PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG Operating LLC
LEASE NO.:	NMNM121958
WELL NAME & NO.:	604H-Dominator 25 FED COM
SURFACE HOLE FOOTAGE:	280'/S & 1320'/E
BOTTOM HOLE FOOTAGE	200'/N & 1600'/E
LOCATION:	Section 25,R33E, T.25S,NMPM
COUNTY:	LEA County, New Mexico.

Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	◉ Conventional	○ Multibowl	
Other	☐4 String Area	☐Capitan Reef	☐WIPP

A. Hydrogen Sulfide

1. Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **10 3/4** inch surface casing shall be set at approximately **1150** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 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.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the **7 5/8** inch intermediate casing is:

   - Cement to surface. If cement does not circulate see B.1.a, c-d above.

3. The minimum required fill of cement behind the **5 1/2 X 5** inch production casing is:

   - Cement should tie-back at least **200** feet into previous casing string. Operator shall provide method of verification.

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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **7 5/8** inch intermediate casing shoe shall be **10,000 (10M)** psi. **Variance approved to use a 5M annular. The annular must be tested to full working pressure (5000 psi.)**

D. SPECIAL REQUIREMENT(S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, 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.

- 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.

Waste Minimization Plan (WMP)

In the interest of resource development, submission of additional well gas capture development plan information is deferred but may be required by the BLM Authorized Officer at a later date.

MHH 03302018

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)

☒ Chaves and Roosevelt Counties
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
During office hours call (575) 627-0272.
After office hours call (575)

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

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 Onshore Oil and Gas Order No. 2 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.

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.

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 Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: 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. Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.
    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 when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

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 plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 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 Onshore Order No. 2.

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.

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

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WELL NAME & NO.:	604H-Dominator 