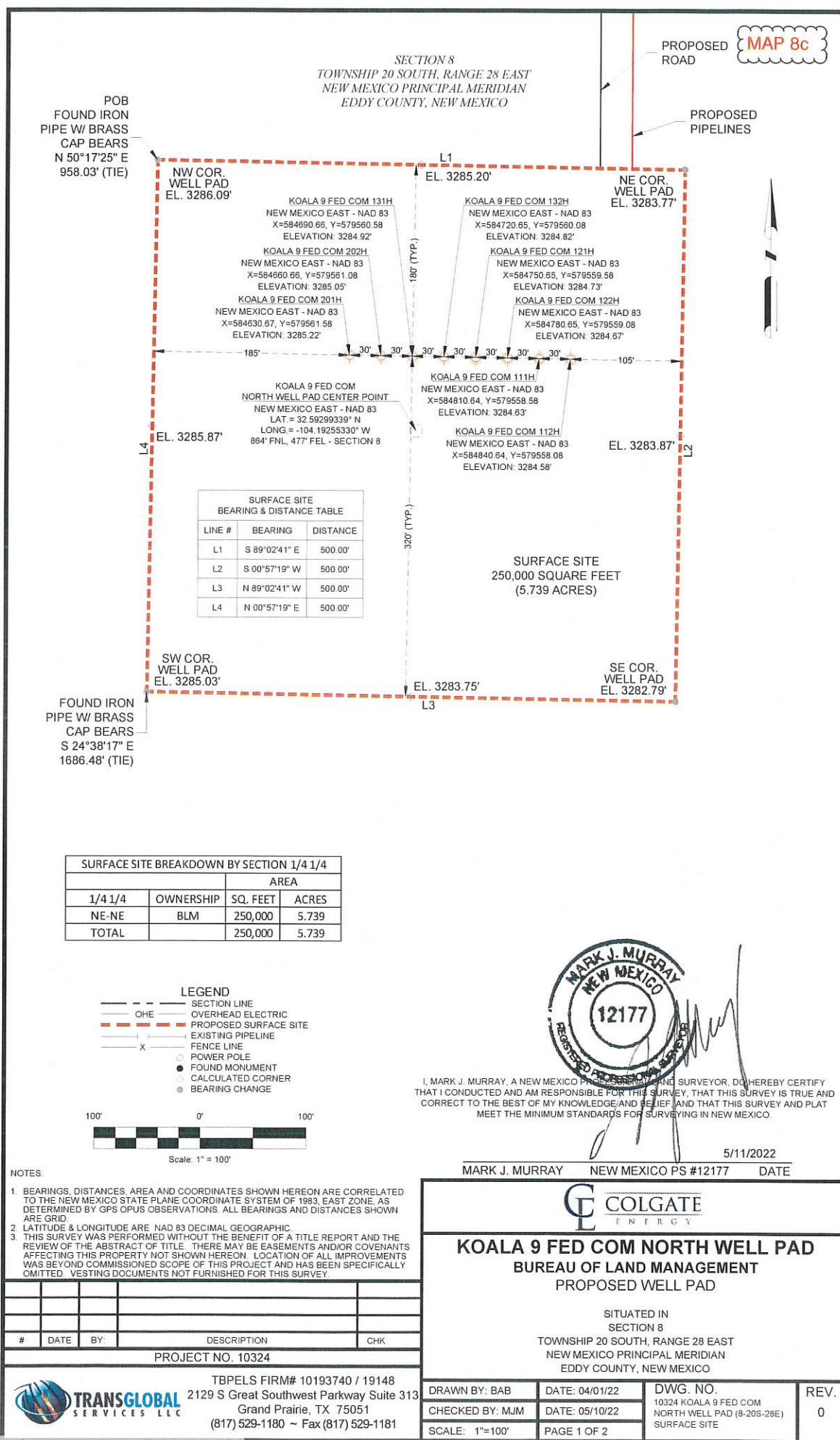


KOALA 9 FED COM NORTH WELL PAD PAD GRADING AND CROSS SECTIONS

SITUATED IN
SECTION 8, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO



CUT	FILL	NET
2,825.85 CU. YD	2,825.88 CU. YD	0.03 CU. YD (CUT)
EARTHWORK QUANTITIES ARE ESTIMATED		
PROJECT NO. 10324	DATE: 5/10/2022	SHEET 2-2



MAP 8d

METES AND BOUNDS DESCRIPTION

BEING A PROPOSED SURFACE SITE SITUATED IN SECTION 8, TOWNSHIP 20 SOUTH, RANGE 28 EAST, NEW MEXICO PRINCIPAL MERIDIAN, EDDY COUNTY, NEW MEXICO. SAID SURFACE SITE BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT, IN SAID SECTION 8, FROM WHICH AN IRON PIPE WITH BRASS CAP FOUND FOR THE NORTHEAST CORNER OF SAID SECTION 8 BEARS N 50°17'25" E, A DISTANCE OF 958.03 FEET (TIE). SAID POINT OF BEGINNING HAVING A NEW MEXICO STATE PLANE COORDINATES OF 1983, EAST ZONE, VALUE OF N:579744.54, E:584448.65 FEET FOR REFERENCE;

THENCE S 89°02'41" E, A DISTANCE OF 500.00 FEET TO A POINT;

THENCE S 00°57'19" W, A DISTANCE OF 500.00 FEET TO A POINT;

THENCE N 89°02'41" W, A DISTANCE OF 500.00 FEET TO A POINT, FROM WHICH AN IRON PIPE WITH BRASS CAP FOUND FOR THE EAST QUARTER CORNER OF SAID SECTION 8 BEARS S 24°38'17" E, A DISTANCE OF 1686.48 FEET (TIE);

THENCE N 00°57'19" E, A DISTANCE OF 500.00 FEET TO THE POINT OF BEGINNING.

SAID SURFACE SITE CONTAINING A TOTAL OF 250,000 SQUARE FEET OR 5.739 ACRES IN SAID SECTION 8.

NOTES:

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#	DATE	BY	DESCRIPTION	CHK
			PROJECT NO. 10324	



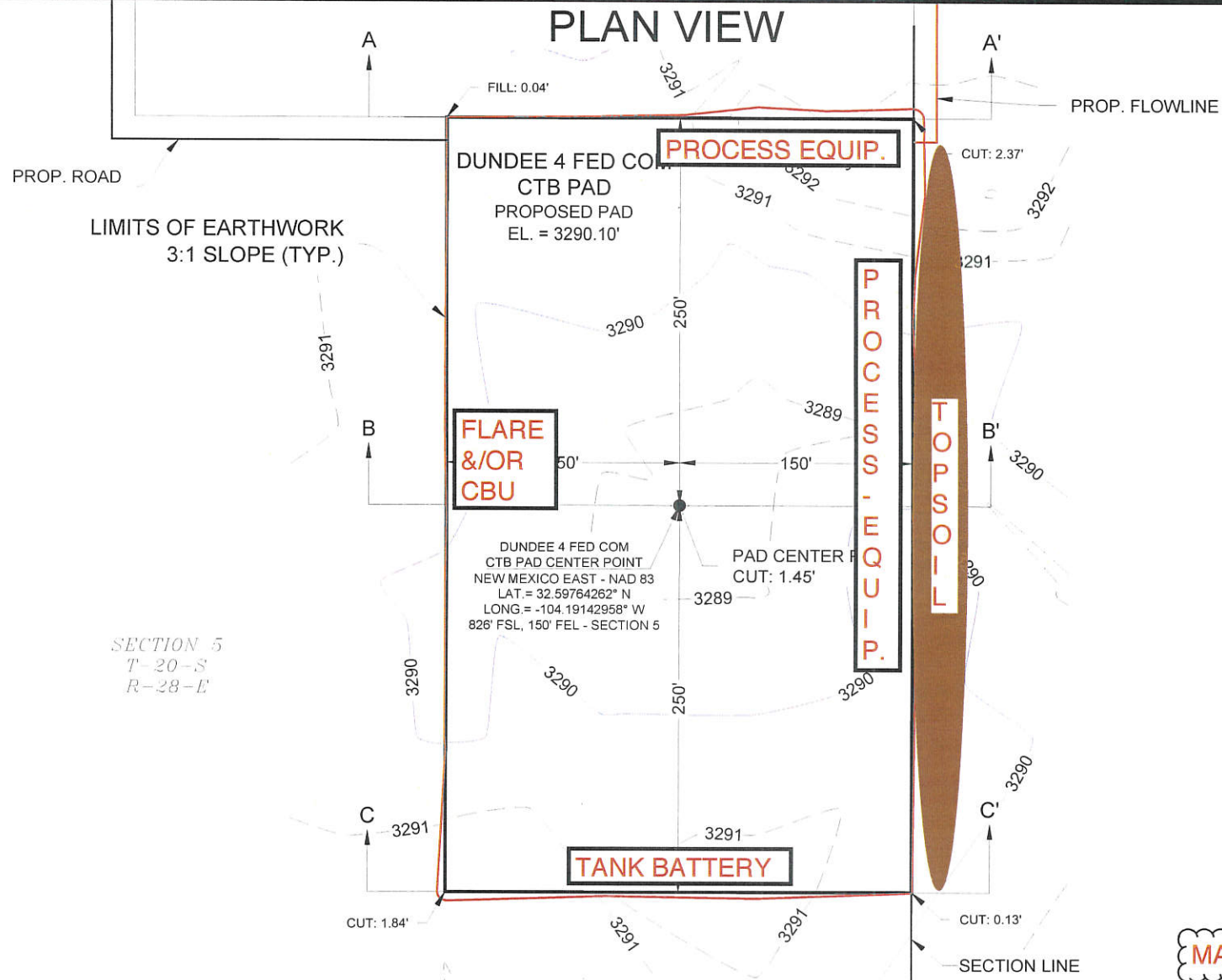
TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181



KOALA 9 FED COM NORTH WELL PAD
BUREAU OF LAND MANAGEMENT
PROPOSED WELL PAD

SITUATED IN
SECTION 8
TOWNSHIP 20 SOUTH, RANGE 28 EAST
NEW MEXICO PRINCIPAL MERIDIAN
EDDY COUNTY, NEW MEXICO

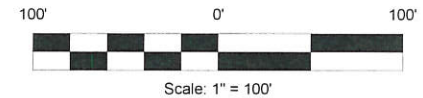
DRAWN BY: BAB	DATE: 04/01/22	DWG. NO. 10324 KOALA 9 FED COM NORTH WELL PAD (8-20S-28E) SURFACE SITE	REV. 0
CHECKED BY: MJM	DATE: 05/10/22		
SCALE: 1"=100'	PAGE 2 OF 2		



SECTION 5
T-20-S
R-28-E

MAP 8e

500' X 300' = 3.44 ACRES



CUT	FILL	NET
1794.20 CU. YD	1794.20 CU. YD	0.00 CU. YD (FILL)

EARTHWORK QUANTITIES ARE ESTIMATED

PROJECT NO. 8475

DATE: 02/21/2022

SHEET 1-2



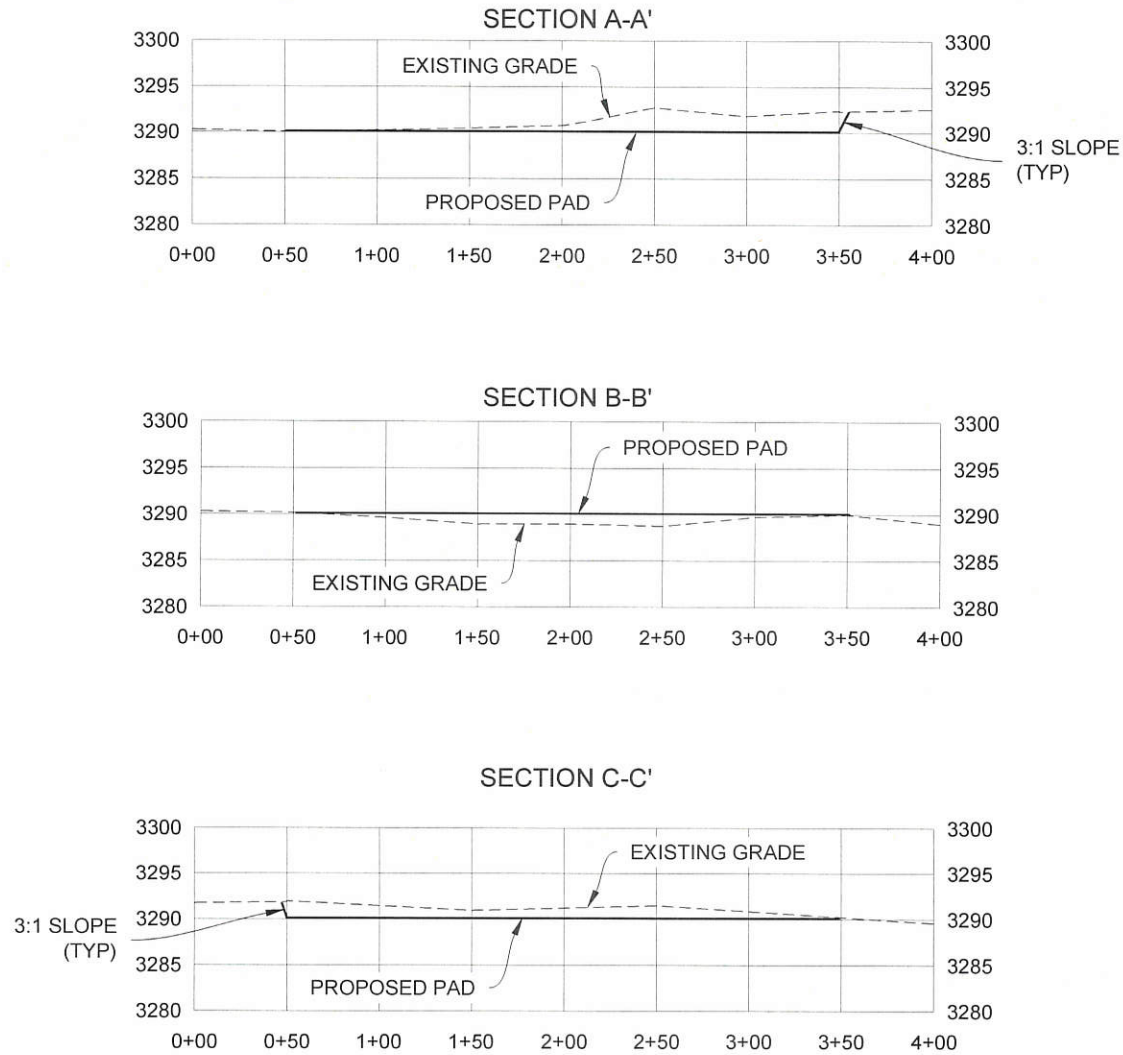
TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181



DUNDEE 4 FED COM CTB PAD GRADING AND CROSS SECTIONS

SITUATED IN
SECTION 5, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO

CROSS-SECTIONS



MAP 8f

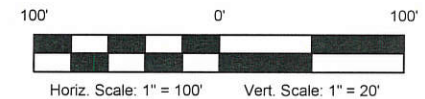


DUNDEE 4 FED COM CTB PAD GRADING AND CROSS SECTIONS

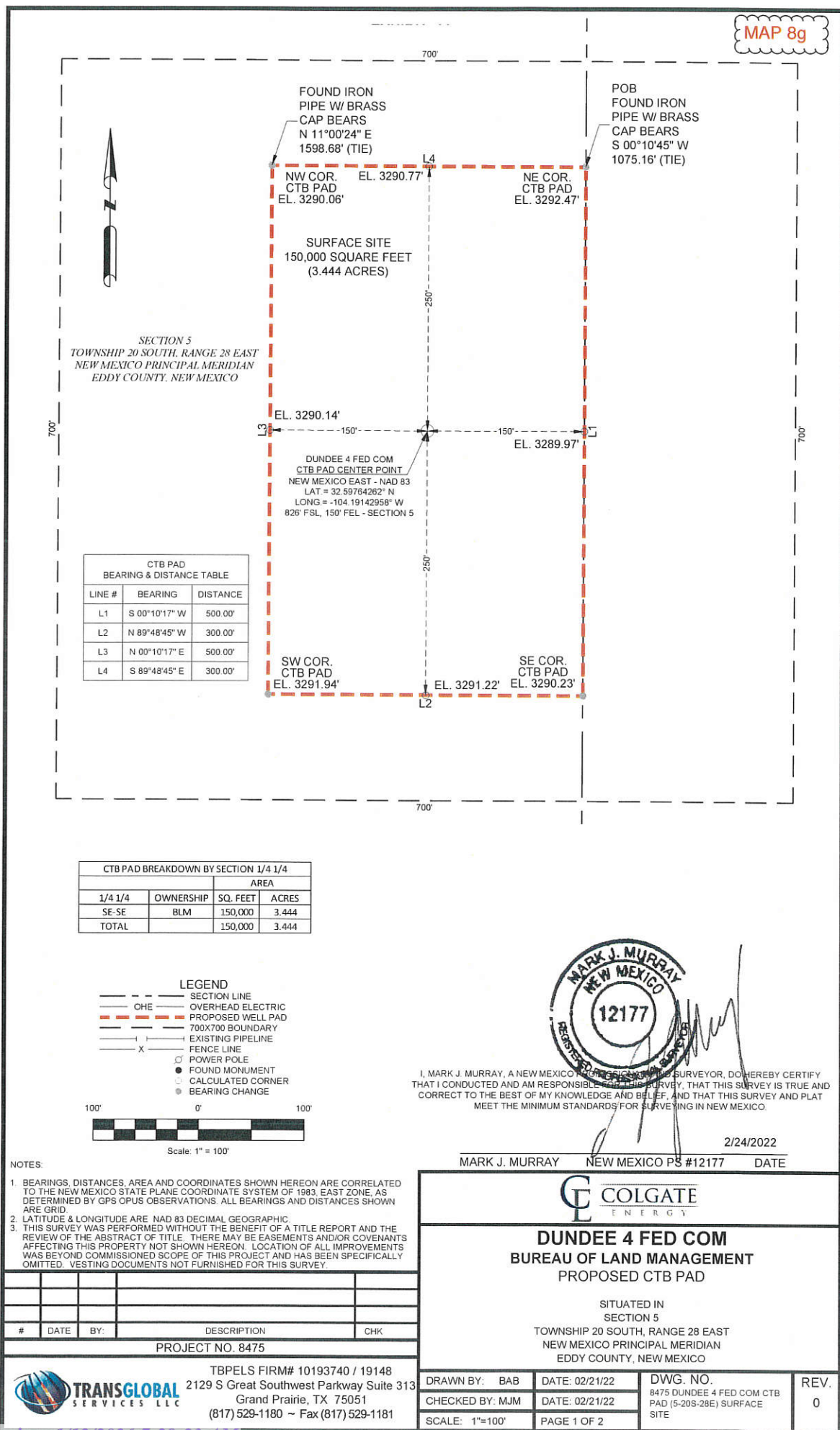
SITUATED IN
SECTION 5, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO



TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181



CUT	FILL	NET
1794.20 CU. YD	1794.20 CU. YD	0.00 CU. YD (FILL)
EARTHWORK QUANTITIES ARE ESTIMATED		
PROJECT NO. 8475	DATE: 02/21/2022	SHEET 2-2



MAP 8h

METES AND BOUNDS DESCRIPTION

BEING A PROPOSED CTB PAD SITUATED IN SECTION 5, TOWNSHIP 20 SOUTH, RANGE 28 EAST, NEW MEXICO PRINCIPAL MERIDIAN, EDDY COUNTY, NEW MEXICO. SAID WELL PAD BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT, IN THE EAST BOUNDARY LINE OF SAID SECTION 5, FROM WHICH AN IRON PIPE WITH BRASS CAP FOUND FOR THE SOUTHEAST CORNER OF SAID SECTION 5 BEARS S 00°10'45" W, A DISTANCE OF 1075.16 FEET (TIE). SAID POINT OF BEGINNING HAVING A NEW MEXICO STATE PLANE COORDINATES OF 1983, EAST ZONE, VALUE OF N:581431.78, E:585189.02 FEET FOR REFERENCE;

THENCE S 00°10'17" W, A DISTANCE OF 500.00 FEET TO A POINT;

THENCE N 89°48'45" W, A DISTANCE OF 300.00 FEET TO A POINT;

THENCE N 00°10'17" E, A DISTANCE OF 500.00 FEET TO A POINT, FROM WHICH AN IRON PIPE W/ BRASS CAP FOUND FOR THE EAST QUARTER CORNER OF SAID SECTION 5 BEARS N 11°00'24" E, A DISTANCE OF 1598.68 FEET (TIE);

THENCE S 89°48'45" E, A DISTANCE OF 300.00 FEET TO THE POINT OF BEGINNING.

SAID WELL PAD CONTAINING A TOTAL OF 150,000 SQUARE FEET OR 3.444 ACRES IN SAID SECTION 5.

NOTES:

1. BEARINGS, DISTANCES, AREA AND COORDINATES SHOWN HEREON ARE CORRELATED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE, AS DETERMINED BY GPS OPUS OBSERVATIONS. ALL BEARINGS AND DISTANCES SHOWN ARE GRID.
2. LATITUDE & LONGITUDE ARE NAD 83 DECIMAL GEOGRAPHIC.
3. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND THE REVIEW OF THE ABSTRACT OF TITLE. THERE MAY BE EASEMENTS AND/OR COVENANTS AFFECTING THIS PROPERTY NOT SHOWN HEREON. LOCATION OF ALL IMPROVEMENTS WAS BEYOND COMMISSIONED SCOPE OF THIS PROJECT AND HAS BEEN SPECIFICALLY OMITTED. VESTING DOCUMENTS NOT FURNISHED FOR THIS SURVEY.

#	DATE	BY:	DESCRIPTION	CHK

PROJECT NO. 8475



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Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181



DUNDEE 4 FED COM
BUREAU OF LAND MANAGEMENT
PROPOSED CTB PAD

SITUATED IN
SECTION 5
TOWNSHIP 20 SOUTH, RANGE 28 EAST
NEW MEXICO PRINCIPAL MERIDIAN
EDDY COUNTY, NEW MEXICO

DRAWN BY: BAB DATE: 02/21/22

CHECKED BY: MJM

DATE: 02/21/22

SCALE: 1"=100'

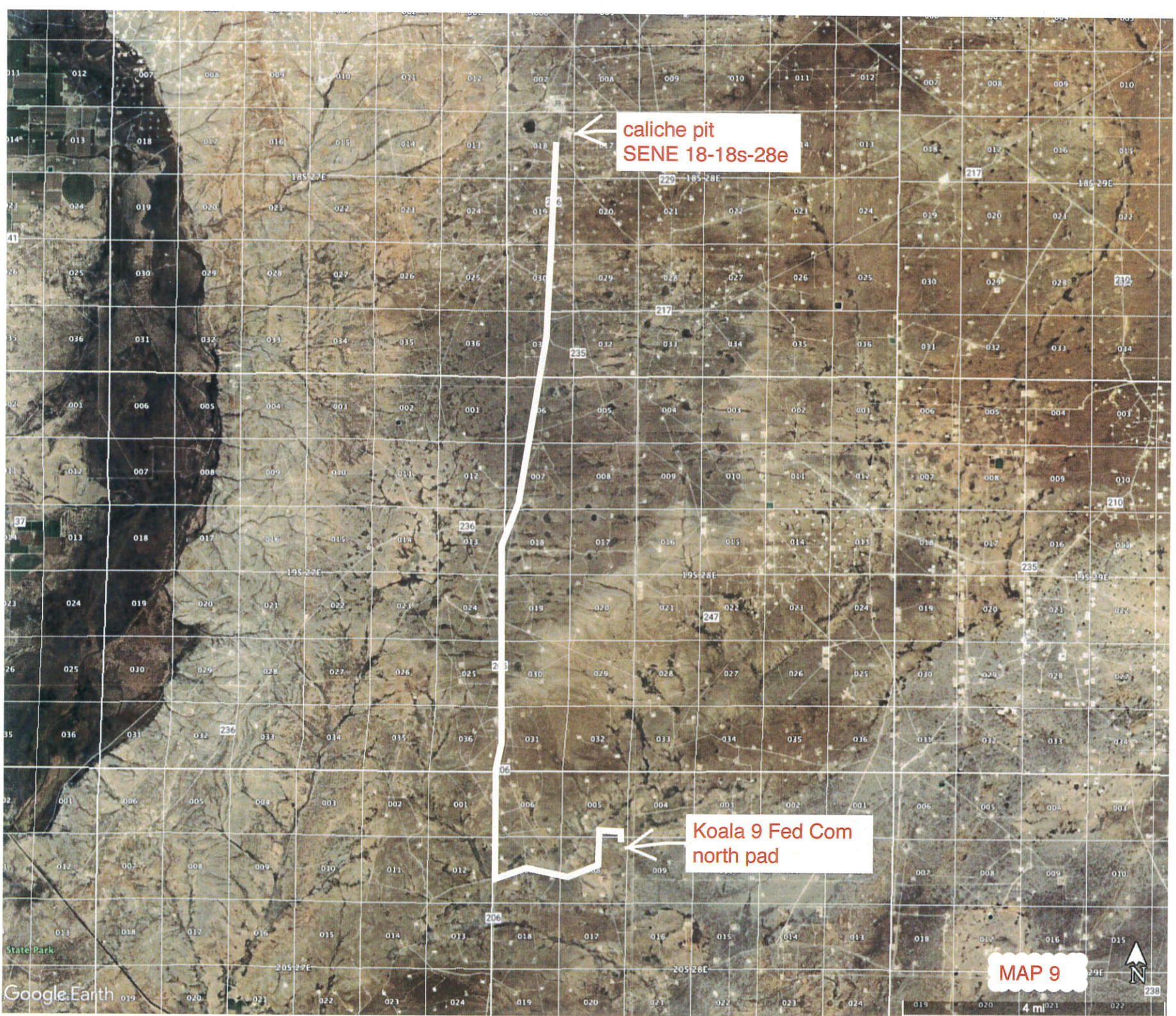
PAGE 2 OF 2

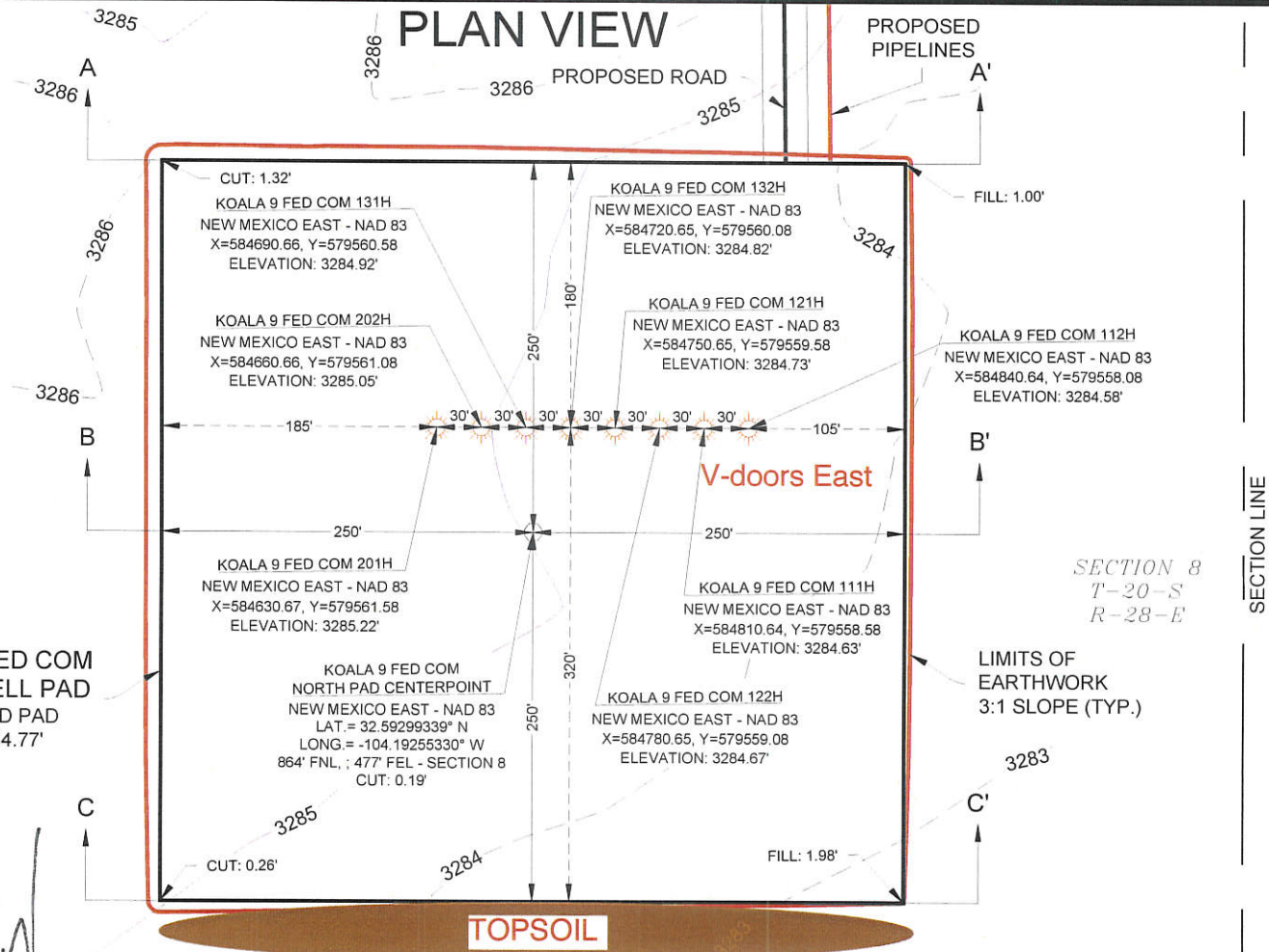
DWG. NO.

8475 DUNDEE 4 FED COM CTB
PAD (5-20S-28E) SURFACE
SITE

REV.

0





KOALA 9 FED COM
NORTH WELL PAD
PROPOSED PAD
EL. = 3284.77'



I, MARK J. MURRAY, A NEW MEXICO PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THAT I CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

5/11/2022

MARK J. MURRAY NEW MEXICO PS #12177 DATE



TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181

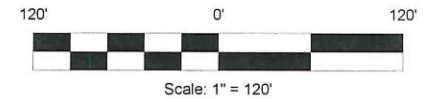


KOALA 9 FED COM NORTH WELL PAD PAD GRADING AND CROSS SECTIONS

SITUATED IN
SECTION 8, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO

MAP 8a

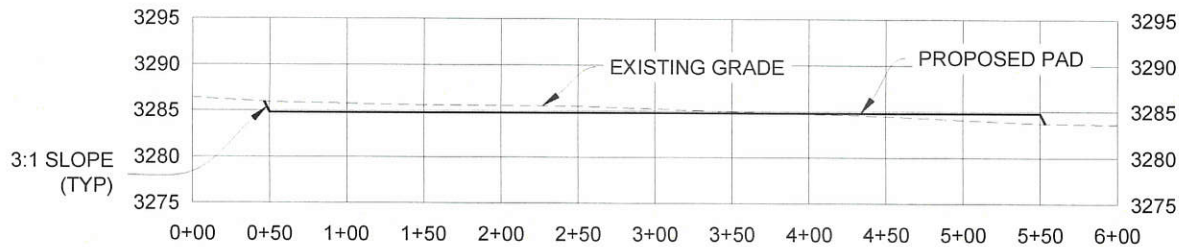
500' x 500' = 5.74 ACRES



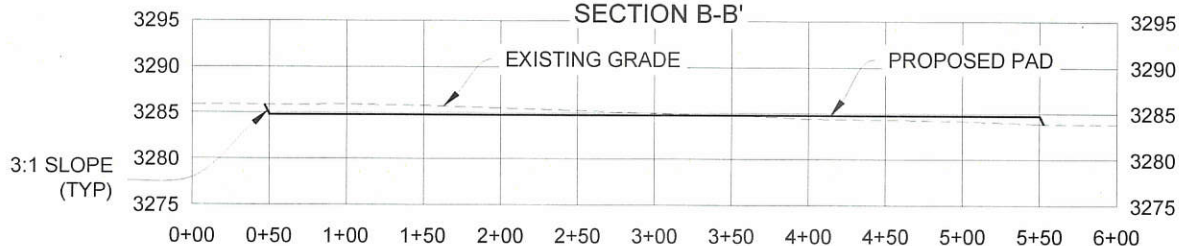
CUT	FILL	NET
2,825.85 CU. YD	2,825.88 CU. YD	0.03 CU. YD (CUT)
EARTHWORK QUANTITIES ARE ESTIMATED		
PROJECT NO. 10324	DATE: 5/10/2022	SHEET 1-2

CROSS-SECTIONS

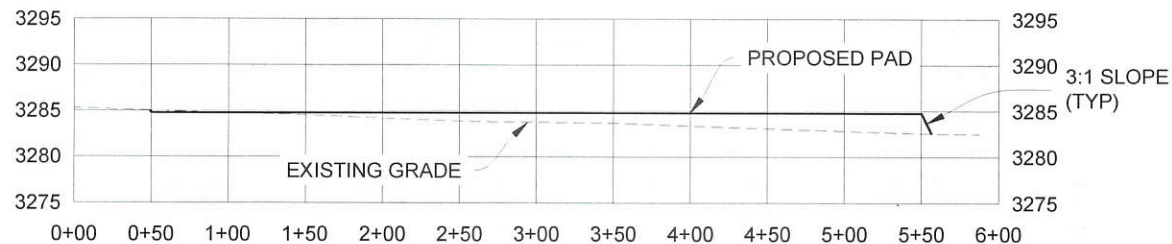
SECTION A-A'



SECTION B-B'



SECTION C-C'



MAP 8b

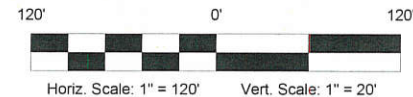


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Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181

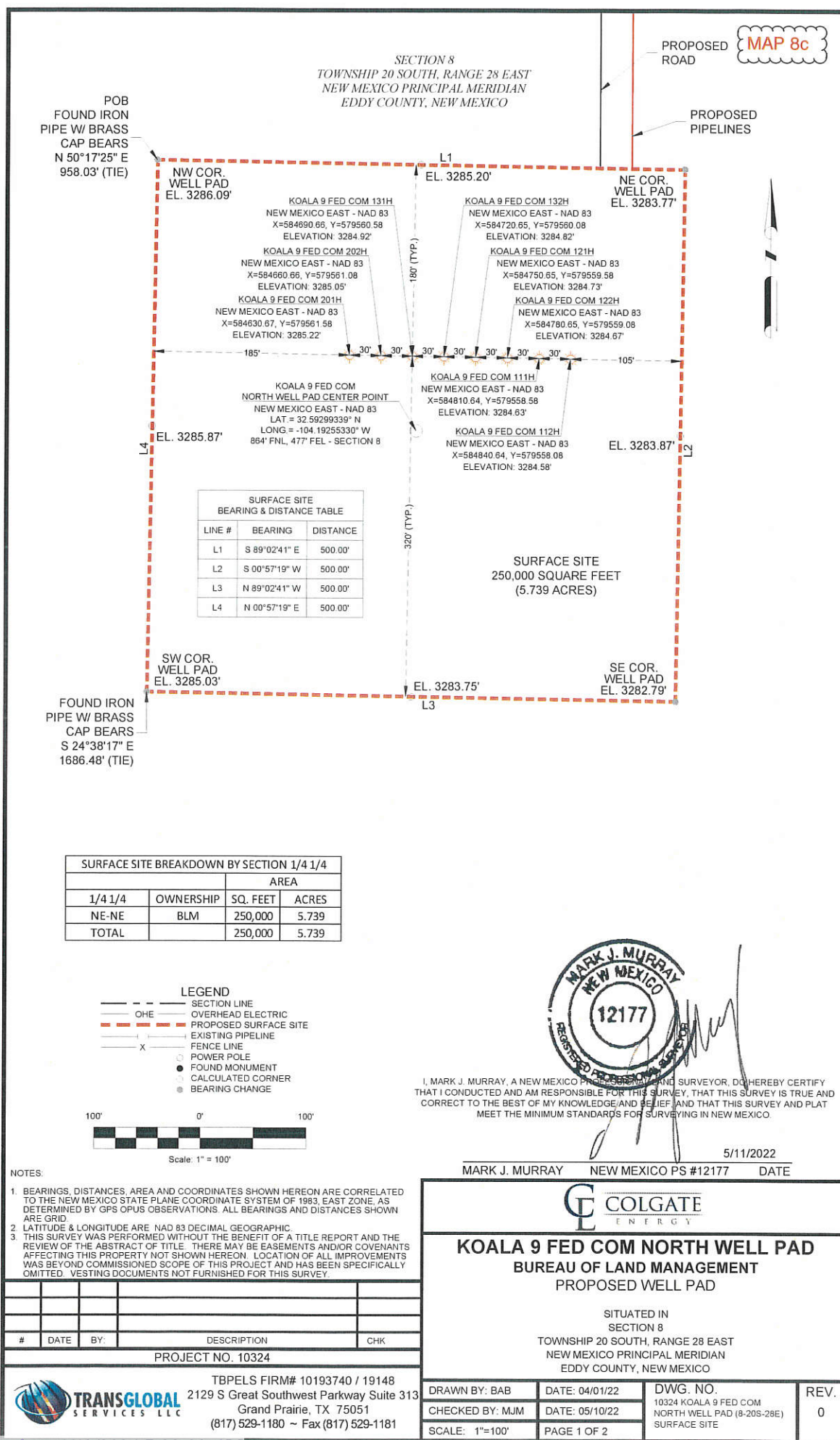


KOALA 9 FED COM NORTH WELL PAD PAD GRADING AND CROSS SECTIONS

SITUATED IN
SECTION 8, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO



CUT	FILL	NET
2,825.85 CU. YD	2,825.88 CU. YD	0.03 CU. YD (CUT)
EARTHWORK QUANTITIES ARE ESTIMATED		
PROJECT NO. 10324	DATE: 5/10/2022	SHEET 2-2



MAP 8d

METES AND BOUNDS DESCRIPTION

BEING A PROPOSED SURFACE SITE SITUATED IN SECTION 8, TOWNSHIP 20 SOUTH, RANGE 28 EAST, NEW MEXICO PRINCIPAL MERIDIAN, EDDY COUNTY, NEW MEXICO. SAID SURFACE SITE BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT, IN SAID SECTION 8, FROM WHICH AN IRON PIPE WITH BRASS CAP FOUND FOR THE NORTHEAST CORNER OF SAID SECTION 8 BEARS N 50°17'25" E, A DISTANCE OF 958.03 FEET (TIE). SAID POINT OF BEGINNING HAVING A NEW MEXICO STATE PLANE COORDINATES OF 1983, EAST ZONE, VALUE OF N:579744.54, E:584448.65 FEET FOR REFERENCE;

THENCE S 89°02'41" E, A DISTANCE OF 500.00 FEET TO A POINT;

THENCE S 00°57'19" W, A DISTANCE OF 500.00 FEET TO A POINT;

THENCE N 89°02'41" W, A DISTANCE OF 500.00 FEET TO A POINT, FROM WHICH AN IRON PIPE WITH BRASS CAP FOUND FOR THE EAST QUARTER CORNER OF SAID SECTION 8 BEARS S 24°38'17" E, A DISTANCE OF 1686.48 FEET (TIE);

THENCE N 00°57'19" E, A DISTANCE OF 500.00 FEET TO THE POINT OF BEGINNING.

SAID SURFACE SITE CONTAINING A TOTAL OF 250,000 SQUARE FEET OR 5.739 ACRES IN SAID SECTION 8.

NOTES:

1. BEARINGS, DISTANCES, AREA AND COORDINATES SHOWN HEREON ARE CORRELATED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE, AS DETERMINED BY GPS OPUS OBSERVATIONS. ALL BEARINGS AND DISTANCES SHOWN ARE GRID.
2. LATITUDE & LONGITUDE ARE NAD 83 DECIMAL GEOGRAPHIC.
3. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND THE REVIEW OF THE ABSTRACT OF TITLE. THERE MAY BE EASEMENTS AND/OR COVENANTS AFFECTING THIS PROPERTY NOT SHOWN HEREON. LOCATION OF ALL IMPROVEMENTS WAS BEYOND COMMISSIONED SCOPE OF THIS PROJECT AND HAS BEEN SPECIFICALLY OMITTED. VESTING DOCUMENTS NOT FURNISHED FOR THIS SURVEY.

#	DATE	BY	DESCRIPTION	CHK

PROJECT NO. 10324



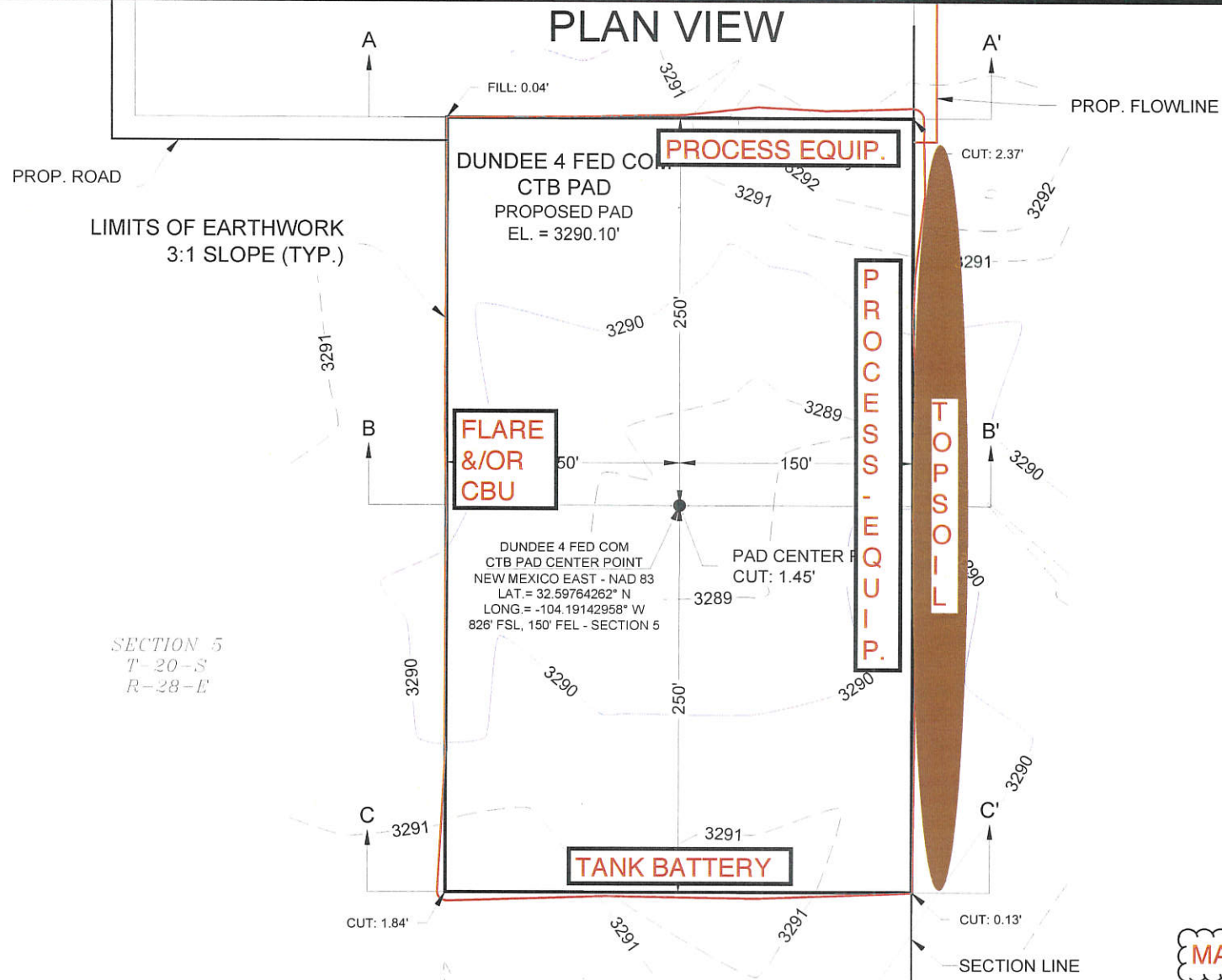
TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181



KOALA 9 FED COM NORTH WELL PAD
BUREAU OF LAND MANAGEMENT
PROPOSED WELL PAD

SITUATED IN
SECTION 8
TOWNSHIP 20 SOUTH, RANGE 28 EAST
NEW MEXICO PRINCIPAL MERIDIAN
EDDY COUNTY, NEW MEXICO

DRAWN BY: BAB	DATE: 04/01/22	DWG. NO.	REV.
CHECKED BY: MJM	DATE: 05/10/22	10324 KOALA 9 FED COM NORTH WELL PAD (8-20S-28E)	0
SCALE: 1"=100'	PAGE 2 OF 2	SURFACE SITE	



DUNDEE 4 FED COM CTB PAD GRADING AND CROSS SECTIONS

SITUATED IN
SECTION 5, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO



TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181

CUT	FILL	NET
1794.20 CU. YD	1794.20 CU. YD	0.00 CU. YD (FILL)

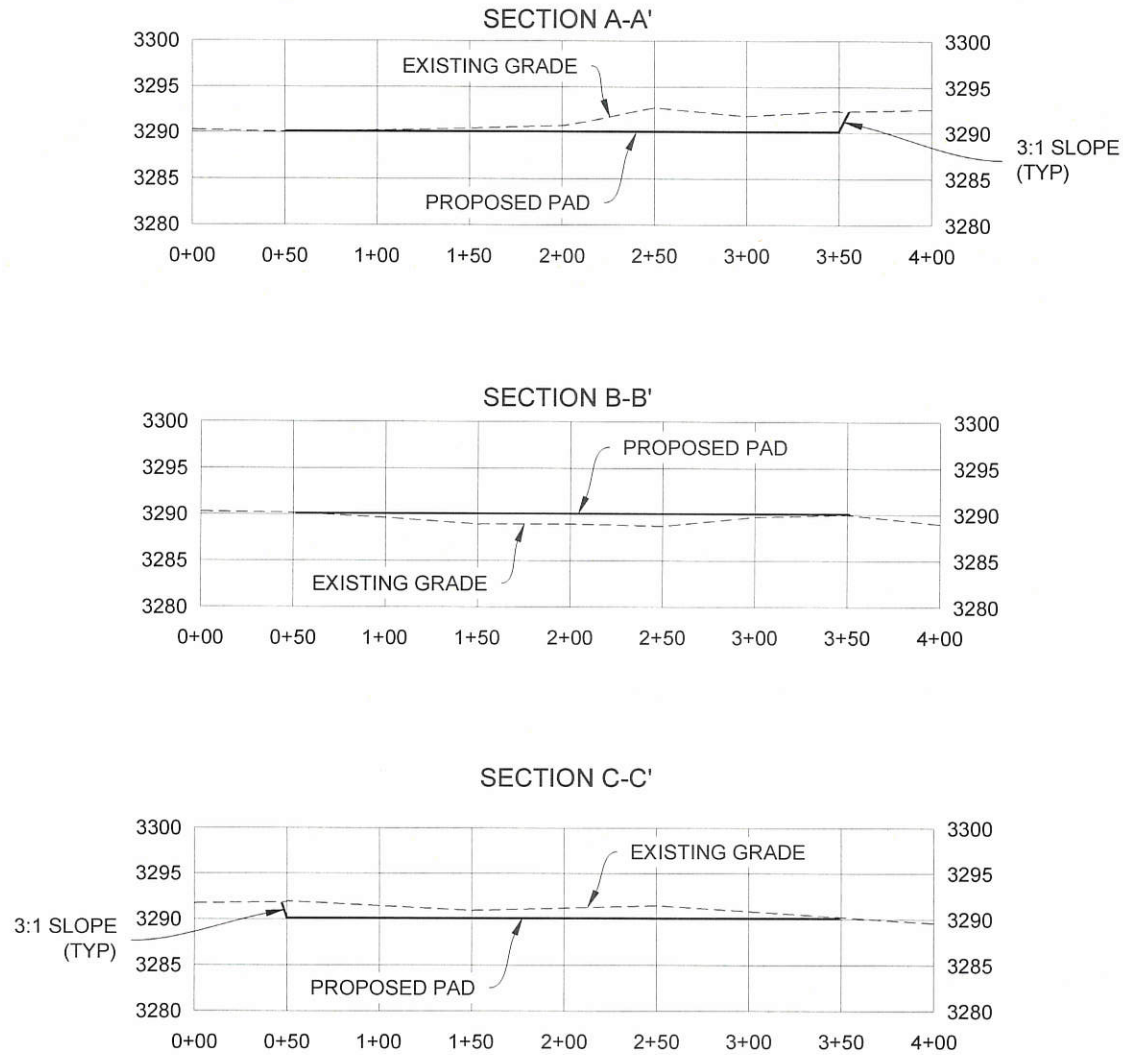
EARTHWORK QUANTITIES ARE ESTIMATED

PROJECT NO. 8475

DATE: 02/21/2022

SHEET 1-2

CROSS-SECTIONS



MAP 8f

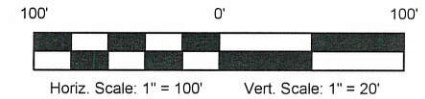


DUNDEE 4 FED COM CTB PAD GRADING AND CROSS SECTIONS

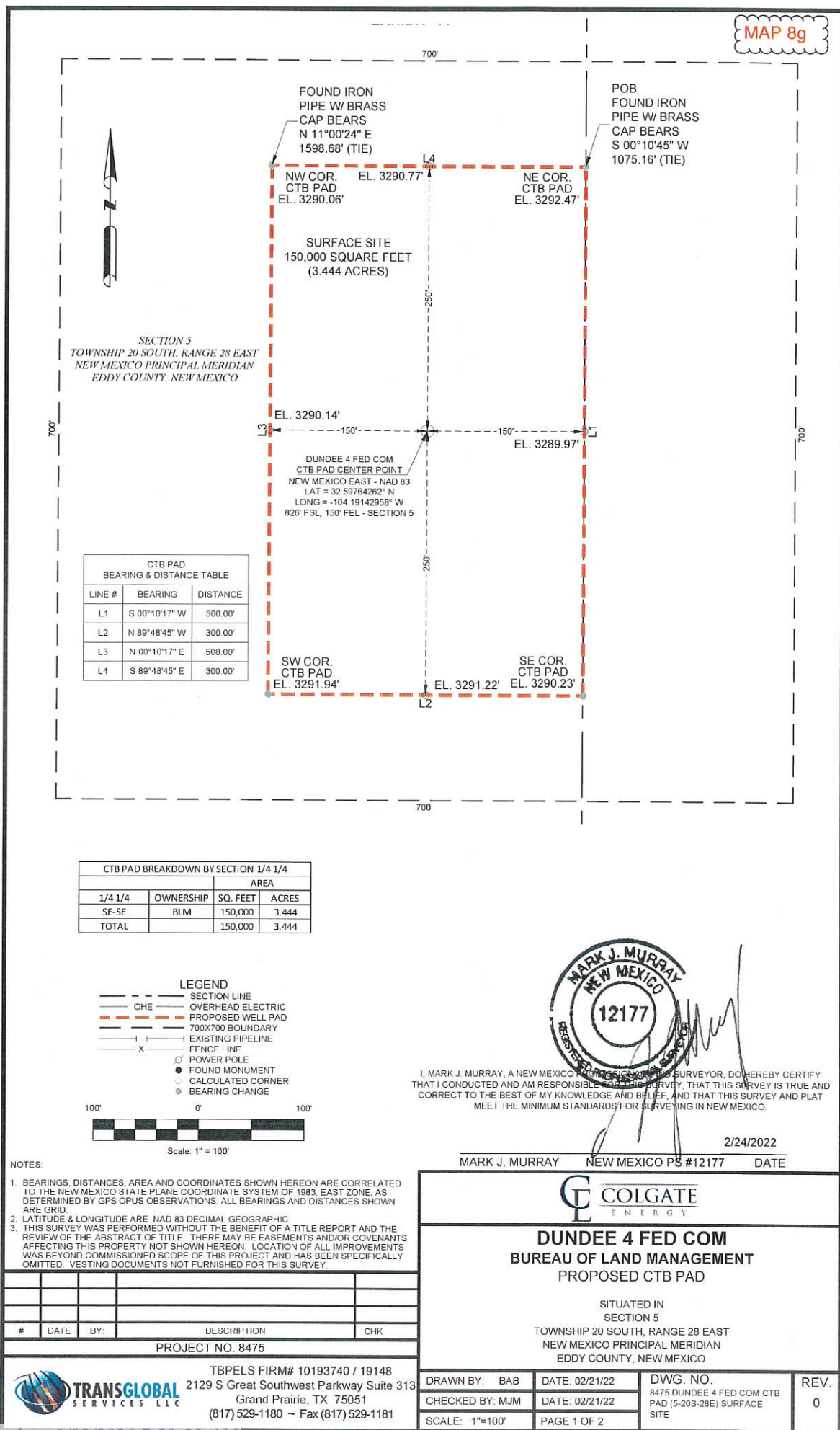
SITUATED IN
SECTION 5, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO



TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181



CUT	FILL	NET
1794.20 CU. YD	1794.20 CU. YD	0.00 CU. YD (FILL)
EARTHWORK QUANTITIES ARE ESTIMATED		
PROJECT NO. 8475	DATE: 02/21/2022	SHEET 2-2



MAP 8h

METES AND BOUNDS DESCRIPTION

BEING A PROPOSED CTB PAD SITUATED IN SECTION 5, TOWNSHIP 20 SOUTH, RANGE 28 EAST, NEW MEXICO PRINCIPAL MERIDIAN, EDDY COUNTY, NEW MEXICO. SAID WELL PAD BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT, IN THE EAST BOUNDARY LINE OF SAID SECTION 5, FROM WHICH AN IRON PIPE WITH BRASS CAP FOUND FOR THE SOUTHEAST CORNER OF SAID SECTION 5 BEARS S 00°10'45" W, A DISTANCE OF 1075.16 FEET (TIE). SAID POINT OF BEGINNING HAVING A NEW MEXICO STATE PLANE COORDINATES OF 1983, EAST ZONE, VALUE OF N:581431.78, E:585189.02 FEET FOR REFERENCE;

THENCE S 00°10'17" W, A DISTANCE OF 500.00 FEET TO A POINT;

THENCE N 89°48'45" W, A DISTANCE OF 300.00 FEET TO A POINT;

THENCE N 00°10'17" E, A DISTANCE OF 500.00 FEET TO A POINT, FROM WHICH AN IRON PIPE W/ BRASS CAP FOUND FOR THE EAST QUARTER CORNER OF SAID SECTION 5 BEARS N 11°00'24" E, A DISTANCE OF 1598.68 FEET (TIE);

THENCE S 89°48'45" E, A DISTANCE OF 300.00 FEET TO THE POINT OF BEGINNING.

SAID WELL PAD CONTAINING A TOTAL OF 150,000 SQUARE FEET OR 3.444 ACRES IN SAID SECTION 5.

NOTES:

1. BEARINGS, DISTANCES, AREA AND COORDINATES SHOWN HEREON ARE CORRELATED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE, AS DETERMINED BY GPS OPUS OBSERVATIONS. ALL BEARINGS AND DISTANCES SHOWN ARE GRID.
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#	DATE	BY:	DESCRIPTION	CHK

PROJECT NO. 8475



TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181



DUNDEE 4 FED COM
BUREAU OF LAND MANAGEMENT
PROPOSED CTB PAD

SITUATED IN
SECTION 5
TOWNSHIP 20 SOUTH, RANGE 28 EAST
NEW MEXICO PRINCIPAL MERIDIAN
EDDY COUNTY, NEW MEXICO

DRAWN BY: BAB DATE: 02/21/22

CHECKED BY: MJM

DATE: 02/21/22

SCALE: 1"=100'

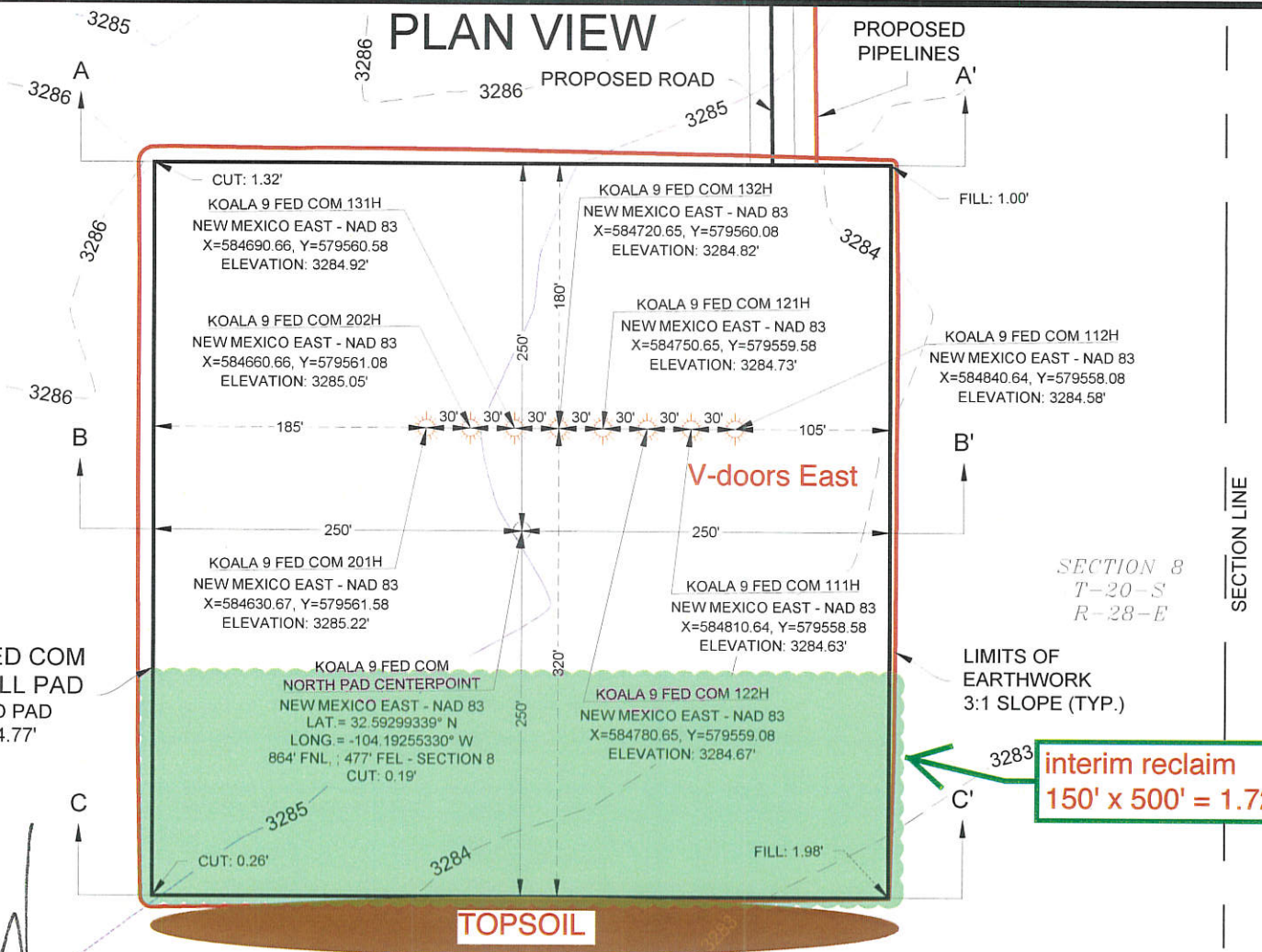
PAGE 2 OF 2

DWG. NO.

8475 DUNDEE 4 FED COM CTB
PAD (5-20S-28E) SURFACE
SITE

REV.

0



I, MARK J. MURRAY, A NEW MEXICO PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THAT I CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

5/11/2022

MARK J. MURRAY NEW MEXICO PS #12177 DATE

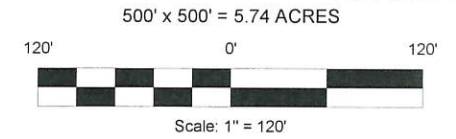


**KOALA 9 FED COM NORTH WELL PAD
PAD GRADING AND CROSS SECTIONS**

SITUATED IN
SECTION 8, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO



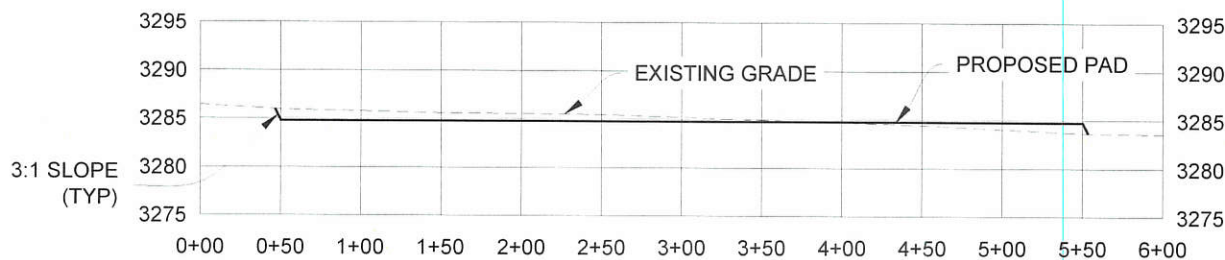
TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181



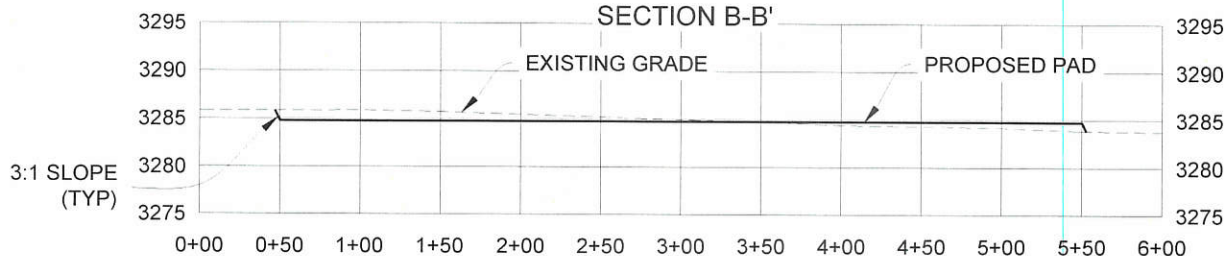
CUT	FILL	NET
2,825.85 CU. YD	2,825.88 CU. YD	0.03 CU. YD (CUT)
EARTHWORK QUANTITIES ARE ESTIMATED		
PROJECT NO. 10324	DATE: 5/10/2022	SHEET 1-2

CROSS-SECTIONS

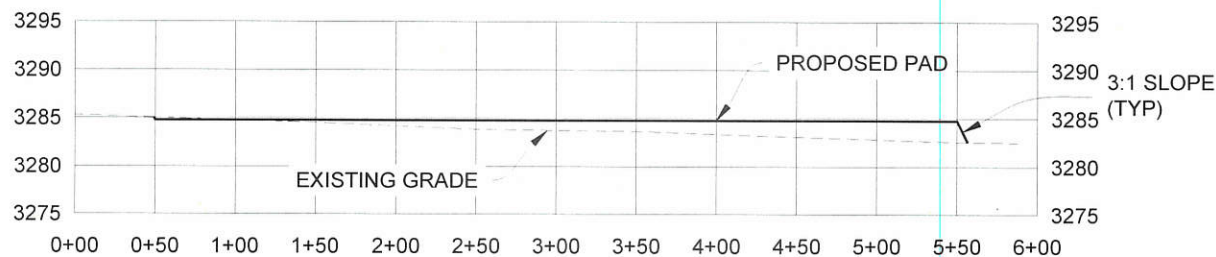
SECTION A-A'



SECTION B-B'



SECTION C-C'



MAP 8b

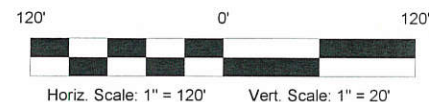


KOALA 9 FED COM NORTH WELL PAD PAD GRADING AND CROSS SECTIONS

SITUATED IN
SECTION 8, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO



TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181



CUT	FILL	NET
2,825.85 CU. YD	2,825.88 CU. YD	0.03 CU. YD (CUT)

EARTHWORK QUANTITIES ARE ESTIMATED

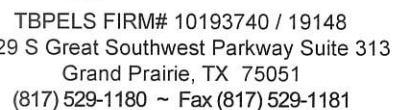
PROJECT NO. 10324

DATE: 5/10/2022

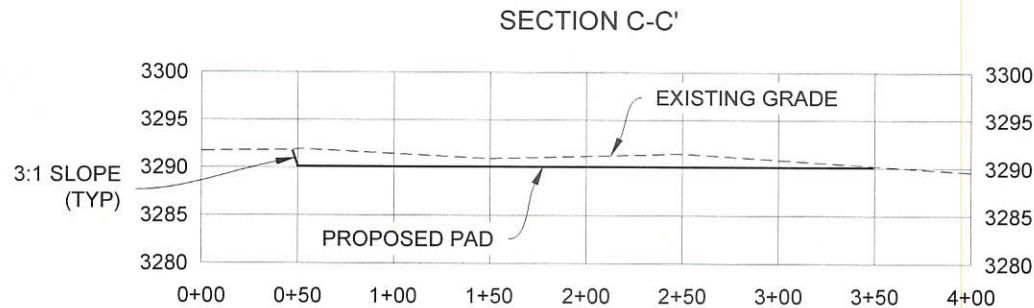
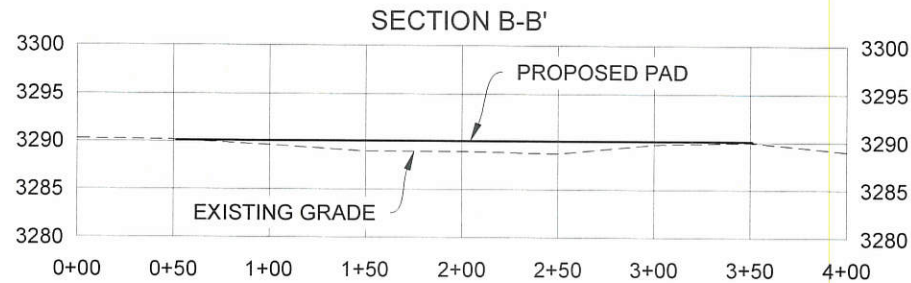
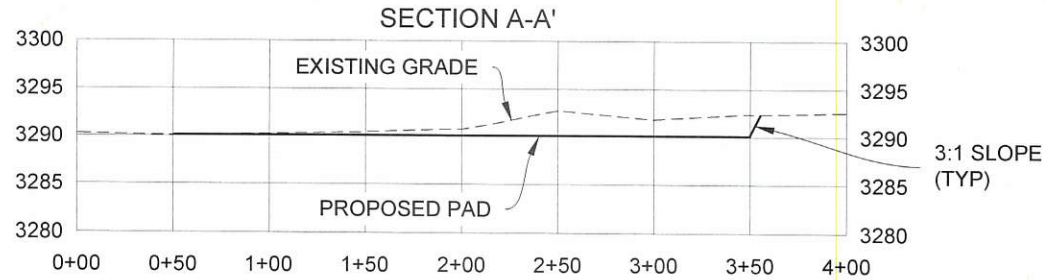
SHEET 2-2



PROJECT NO. 8475	DATE: 02/21/2022	SHEET 1-2
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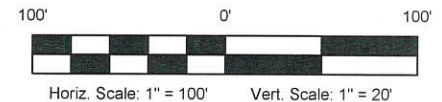
CROSS-SECTIONS



DUNDEE 4 FED COM CTB PAD GRADING AND CROSS SECTIONS

SITUATED IN
SECTION 5, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO

MAP 10d



CUT	FILL	NET
1794.20 CU. YD	1794.20 CU. YD	0.00 CU. YD (FILL)

EARTHWORK QUANTITIES ARE ESTIMATED

PROJECT NO. 8475

DATE: 02/21/2022

SHEET 2-2



TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181

Colgate Operating, LLC
 Koala 9 Fed Com north pad
 Pad Center: 864' FNL & 477' FEL 8-20S-28E
 Eddy County, NM

SURFACE PLAN PAGE 1

This surface use plan covers the following Koala 9 Fed Com wells:

111H	121H	131H	201H
112H	122H	132H	202H

1. ROAD DIRECTIONS & DESCRIPTIONS (See MAPS 1 - 4)

From the center of Carlsbad...

Go Northeast 3.6 miles on US 62/180 to the equivalent of Mile Post 38.7

Then turn left and go Northwest 4.5 miles on paved NM 200 (WIPP Bypass)

Then turn right at Mile Post 3.95 and go NW 0.9 mile on paved County Road 604

Then turn right and go North 7.5 miles on County Road 206 (Illinois Camp)

Then turn right and go East 1.3 miles on paved County Road 237 (Angel Ranch)

Then bear left and go NE 0.3 mile on a caliche road

Then turn left and go North 0.5 mile on a caliche road

Then turn right and go East 0.3 mile on a caliche road

Then turn left and go North 177.14' cross-country*

Then bear right and go NE 442.71' cross-country*

Then bear right and go E 215.05' cross-country* to NW corner Dundee-Koala CTB

Then turn right and go S 1680.08' cross-country to the Koala north pad

*Covered in the Dundee 4 Fed Com APDs.

Non-state and non-county roads will be maintained as needed to Gold Book standards. This includes pulling ditches, preserving the crown, and cleaning culverts. This will be done at least once a year, and more often as needed.

2. ROAD TO BE BUILT OR UPGRADED (See MAPS 3 & 4)

The 1680.08' of new resource roads will be crowned, ditched, have a $\leq 24'$ wide driving surface, and be surfaced with caliche. Pipelines that are crossed will be padded. Maximum disturbed width = 30'. Maximum grade = 1%. Maximum cut or fill = 1'. No vehicle turnout, gate, cattle guard, or culvert is needed. Upgrading will consist of filling potholes with caliche as needed.

Colgate Operating, LLC
Koala 9 Fed Com north pad
Pad Center: 864' FNL & 477' FEL 8-20S-28E
Eddy County, NM

SURFACE PLAN PAGE 2

3. EXISTING WELLS (See MAP 5)

Existing oil, gas, water, and P & A wells are within a mile radius. No disposal or injection well is within a mile.

4. PROPOSED PRODUCTION FACILITIES (See MAP 6)

A 300' x 500' CTB will be built immediately south of the Dundee 4 Fed Com south well pad. There will be a common border between the two facilities. Flare and/or CBU will be on the west side of the CTB. Process equipment (e. g., separator, heater-treater, meters, compressor) will be on the north and east sides of the CTB. Tanks will be on the south side of the CTB. Buried four-inch O. D. HDPE flowlines and three-inch O. D. HDPE gas lines will run for 1,195.68' between the Koala pad and the CTB. Trench(es) will be parallel to the Koala north pad road.

Neither power line nor gas line plans have been finalized. A third-party midstream company will acquire a right-of-way and pipe gas and saltwater from the CTB.

5. WATER SUPPLY (See MAP 7)

Water will be trucked from the existing Alfadale water station on private land in SESW 6-19s-28e.

6. CONSTRUCTION MATERIALS & METHODS (See MAPS 8 & 9)

NM One Call (811) and Mewbourne will be notified before construction starts. Top $\approx 6"$ of soil and brush will be stockpiled south of the well pad and east of the CTB. CTB topsoil pile will be no higher than 36" and will be seeded in place. V-door will face east. Closed loop mud system will be used. Caliche will be hauled from an existing caliche pit on private land in SENE 18-18s-28e.

Colgate Operating, LLC
Koala 9 Fed Com north pad
Pad Center: 864' FNL & 477' FEL 8-20S-28E
Eddy County, NM

SURFACE PLAN PAGE 3

7. WASTE DISPOSAL

All trash will be placed in a portable trash cage. It will be hauled to the Eddy County landfill. There will be no trash burning. Contents (drill cuttings, mud, salts, and other chemicals) of the mud tanks will be hauled to R360's state approved (NM-01-0006) disposal site at Halfway. Human waste will be disposed of in chemical toilets and hauled to the Carlsbad wastewater treatment plant.

8. ANCILLARY FACILITIES

There will be no airstrip or camp. Camper trailers will be on location for the company man, tool pusher, and mud logger.

9. WELL SITE LAYOUT (See MAP 8)

Also see Rig Layout diagram for depictions of the well pad, trash cage, access onto the location, parking, living facilities, and rig orientation.

10. RECLAMATION (See MAP 10)

South 150' of the well pad will be interim reclaimed. After the last well is plugged, then the remainder of the pad and roads will be reclaimed within 6 months of plugging. Disturbed areas will be contoured to match pre-construction grades. Soil and brush will be evenly spread over disturbed areas and harrowed on the contour. Disturbed areas will be seeded in accordance with BLM requirements. Roads will be blocked. Noxious weeds will be controlled. CTB will be similarly reclaimed once its last well is plugged.

Colgate Operating, LLC
Koala 9 Fed Com north pad
Pad Center: 864' FNL & 477' FEL 8-20S-28E
Eddy County, NM

SURFACE PLAN PAGE 4

Land use:

30' x 1680.08' road = 1.16 acres
30' x 1195.68' pipes = 0.82 acres
500' x 500' well pad = 5.74 acres
+ 300' x 500' CTB = 3.44 acres
11.16 acres short term
- 0.82 acres pipes
- 1.72 acres interim reclamation on pad
8.62 acres long term

11. SURFACE OWNER

All construction will be on BLM. BLM office is the Carlsbad Field Office, 620 E. Greene, Carlsbad NM 88220. Phone is 575 234-5972.

12. OTHER INFORMATION

Lone Mountain Archaeological conducted block inspections and filed report NMCRIS-149416 on December 27, 2021 and NMCRIS-149810 on March 30, 2022. On-site inspection was conducted with Jeff Robertson (BLM).

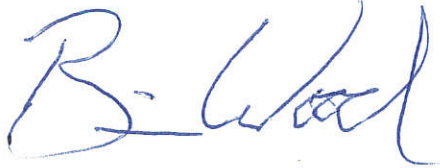
CERTIFICATION

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

Colgate Operating, LLC
Koala 9 Fed Com north pad
Pad Center: 864' FNL & 477' FEL 8-20S-28E
Eddy County, NM

SURFACE PLAN PAGE 5

under this application. These statements are subject to the provisions of 18 U. S. C. 1001 for the filing of false statements. Executed this 14th day of May 2022.

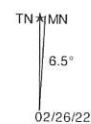
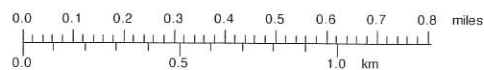
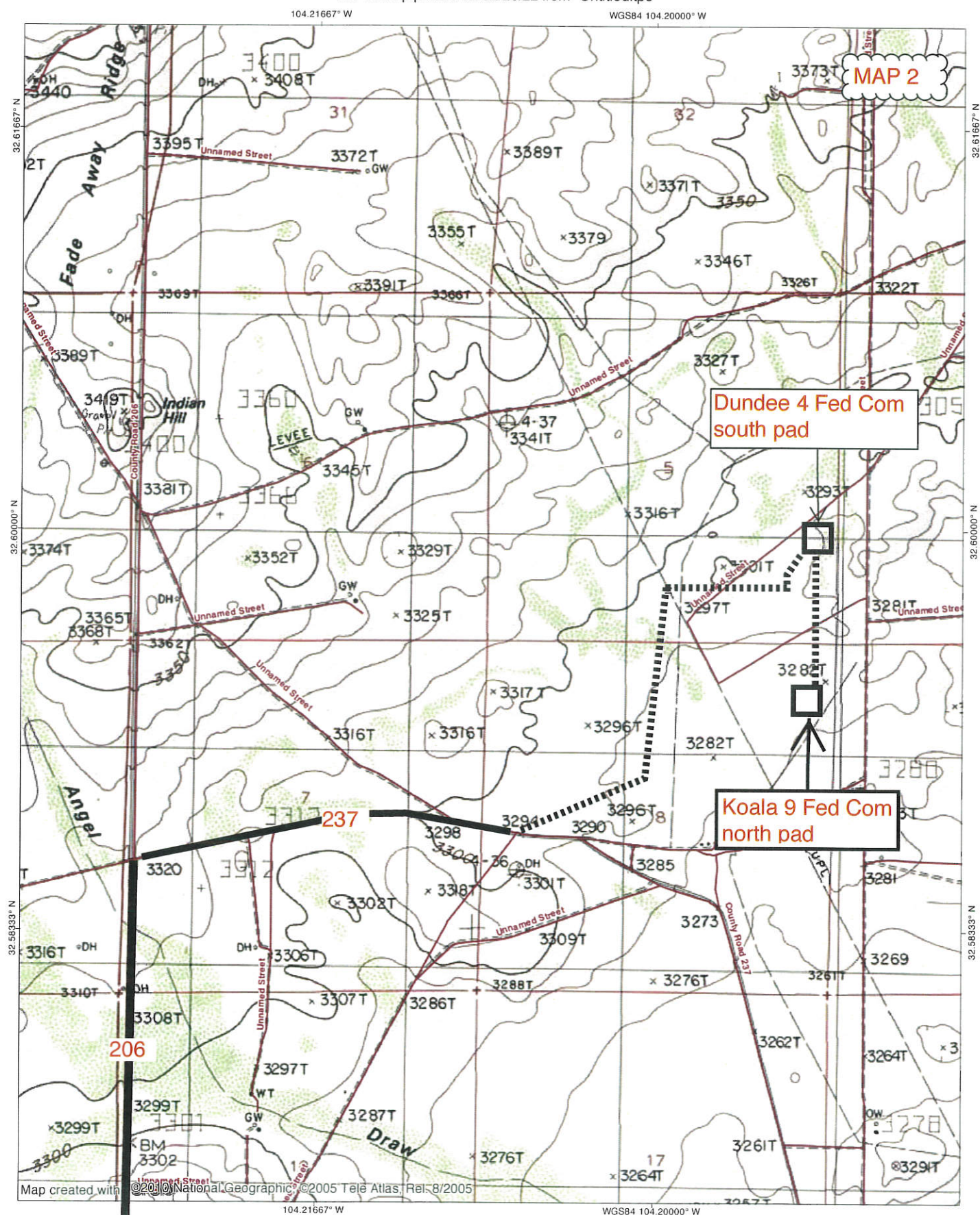


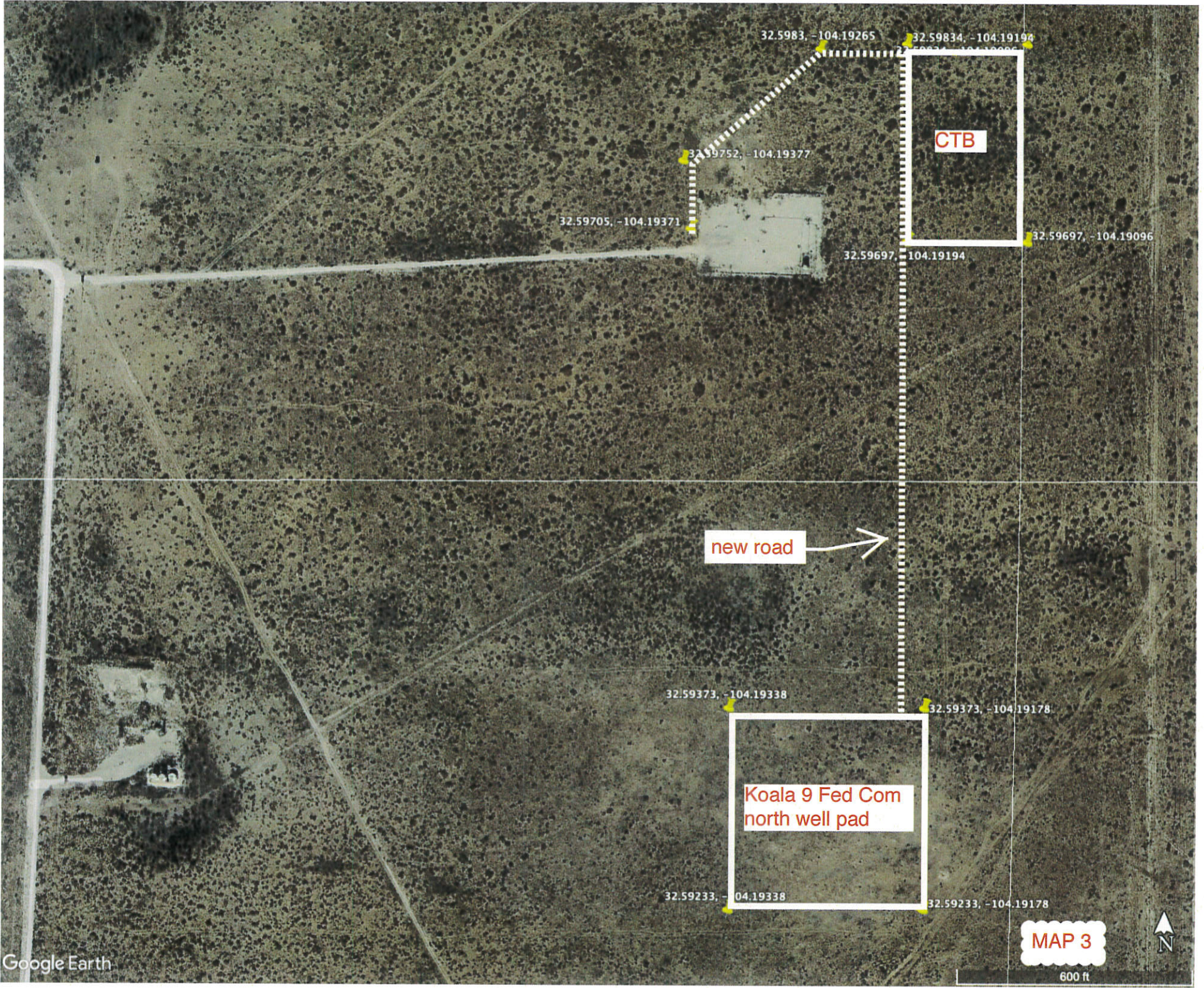
Brian Wood, Consultant
Permits West, Inc.
37 Verano Loop, Santa Fe, NM 87508
(505) 466-8120 FAX: (505) 466-9682 Cellular: (505) 699-2276

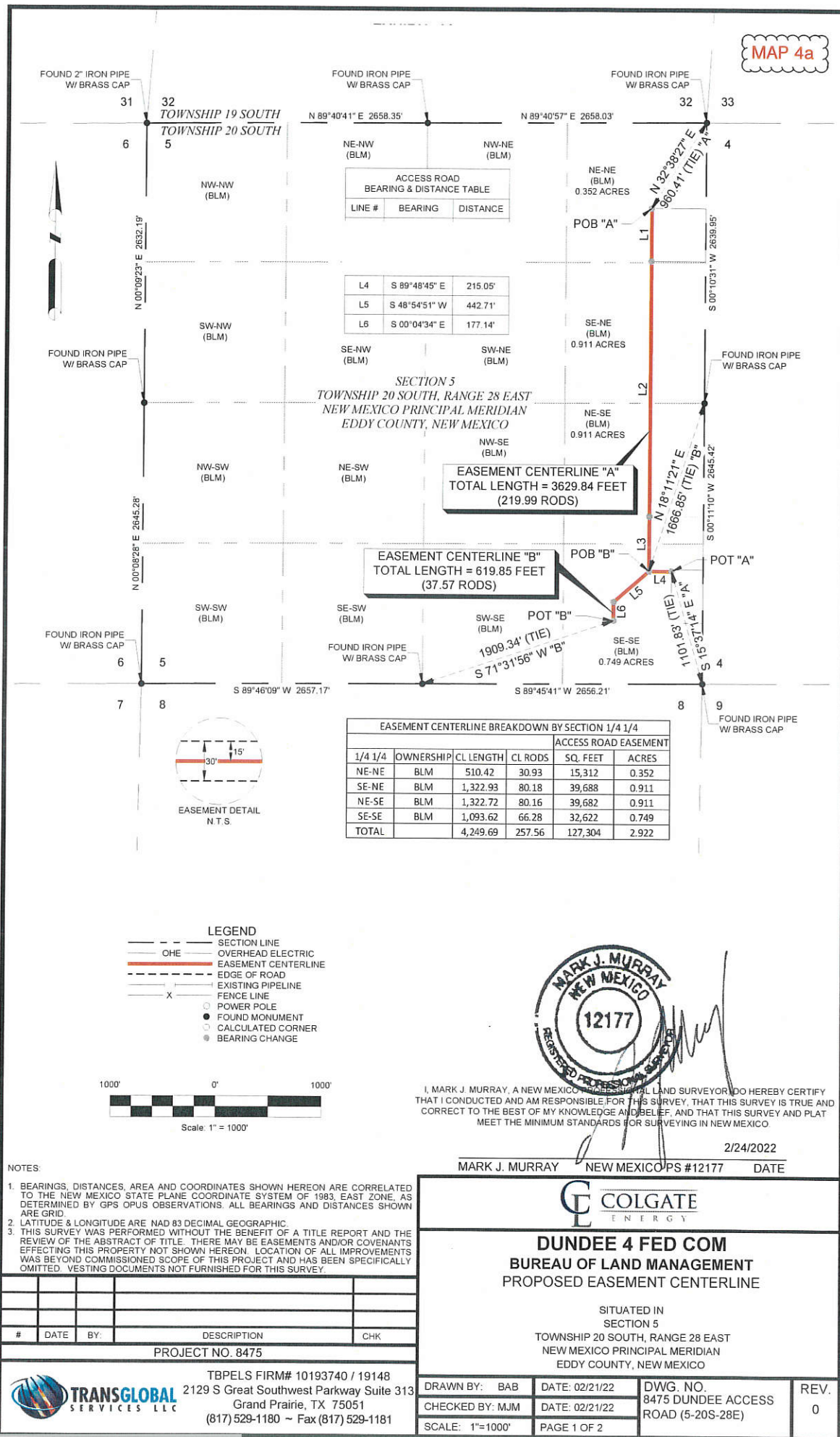
Field representative will be:

Matt Jordan, Surface Land Lead
Colgate Operating, LLC
300 N. Marienfeld St., Suite 1000, Midland TX 79701
Office: (432) 400-3111

TOPO! map printed on 02/26/22 from "Untitled.tpo"







CENTERLINE DESCRIPTION

MAP 4b

ACCESS ROAD "B"

BEING THE CENTERLINE OF A PROPOSED ACCESS ROAD EASEMENT, SITUATED IN SECTION 5, TOWNSHIP 20 SOUTH, RANGE 28 EAST, NEW MEXICO PRINCIPAL MERIDIAN, EDDY COUNTY, NEW MEXICO. SAID CENTERLINE BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT A POINT, IN SAID SECTION 5, FROM WHICH AN IRON PIPE WITH A BRASS CAP FOUND FOR THE EAST QUARTER CORNER OF SAID SECTION 5 BEARS N 18°11'21" E, A DISTANCE OF 1666.85 FEET (TIE). SAID POINT OF BEGINNING HAVING A NEW MEXICO STATE PLANE COORDINATES OF 1983, EAST ZONE, VALUE OF N:581418.47, E:584673.92 FEET FOR REFERENCE;

THENCE S 48°54'51" W, A DISTANCE OF 442.71 FEET TO A POINT;

THENCE S 00°04'34" E, A DISTANCE OF 177.14 FEET TO THE POINT OF TERMINATION OF SAID CENTERLINE IN SAID SECTION 5, FROM WHICH AN IRON PIPE WITH A BRASS CAP FOUND FOR THE SOUTH QUARTER CORNER OF SAID SECTION 5 BEARS S 71°31'56" W, A DISTANCE OF 1909.34 FEET (TIE). SAID POINT OF TERMINATION HAVING A NEW MEXICO STATE PLANE COORDINATES OF 1983, EAST ZONE, VALUE OF N:580950.38, E:584340.48 FEET FOR REFERENCE.

SAID CENTERLINE CONTAINING A TOTAL OF 619.85 FEET OR 37.57 RODS IN SAID SECTION 5.

NOTES:

1. BEARINGS, DISTANCES, AREA AND COORDINATES SHOWN HEREON ARE CORRELATED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE, AS DETERMINED BY GPS OPUS OBSERVATIONS. ALL BEARINGS AND DISTANCES SHOWN ARE GRID.
2. LATITUDE & LONGITUDE ARE NAD 83 DECIMAL GEOGRAPHIC.
3. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND THE REVIEW OF THE ABSTRACT OF TITLE. THERE MAY BE EASEMENTS AND/OR COVENANTS AFFECTING THIS PROPERTY NOT SHOWN HEREON. LOCATION OF ALL IMPROVEMENTS WAS BEYOND COMMISSIONED SCOPE OF THIS PROJECT AND HAS BEEN SPECIFICALLY OMITTED. VESTING DOCUMENTS NOT FURNISHED FOR THIS SURVEY.

#	DATE	BY:	DESCRIPTION	CHK

PROJECT NO. 8475



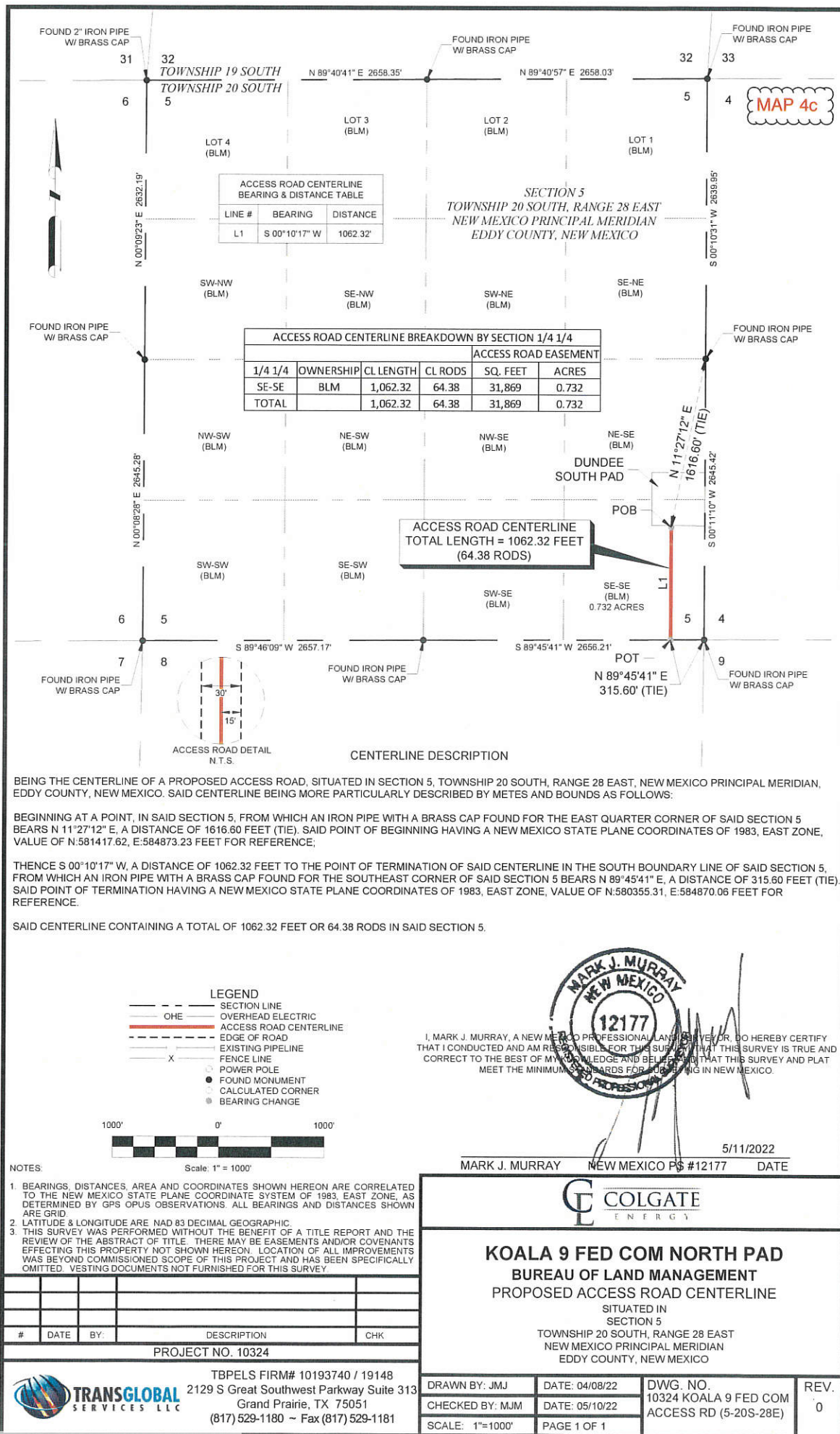
TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181

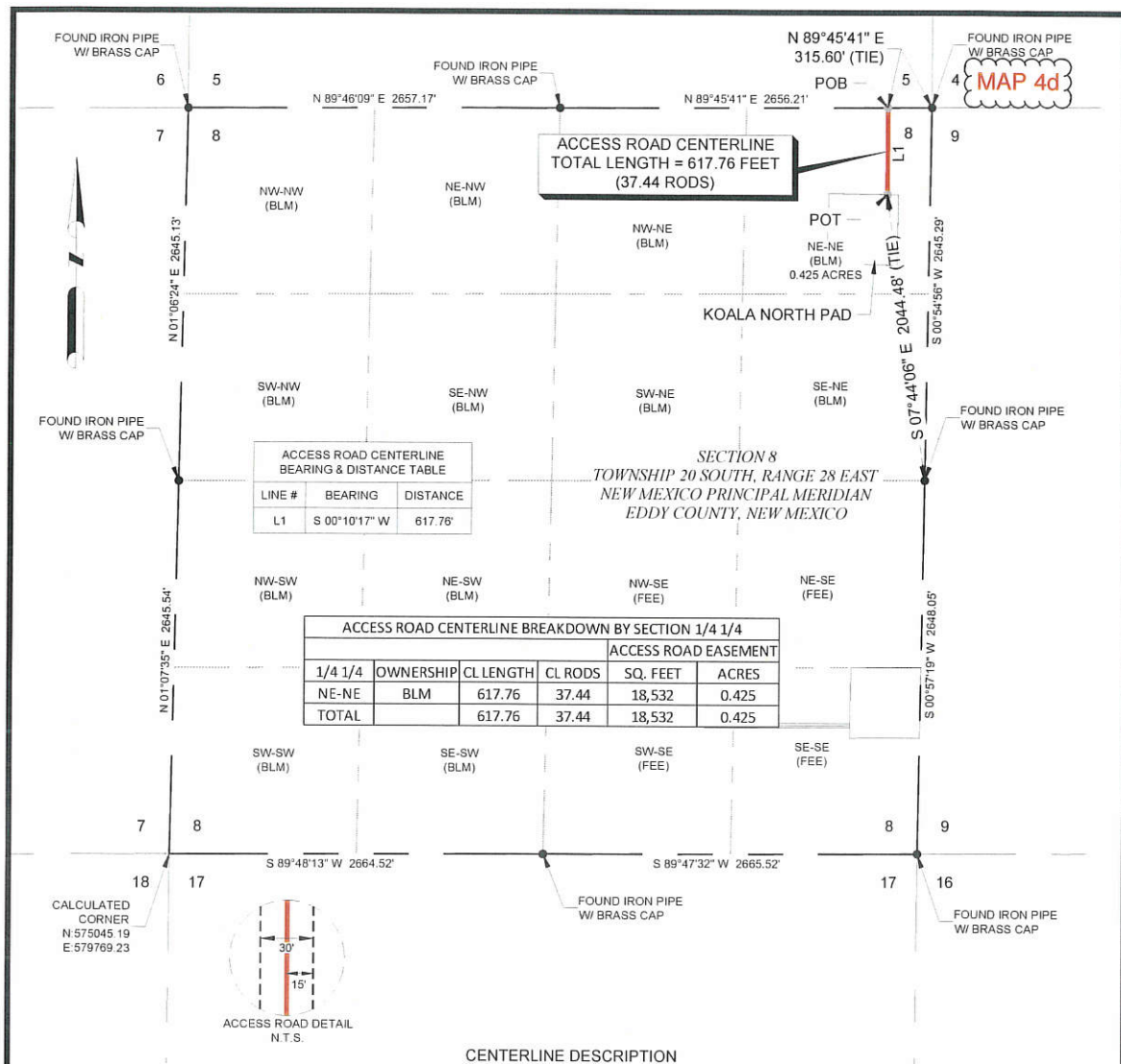


DUNDEE 4 FED COM
BUREAU OF LAND MANAGEMENT
PROPOSED EASEMENT CENTERLINE

SITUATED IN
SECTION 5
TOWNSHIP 20 SOUTH, RANGE 28 EAST
NEW MEXICO PRINCIPAL MERIDIAN
EDDY COUNTY, NEW MEXICO

DRAWN BY: BAB	DATE: 02/21/22	DWG. NO. 8475 DUNDEE ACCESS ROAD (5-20S-28E)	REV. 0
CHECKED BY: MJM	DATE: 02/21/22		
SCALE: 1"=1000'	PAGE 2 OF 2		





BEING THE CENTERLINE OF A PROPOSED ACCESS ROAD, SITUATED IN SECTION 8, TOWNSHIP 20 SOUTH, RANGE 28 EAST, NEW MEXICO PRINCIPAL MERIDIAN, EDDY COUNTY, NEW MEXICO. SAID CENTERLINE BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT A POINT, IN THE NORTH BOUNDARY LINE OF SAID SECTION 8, FROM WHICH AN IRON PIPE WITH A BRASS CAP FOUND FOR THE NORTHEAST CORNER OF SAID SECTION 8 BEARS N 89°45'41" E, A DISTANCE OF 315.60 FEET (TIE). SAID POINT OF BEGINNING HAVING A NEW MEXICO STATE PLANE COORDINATES OF 1983, EAST ZONE, VALUE OF N:580355.31, E:584870.06 FEET FOR REFERENCE;

THENCE S 00°10'17" W, A DISTANCE OF 617.76 FEET TO THE POINT OF TERMINATION OF SAID CENTERLINE IN SAID SECTION 8, FROM WHICH AN IRON PIPE WITH A BRASS CAP FOUND FOR THE EAST QUARTER CORNER OF SAID SECTION 8 BEARS S 07°44'06" E, A DISTANCE OF 2044.48 FEET (TIE). SAID POINT OF TERMINATION HAVING A NEW MEXICO STATE PLANE COORDINATES OF 1983, EAST ZONE, VALUE OF N:579737.55, E:584868.21 FEET FOR REFERENCE.

SAID CENTERLINE CONTAINING A TOTAL OF 617.76 FEET OR 37.44 RODS IN SAID SECTION 8.

MARK J. MURRAY, A NEW MEXICO PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THAT I CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY. THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.



5/11/2022

MARK J. MURRAY NEW MEXICO PS #12177 DATE



KOALA 9 FED COM NORTH PAD
BUREAU OF LAND MANAGEMENT
PROPOSED ACCESS ROAD CENTERLINE

SITUATED IN
SECTION 8
TOWNSHIP 20 SOUTH, RANGE 28 EAST
NEW MEXICO PRINCIPAL MERIDIAN
EDDY COUNTY, NEW MEXICO

DRAWN BY: MJM

DATE: 04/08/22

DWG. NO.

REV.

CHECKED BY: MJM

DATE: 05/10/22

10324 Koala 9 Fed Com

0

SCALE: 1"=1000'

PAGE 1 OF 1

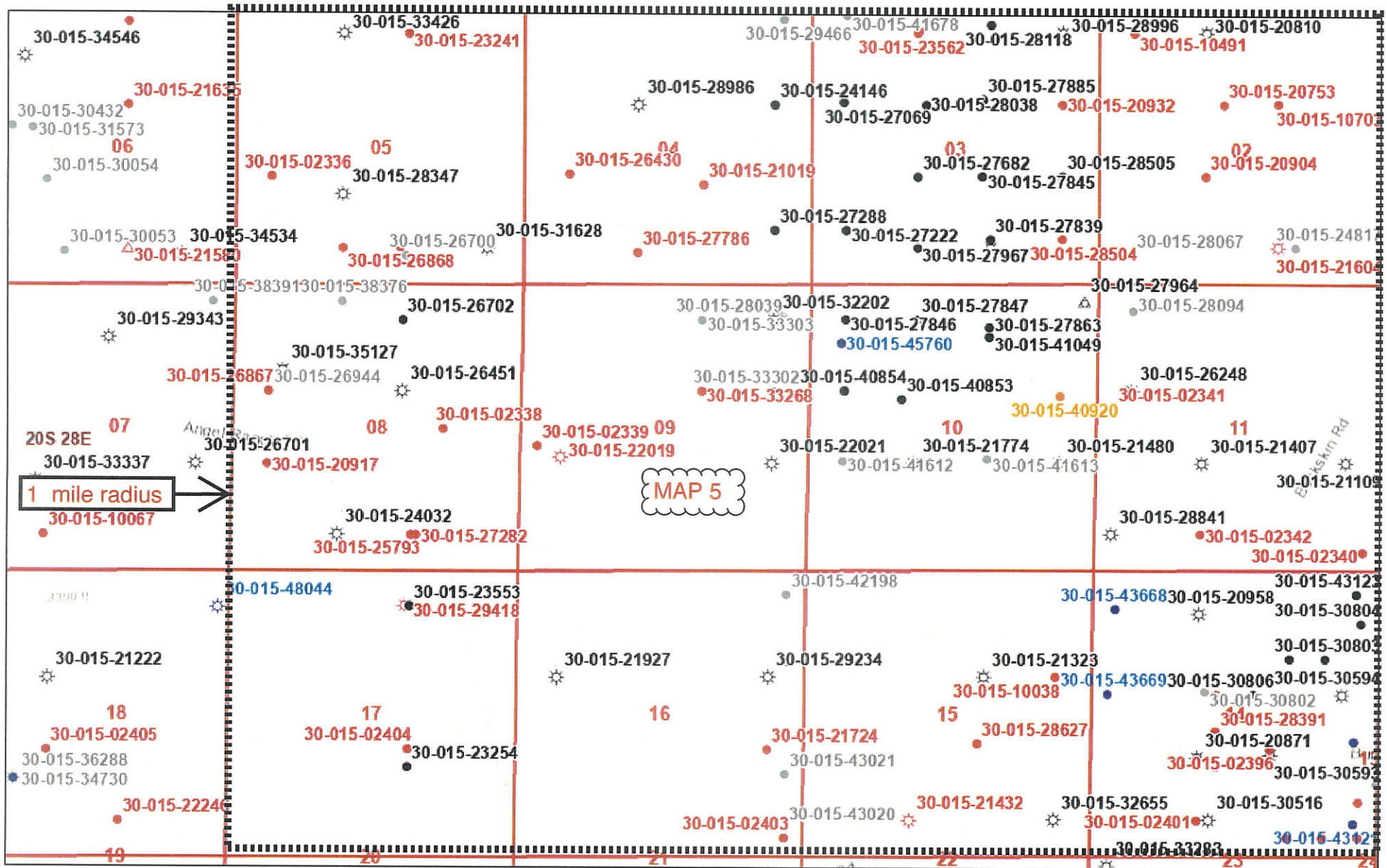
Access Rd North Pad

(8-20S-28E)



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OCD Well Locations



5/14/2022, 2:01:59 PM

Wells - Large Scale

Gas. Active

Gas, Cancelled

Gas, New

Gas Plugged

- Oil Active

- Oil Cancelled

Oil News

- Oil, Plugged

Oil Temporarily Abandoned

△ Salt Water Injection, Active

△ Salt Water Injection, Plugged

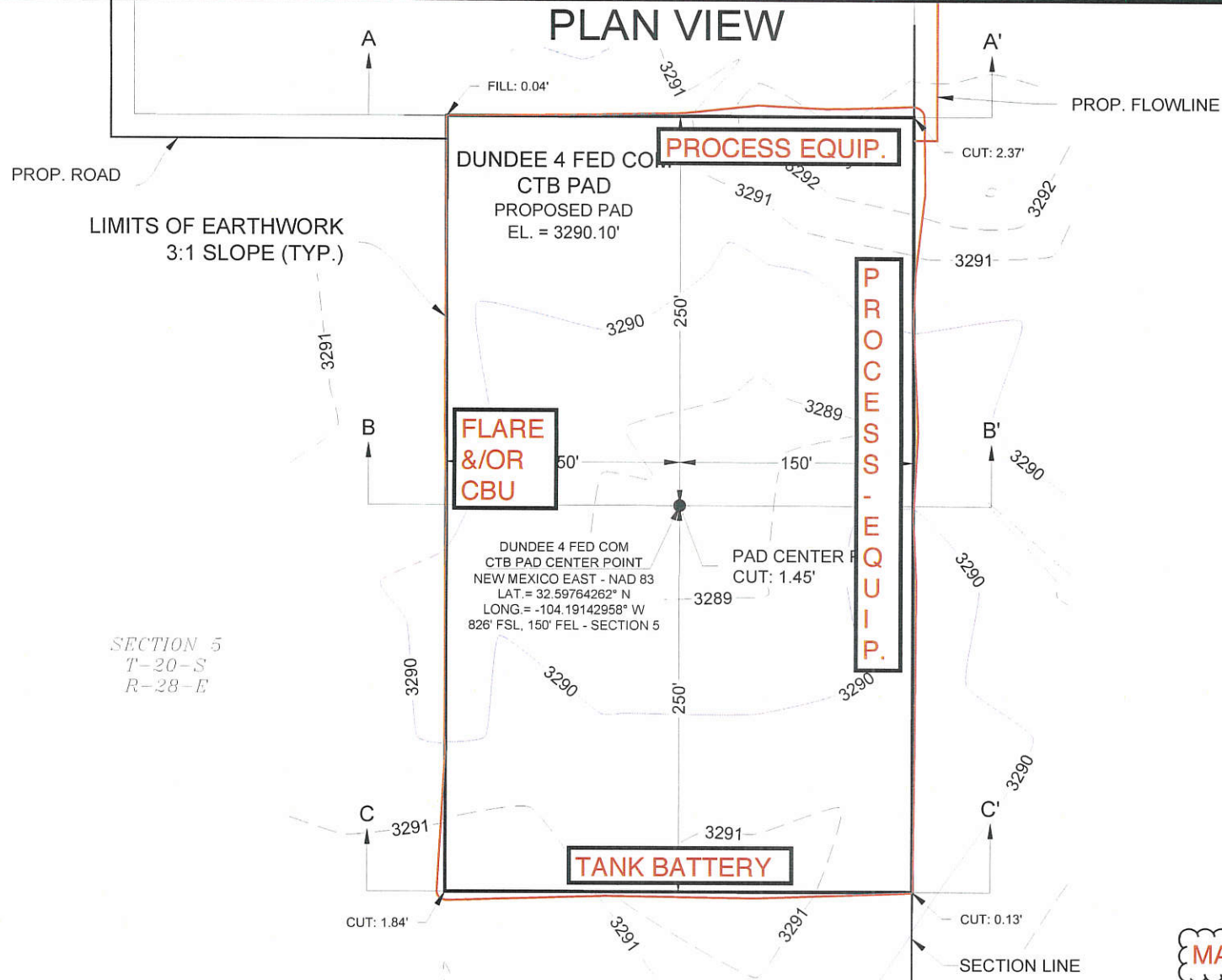
Block Field Division

MAP 5

Oil Conservation Division of the New Mexico Energy, Minerals and Natural Resources Department., Sources: Esri, HERE, Garmin, Intermap, increment

New Mexico Oil Conservation Division

NM OCD Oil and Gas Map. <http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=4d017f2306164de29fd2fb9f8f35ca75>; New Mexico Oil Conservation Division



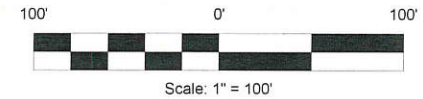
SECTION 5
T-20-S
R-28-E

DUNDEE 4 FED COM
CTB PAD CENTER POINT
NEW MEXICO EAST - NAD 83
LAT. = 32.59764262° N
LONG. = -104.19142958° W
826' FSL, 150' FEL - SECTION 5

PAD CENTER
CUT: 1.45'

MAP 6a

500' X 300' = 3.44 ACRES



CUT	FILL	NET
1794.20 CU. YD	1794.20 CU. YD	0.00 CU. YD (FILL)

EARTHWORK QUANTITIES ARE ESTIMATED

PROJECT NO. 8475

DATE: 02/21/2022

SHEET 1-2



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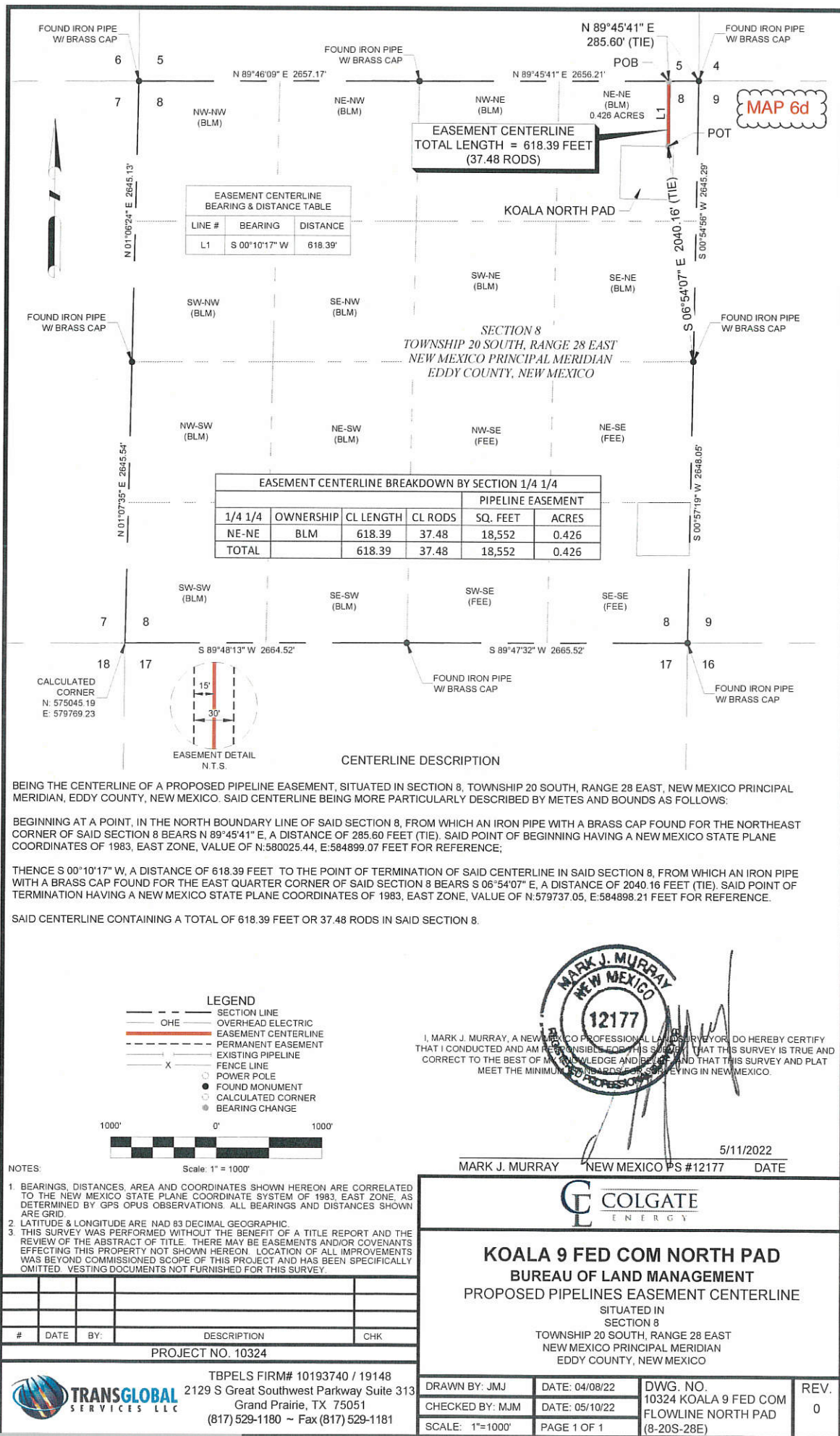


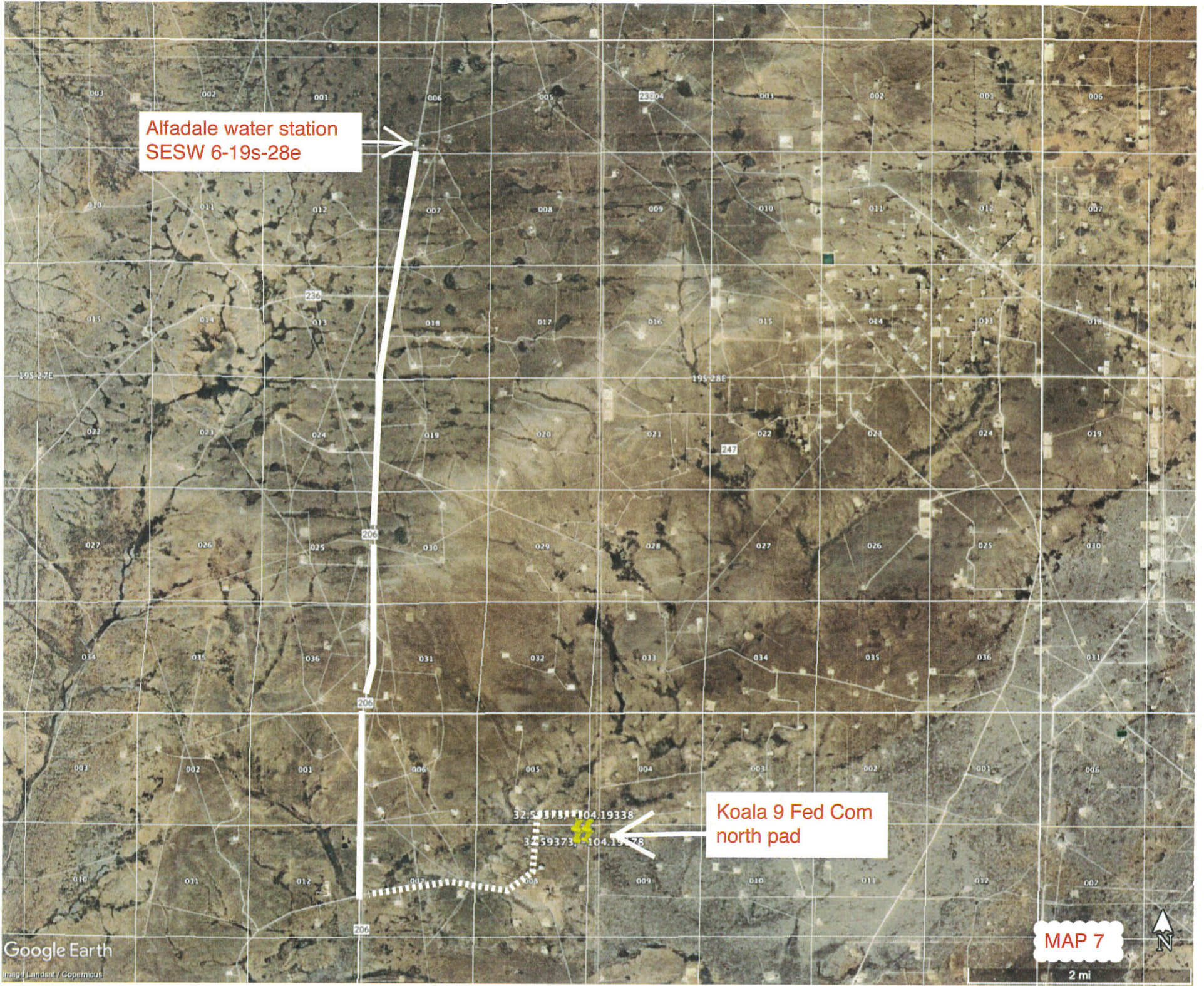
DUNDEE 4 FED COM CTB PAD GRADING AND CROSS SECTIONS

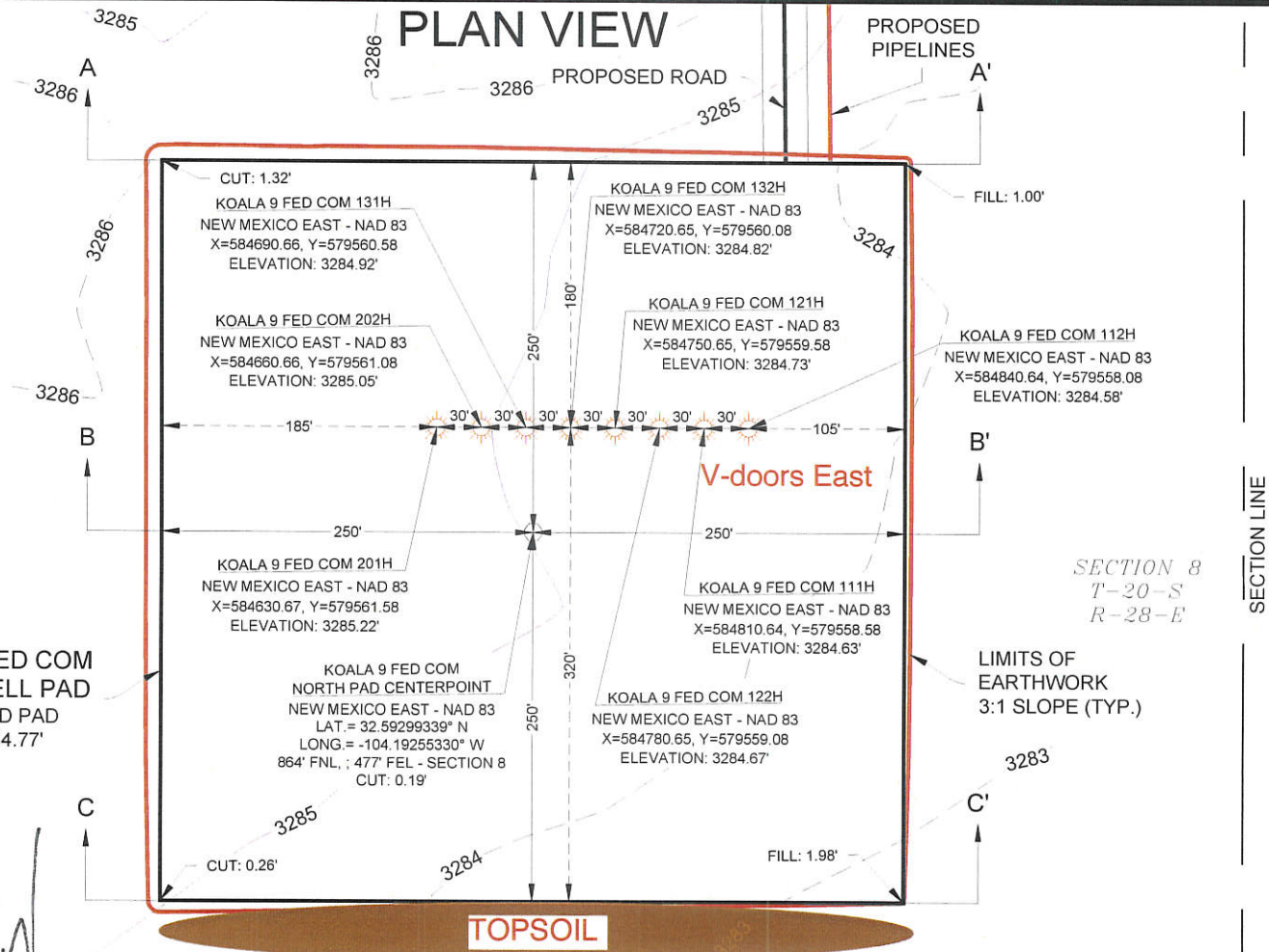
SITUATED IN
SECTION 5, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO











KOALA 9 FED COM
NORTH WELL PAD
PROPOSED PAD
EL. = 3284.77'

SECTION 8
T-20-S
R-28-E

LIMITS OF
EARTHWORK
3:1 SLOPE (TYP.)

MAP 8a

I, MARK J. MURRAY, A NEW MEXICO PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THAT I CONDUCTED THIS SURVEY FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

5/11/2022

MARK J. MURRAY NEW MEXICO PS #12177 DATE

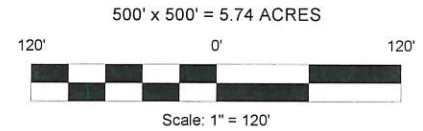


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Grand Prairie, TX 75051
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KOALA 9 FED COM NORTH WELL PAD PAD GRADING AND CROSS SECTIONS

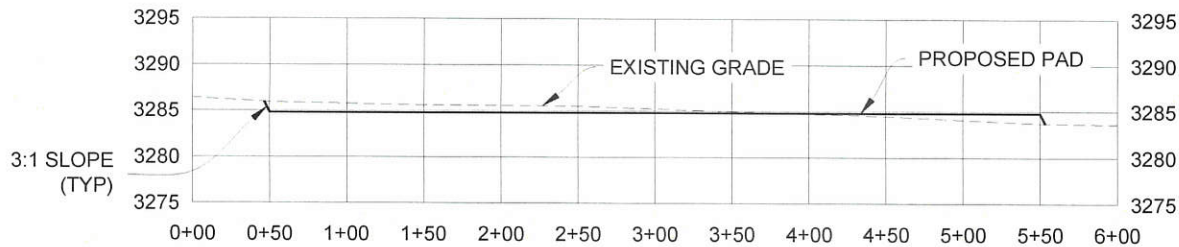
SITUATED IN
SECTION 8, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO



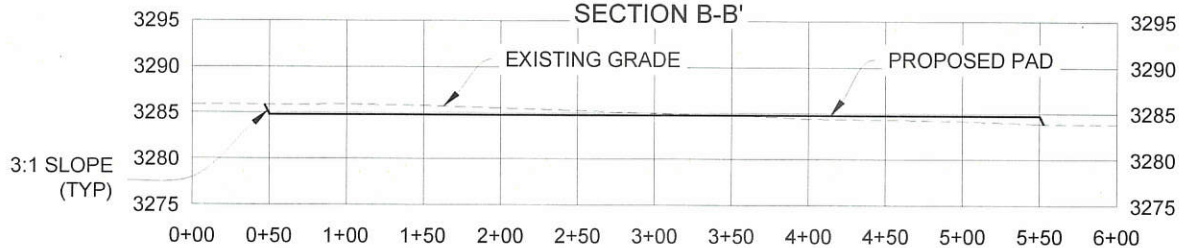
CUT	FILL	NET
2,825.85 CU. YD	2,825.88 CU. YD	0.03 CU. YD (CUT)
EARTHWORK QUANTITIES ARE ESTIMATED		
PROJECT NO. 10324	DATE: 5/10/2022	SHEET 1-2

CROSS-SECTIONS

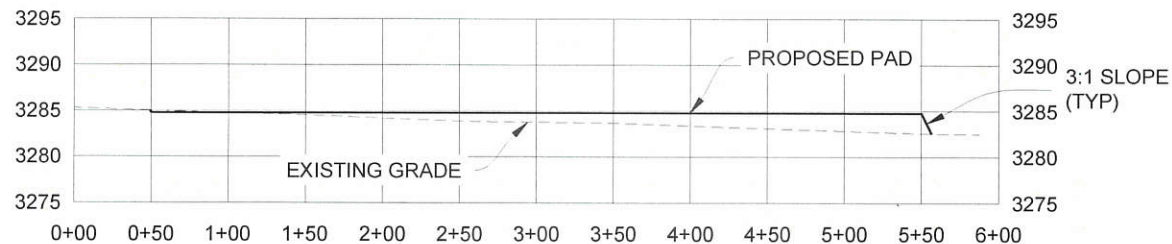
SECTION A-A'



SECTION B-B'



SECTION C-C'



MAP 8b

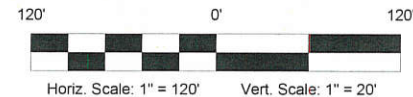


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Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181

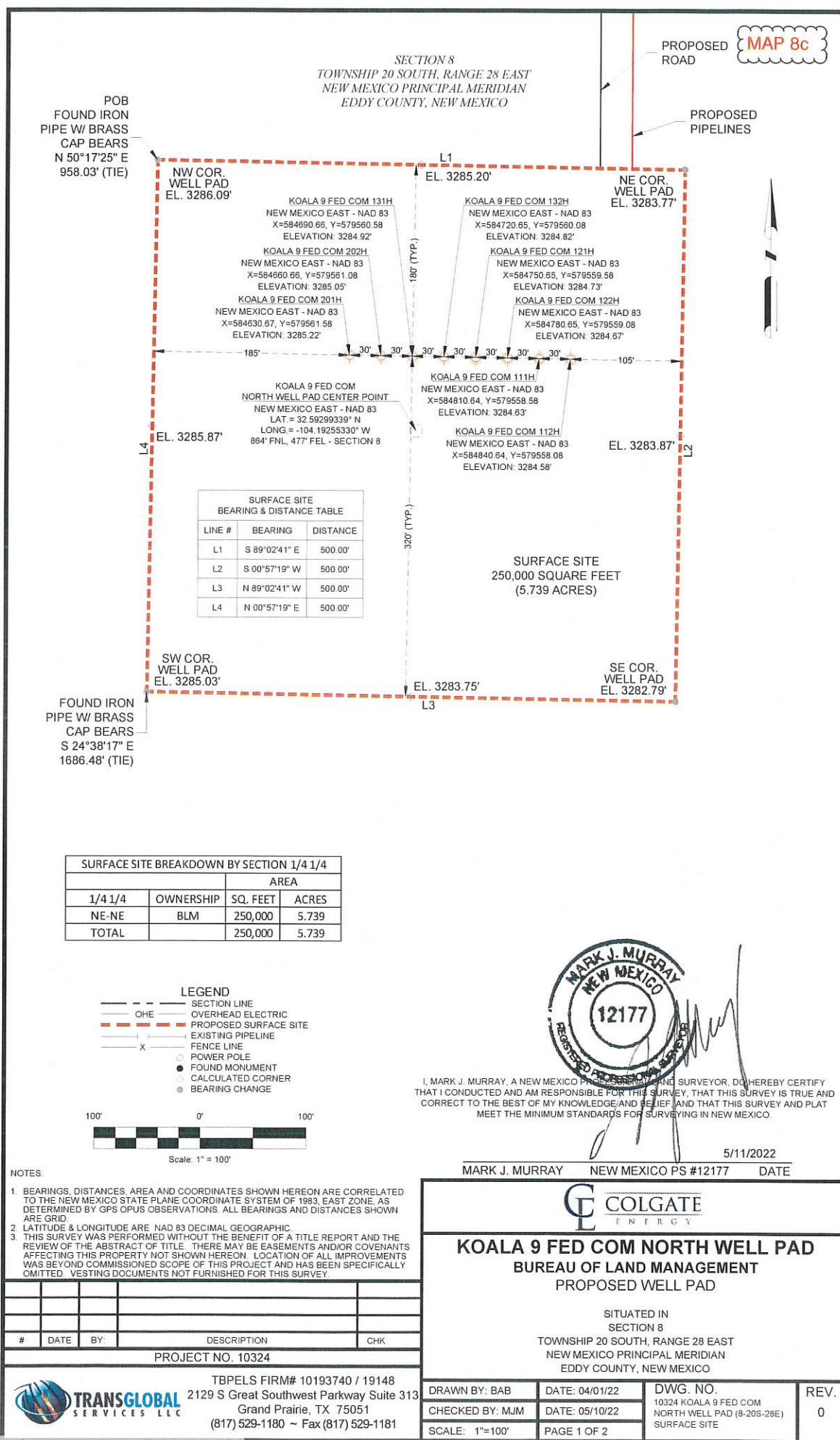


KOALA 9 FED COM NORTH WELL PAD PAD GRADING AND CROSS SECTIONS

SITUATED IN
SECTION 8, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO



CUT	FILL	NET
2,825.85 CU. YD	2,825.88 CU. YD	0.03 CU. YD (CUT)
EARTHWORK QUANTITIES ARE ESTIMATED		
PROJECT NO. 10324	DATE: 5/10/2022	SHEET 2-2



MAP 8d

METES AND BOUNDS DESCRIPTION

BEING A PROPOSED SURFACE SITE SITUATED IN SECTION 8, TOWNSHIP 20 SOUTH, RANGE 28 EAST, NEW MEXICO PRINCIPAL MERIDIAN, EDDY COUNTY, NEW MEXICO. SAID SURFACE SITE BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT, IN SAID SECTION 8, FROM WHICH AN IRON PIPE WITH BRASS CAP FOUND FOR THE NORTHEAST CORNER OF SAID SECTION 8 BEARS N 50°17'25" E, A DISTANCE OF 958.03 FEET (TIE). SAID POINT OF BEGINNING HAVING A NEW MEXICO STATE PLANE COORDINATES OF 1983, EAST ZONE, VALUE OF N:579744.54, E:584448.65 FEET FOR REFERENCE;

THENCE S 89°02'41" E, A DISTANCE OF 500.00 FEET TO A POINT;

THENCE S 00°57'19" W, A DISTANCE OF 500.00 FEET TO A POINT;

THENCE N 89°02'41" W, A DISTANCE OF 500.00 FEET TO A POINT, FROM WHICH AN IRON PIPE WITH BRASS CAP FOUND FOR THE EAST QUARTER CORNER OF SAID SECTION 8 BEARS S 24°38'17" E, A DISTANCE OF 1686.48 FEET (TIE);

THENCE N 00°57'19" E, A DISTANCE OF 500.00 FEET TO THE POINT OF BEGINNING.

SAID SURFACE SITE CONTAINING A TOTAL OF 250,000 SQUARE FEET OR 5.739 ACRES IN SAID SECTION 8.

NOTES:

1. BEARINGS, DISTANCES, AREA AND COORDINATES SHOWN HEREON ARE CORRELATED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE, AS DETERMINED BY GPS OPUS OBSERVATIONS. ALL BEARINGS AND DISTANCES SHOWN ARE GRID.
2. LATITUDE & LONGITUDE ARE NAD 83 DECIMAL GEOGRAPHIC.
3. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND THE REVIEW OF THE ABSTRACT OF TITLE. THERE MAY BE EASEMENTS AND/OR COVENANTS AFFECTING THIS PROPERTY NOT SHOWN HEREON. LOCATION OF ALL IMPROVEMENTS WAS BEYOND COMMISSIONED SCOPE OF THIS PROJECT AND HAS BEEN SPECIFICALLY OMITTED. VESTING DOCUMENTS NOT FURNISHED FOR THIS SURVEY.

#	DATE	BY	DESCRIPTION	CHK
			PROJECT NO. 10324	



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KOALA 9 FED COM NORTH WELL PAD
BUREAU OF LAND MANAGEMENT
PROPOSED WELL PAD

SITUATED IN
SECTION 8
TOWNSHIP 20 SOUTH, RANGE 28 EAST
NEW MEXICO PRINCIPAL MERIDIAN
EDDY COUNTY, NEW MEXICO

DRAWN BY: BAB	DATE: 04/01/22	DWG. NO. 10324 KOALA 9 FED COM NORTH WELL PAD (8-20S-28E) SURFACE SITE	REV. 0
CHECKED BY: MJM	DATE: 05/10/22		
SCALE: 1"=100'	PAGE 2 OF 2		



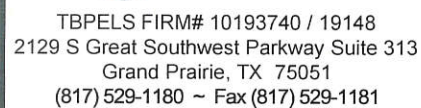
100' 0' 100'

Scale: 1" = 100'

EARTHWORK QUANTITIES ARE ESTIMATED

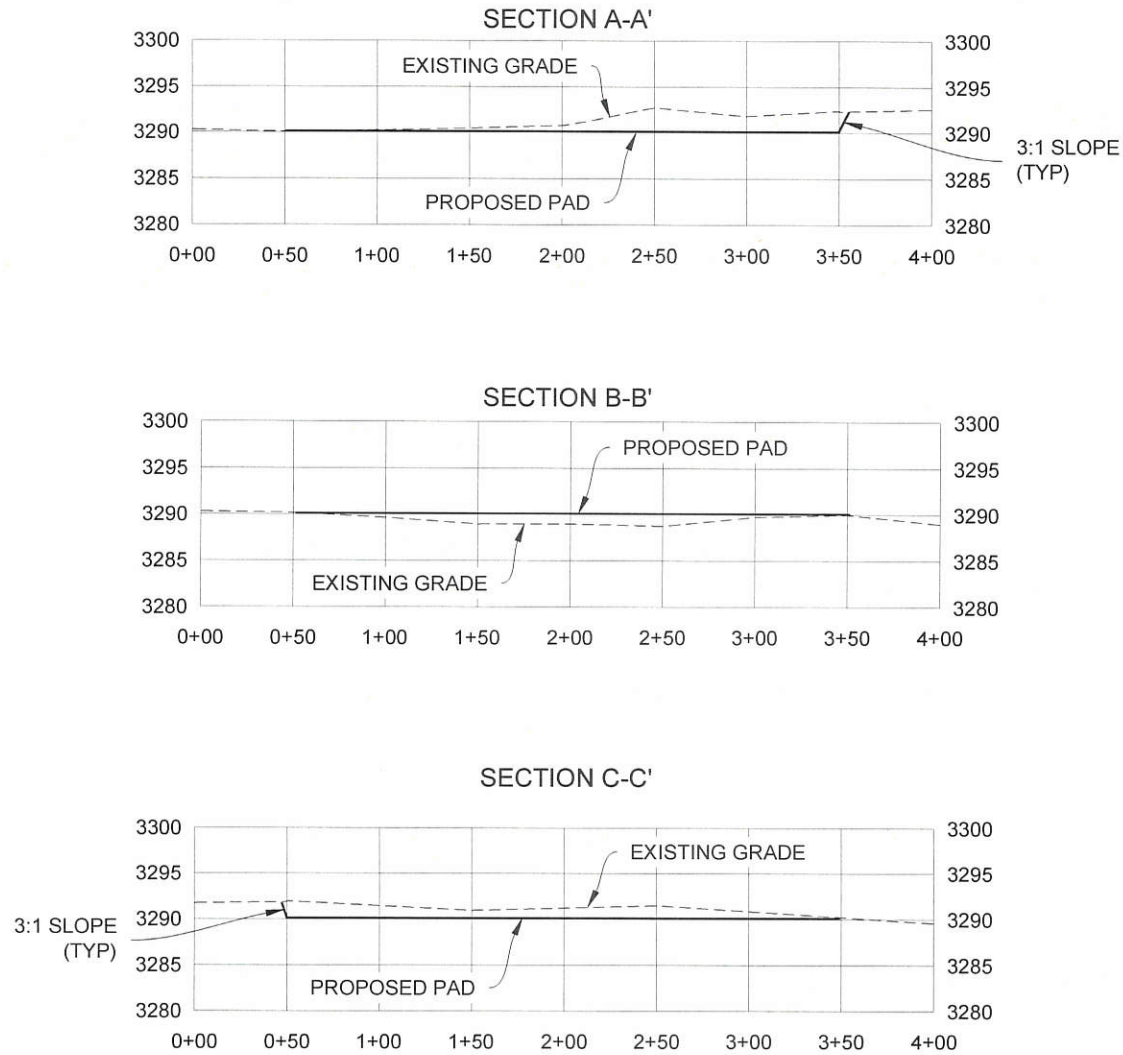
DATE: 02/21/2022

SHEET 1-2



SITUATED IN
SECTION 5, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO

CROSS-SECTIONS



MAP 8f

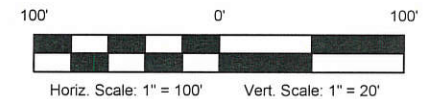


DUNDEE 4 FED COM CTB PAD GRADING AND CROSS SECTIONS

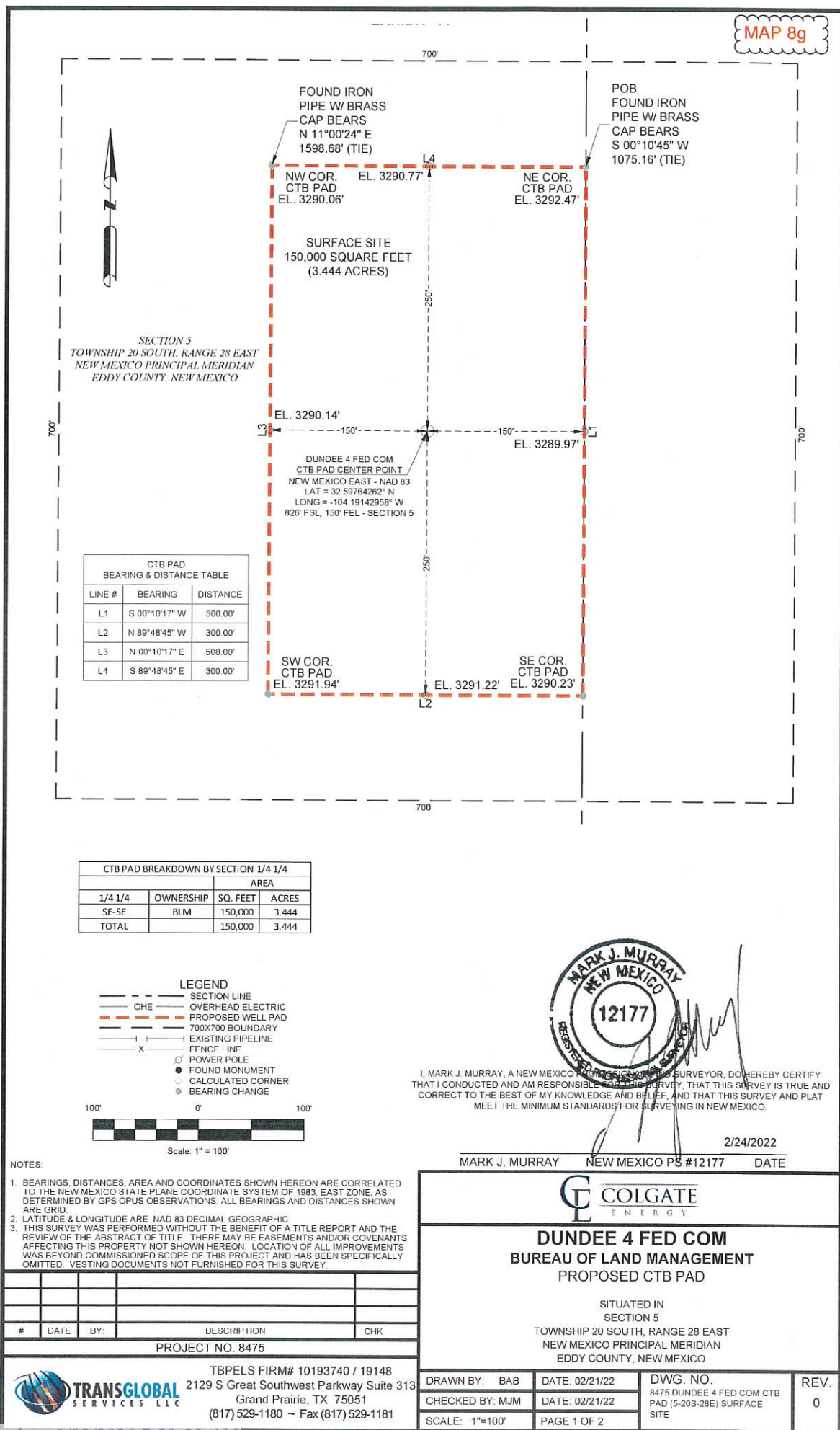
SITUATED IN
SECTION 5, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO



TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181



CUT	FILL	NET
1794.20 CU. YD	1794.20 CU. YD	0.00 CU. YD (FILL)
EARTHWORK QUANTITIES ARE ESTIMATED		
PROJECT NO. 8475	DATE: 02/21/2022	SHEET 2-2



MAP 8h

METES AND BOUNDS DESCRIPTION

BEING A PROPOSED CTB PAD SITUATED IN SECTION 5, TOWNSHIP 20 SOUTH, RANGE 28 EAST, NEW MEXICO PRINCIPAL MERIDIAN, EDDY COUNTY, NEW MEXICO. SAID WELL PAD BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT, IN THE EAST BOUNDARY LINE OF SAID SECTION 5, FROM WHICH AN IRON PIPE WITH BRASS CAP FOUND FOR THE SOUTHEAST CORNER OF SAID SECTION 5 BEARS S 00°10'45" W, A DISTANCE OF 1075.16 FEET (TIE). SAID POINT OF BEGINNING HAVING A NEW MEXICO STATE PLANE COORDINATES OF 1983, EAST ZONE, VALUE OF N:581431.78, E:585189.02 FEET FOR REFERENCE;

THENCE S 00°10'17" W, A DISTANCE OF 500.00 FEET TO A POINT;

THENCE N 89°48'45" W, A DISTANCE OF 300.00 FEET TO A POINT;

THENCE N 00°10'17" E, A DISTANCE OF 500.00 FEET TO A POINT, FROM WHICH AN IRON PIPE W/ BRASS CAP FOUND FOR THE EAST QUARTER CORNER OF SAID SECTION 5 BEARS N 11°00'24" E, A DISTANCE OF 1598.68 FEET (TIE);

THENCE S 89°48'45" E, A DISTANCE OF 300.00 FEET TO THE POINT OF BEGINNING.

SAID WELL PAD CONTAINING A TOTAL OF 150,000 SQUARE FEET OR 3.444 ACRES IN SAID SECTION 5.

NOTES:

1. BEARINGS, DISTANCES, AREA AND COORDINATES SHOWN HEREON ARE CORRELATED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE, AS DETERMINED BY GPS OPUS OBSERVATIONS. ALL BEARINGS AND DISTANCES SHOWN ARE GRID.
2. LATITUDE & LONGITUDE ARE NAD 83 DECIMAL GEOGRAPHIC.
3. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND THE REVIEW OF THE ABSTRACT OF TITLE. THERE MAY BE EASEMENTS AND/OR COVENANTS AFFECTING THIS PROPERTY NOT SHOWN HEREON. LOCATION OF ALL IMPROVEMENTS WAS BEYOND COMMISSIONED SCOPE OF THIS PROJECT AND HAS BEEN SPECIFICALLY OMITTED. VESTING DOCUMENTS NOT FURNISHED FOR THIS SURVEY.

#	DATE	BY:	DESCRIPTION	CHK

PROJECT NO. 8475



TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181



DUNDEE 4 FED COM
BUREAU OF LAND MANAGEMENT
PROPOSED CTB PAD

SITUATED IN
SECTION 5
TOWNSHIP 20 SOUTH, RANGE 28 EAST
NEW MEXICO PRINCIPAL MERIDIAN
EDDY COUNTY, NEW MEXICO

DRAWN BY: BAB DATE: 02/21/22

CHECKED BY: MJM

DATE: 02/21/22

SCALE: 1"=100'

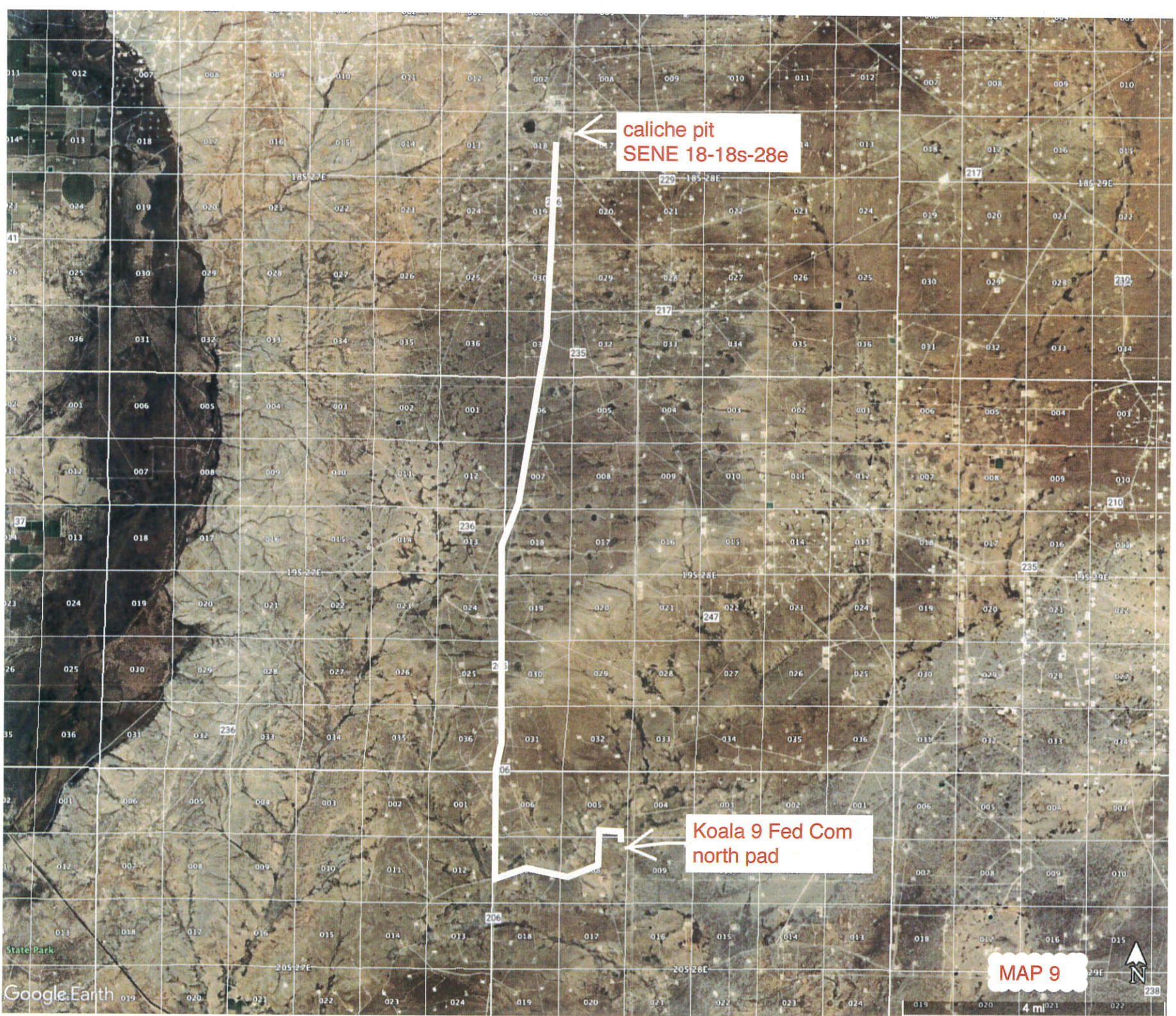
PAGE 2 OF 2

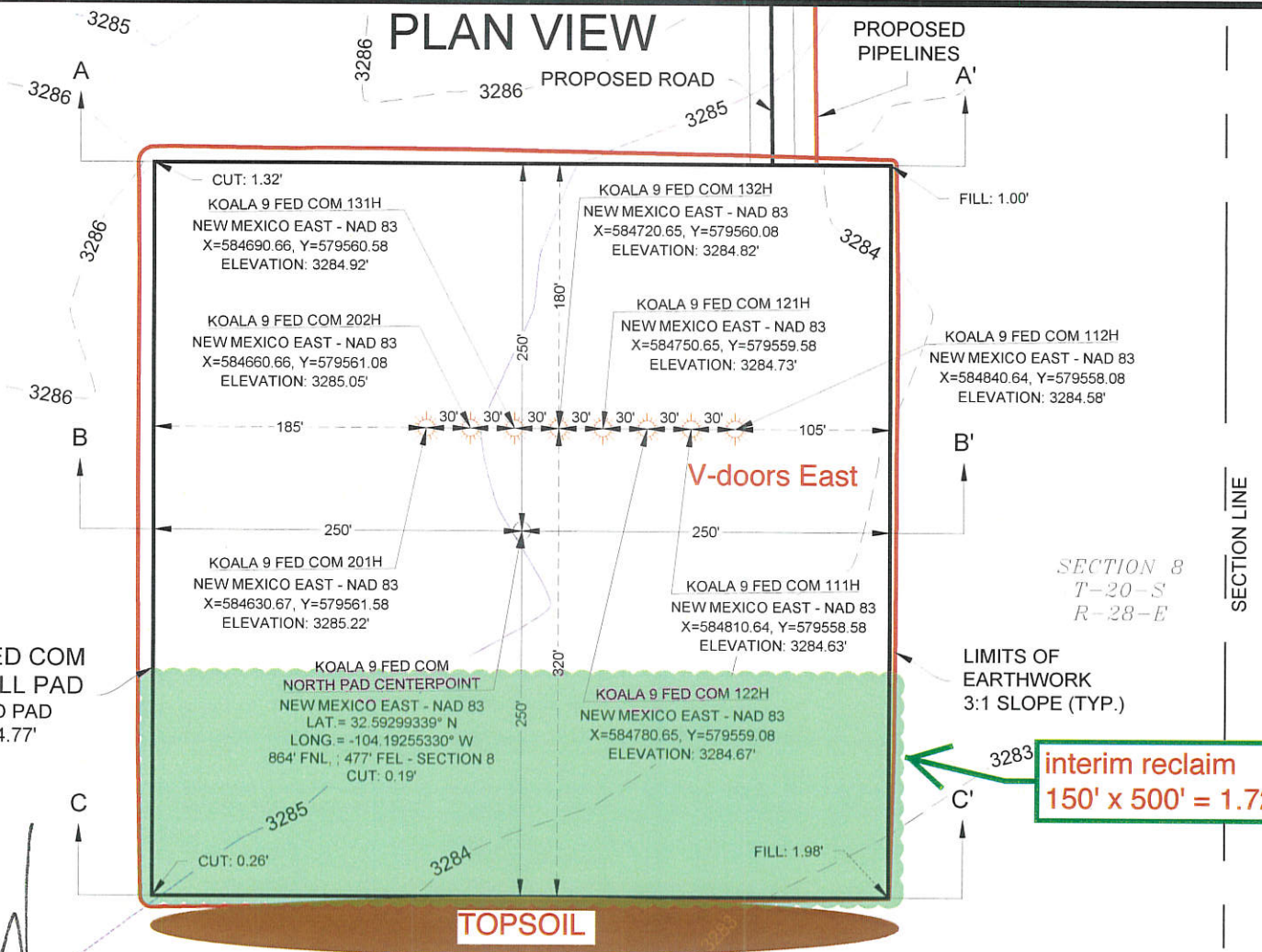
DWG. NO.

8475 DUNDEE 4 FED COM CTB
PAD (5-20S-28E) SURFACE
SITE

REV.

0





I, MARK J. MURRAY, A NEW MEXICO PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THAT I CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

5/11/2022

MARK J. MURRAY NEW MEXICO PS #12177 DATE

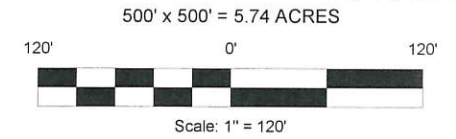


**KOALA 9 FED COM NORTH WELL PAD
PAD GRADING AND CROSS SECTIONS**
SITUATED IN
SECTION 8, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO



TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181

MAP 8a



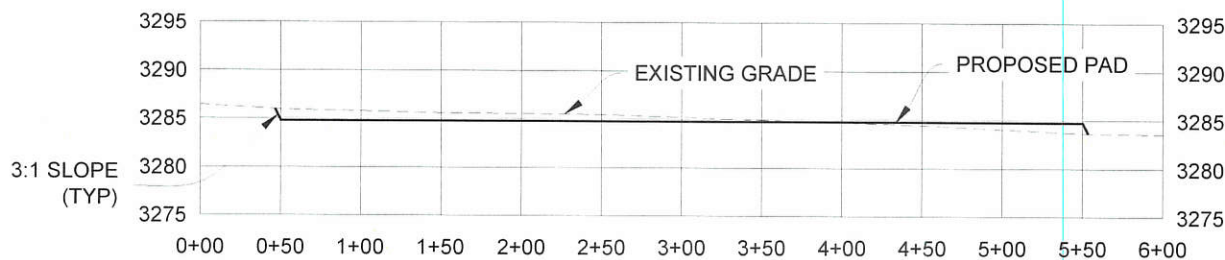
CUT	FILL	NET
2,825.85 CU. YD	2,825.88 CU. YD	0.03 CU. YD (CUT)

EARTHWORK QUANTITIES ARE ESTIMATED

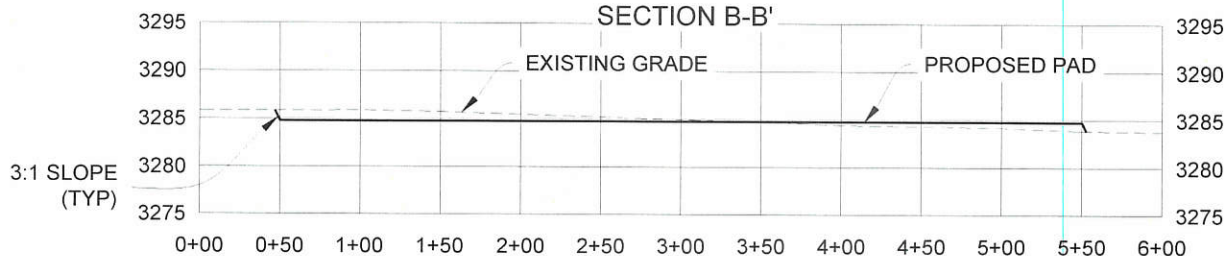
PROJECT NO. 10324 DATE: 5/10/2022 SHEET 1-2

CROSS-SECTIONS

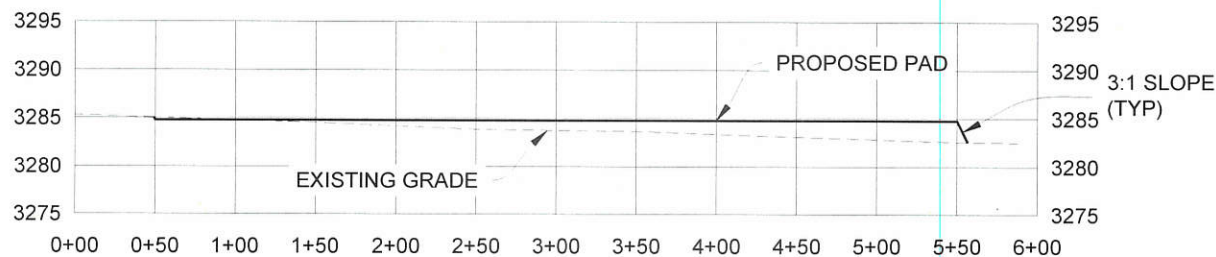
SECTION A-A'



SECTION B-B'



SECTION C-C'



MAP 8b

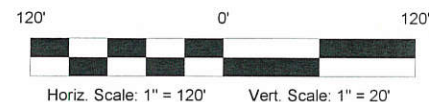


KOALA 9 FED COM NORTH WELL PAD PAD GRADING AND CROSS SECTIONS

SITUATED IN
SECTION 8, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO



TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
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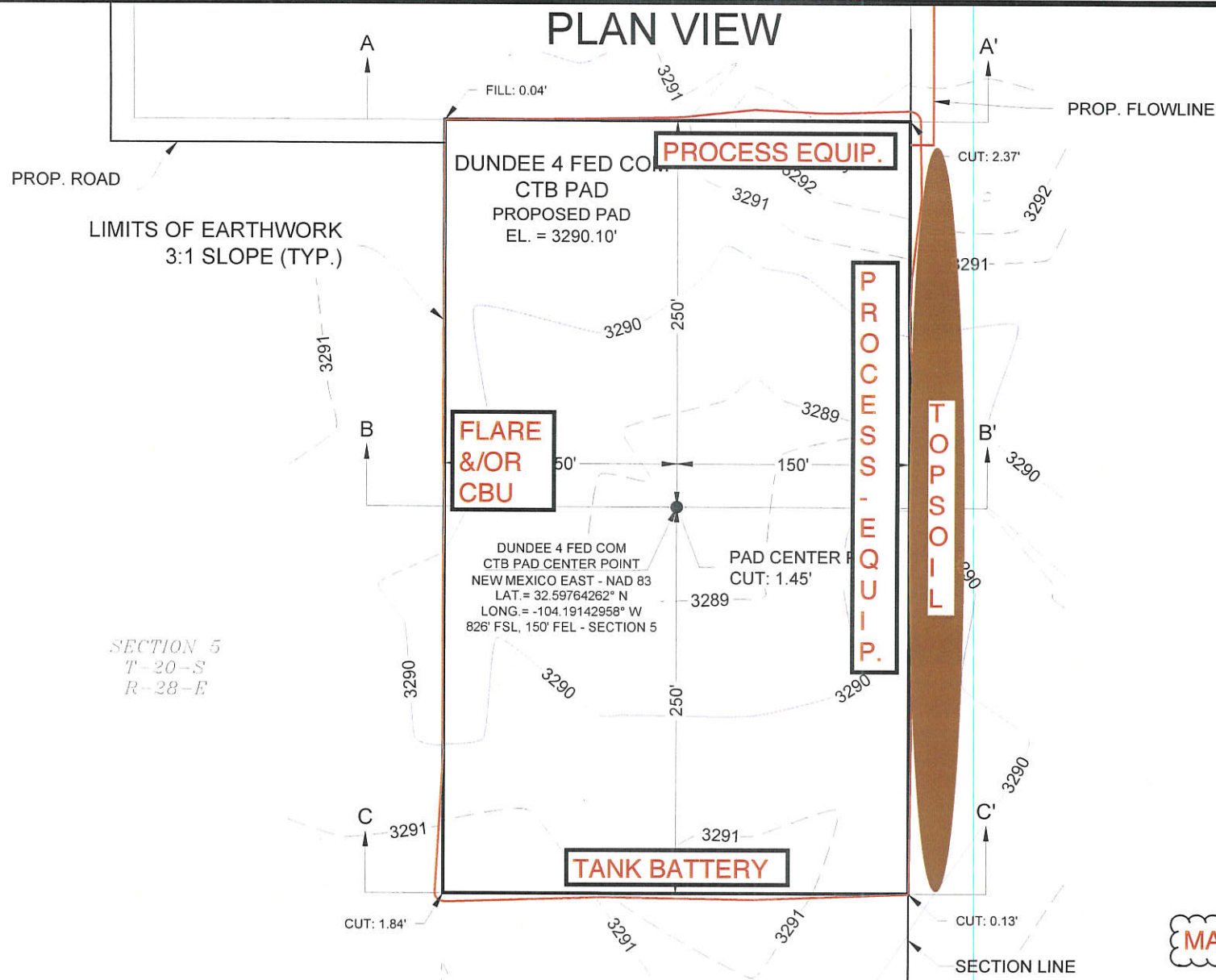
CUT	FILL	NET
2,825.85 CU. YD	2,825.88 CU. YD	0.03 CU. YD (CUT)

EARTHWORK QUANTITIES ARE ESTIMATED

PROJECT NO. 10324

DATE: 5/10/2022

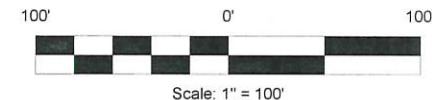
SHEET 2-2



**DUNDEE 4 FED COM CTB
PAD GRADING AND CROSS SECTIONS**

SITUATED IN
SECTION 5, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO

500' X 300' = 3.44 ACRES



CUT	FILL	NET
1794.20 CU. YD	1794.20 CU. YD	0.00 CU. YD (FILL)

EARTHWORK QUANTITIES ARE ESTIMATED

PROJECT NO. 8475

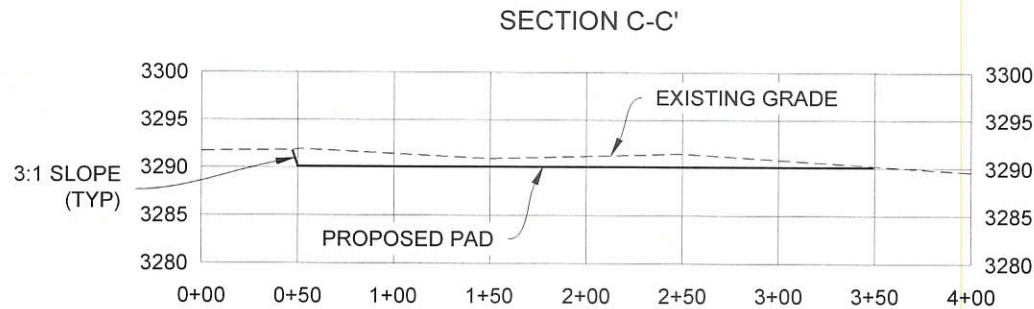
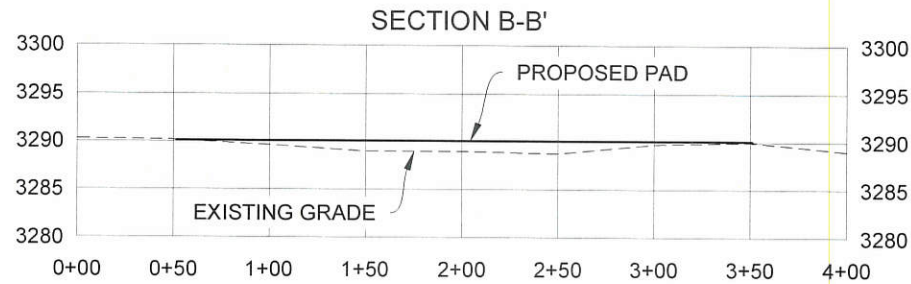
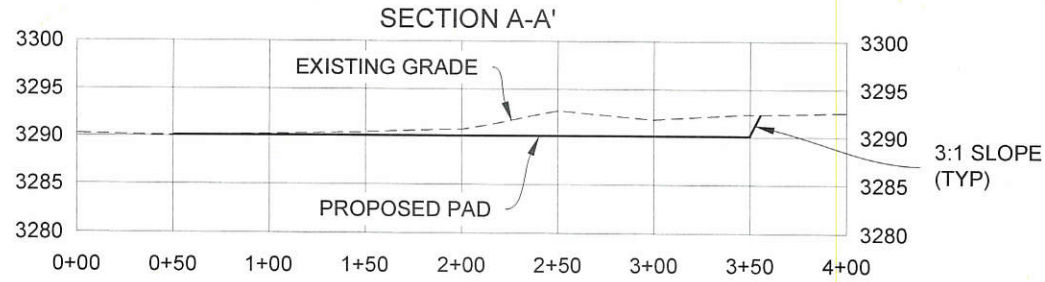
DATE: 02/21/2022

SHEET 1-2



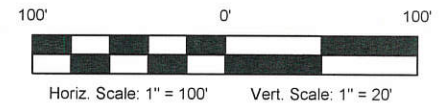
TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181

CROSS-SECTIONS



DUNDEE 4 FED COM CTB
PAD GRADING AND CROSS SECTIONS
SITUATED IN
SECTION 5, TOWNSHIP 20 SOUTH, RANGE 28 EAST
N.M.P.M.
EDDY COUNTY, NEW MEXICO

MAP 10d



CUT	FILL	NET
1794.20 CU. YD	1794.20 CU. YD	0.00 CU. YD (FILL)

EARTHWORK QUANTITIES ARE ESTIMATED

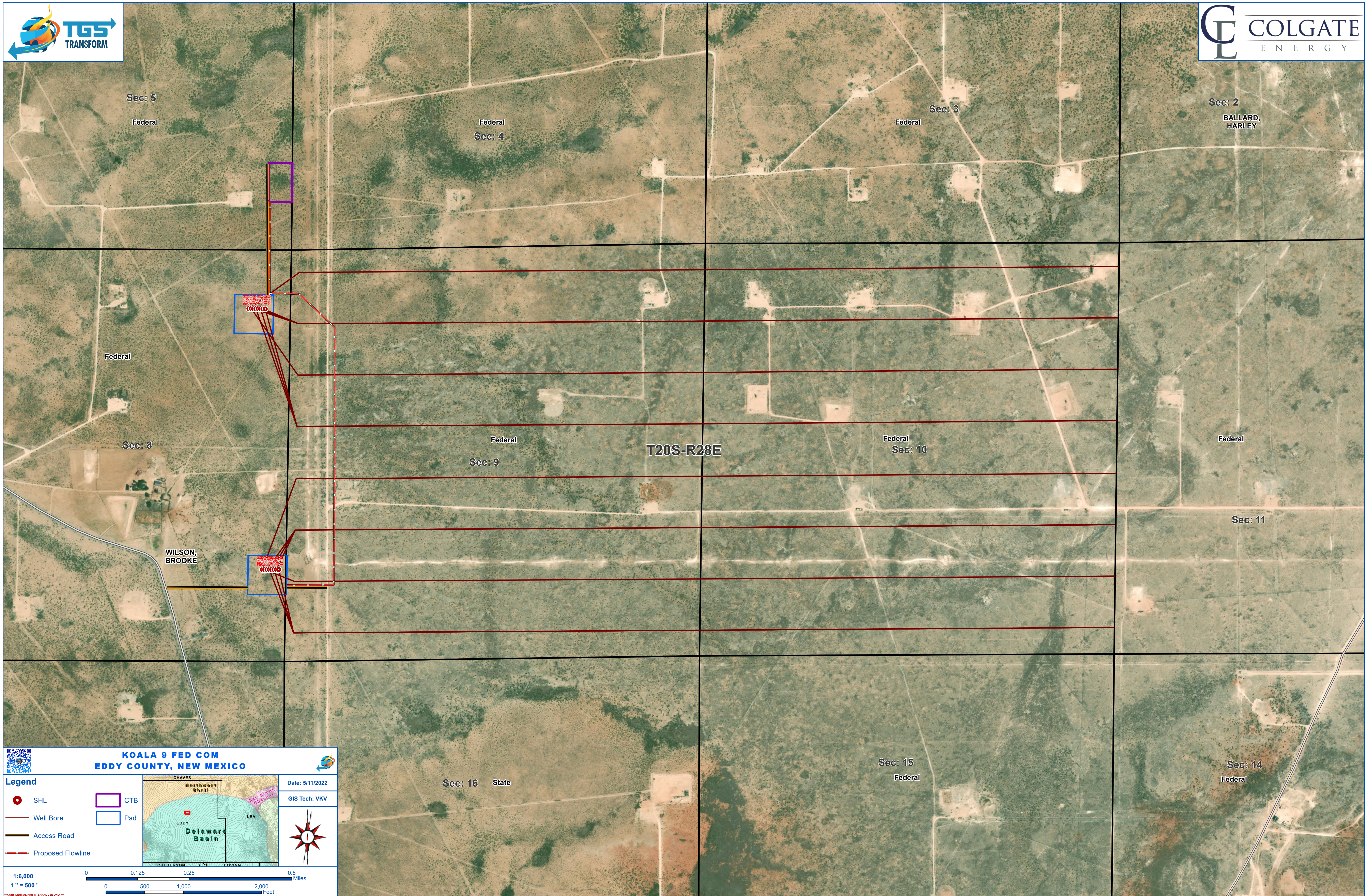
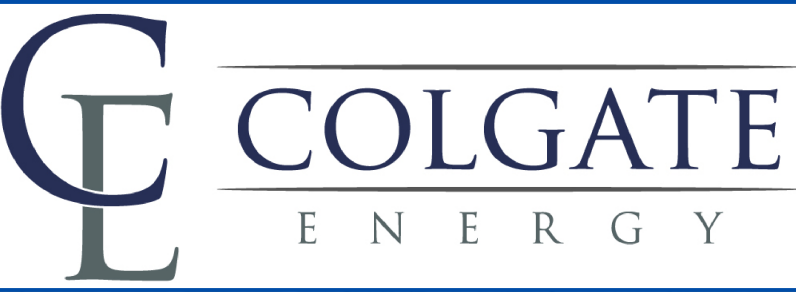
PROJECT NO. 8475

DATE: 02/21/2022

SHEET 2-2



TBPELS FIRM# 10193740 / 19148
2129 S Great Southwest Parkway Suite 313
Grand Prairie, TX 75051
(817) 529-1180 ~ Fax (817) 529-1181





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

PWD Data Report

12/11/2025

APD ID: 10400085979

Submission Date: 06/09/2022

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM

Well Number: 122H

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - General

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

Section 2 - Lined

Would you like to utilize Lined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Other PWD Surface Owner Description:

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit

Pit liner description:

Pit liner manufacturers

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule

Lined pit reclamation description:

Lined pit reclamation

Leak detection system description:

Leak detection system

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM

Well Number: 122H

Lined pit Monitor description:

Lined pit Monitor

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information

Section 3 - Unlined

Would you like to utilize Unlined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD disturbance (acres):

PWD surface owner:

Other PWD Surface Owner Description:

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule

Unlined pit reclamation description:

Unlined pit reclamation

Unlined pit Monitor description:

Unlined pit Monitor

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

Beneficial use user

Estimated depth of the shallowest aquifer (feet):

Precipitated Solids Permit

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

TDS lab results:

Geologic and hydrologic

Operator Name: COLGATE OPERATING LLC**Well Name:** KOALA 9 FED COM**Well Number:** 122H**State****Unlined Produced Water Pit Estimated****Unlined pit: do you have a reclamation bond for the pit?****Is the reclamation bond a rider under the BLM bond?****Unlined pit bond number:****Unlined pit bond amount:****Additional bond information****Section 4 -****Would you like to utilize Injection PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Other PWD Surface Owner Description:****Injection PWD discharge volume (bbl/day):****Injection well mineral owner:****Injection well type:****Injection well number:****Injection well name:****Assigned injection well API number?****Injection well API number:****Injection well new surface disturbance (acres):****Minerals protection information:****Mineral protection****Underground Injection Control (UIC) Permit?****UIC Permit****Section 5 - Surface****Would you like to utilize Surface Discharge PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Other PWD Surface Owner Description :****Surface discharge PWD discharge volume (bbl/day):****Surface Discharge NPDES Permit?****Surface Discharge NPDES Permit attachment:****Surface Discharge site facilities information:****Surface discharge site facilities map:**

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM

Well Number: 122H

Section 6 -

Would you like to utilize Other PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

PWD Surface Owner Description:

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type

Have other regulatory requirements been met?

Other regulatory requirements



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

Bond Info Data

12/11/2025

APD ID: 10400085979

Submission Date: 06/09/2022

Operator Name: COLGATE OPERATING LLC

Well Name: KOALA 9 FED COM

Well Number: 122H

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 attachment:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

ACKNOWLEDGMENTS

Action 536332

ACKNOWLEDGMENTS

Operator: Permian Resources Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 372165
	Action Number: 536332
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

ACKNOWLEDGMENTS

☒	I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well.
-------------------------------------	--

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

CONDITIONS

Action 536332

CONDITIONS

Operator: Permian Resources Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 372165
	Action Number: 536332
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
clevans	Cement is required to circulate on both surface and intermediate1 strings of casing.	12/18/2025
clevans	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	12/18/2025
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	1/12/2026
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	1/12/2026
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.	1/12/2026
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.	1/12/2026
ward.rikala	If the Capitan Reef is encountered while drilling, drilled shall immediately cease and casing shall be ran and cemented back to surface. Once Capitan is fully penetrated, then another casing string shall be set and cemented back to surface.	1/12/2026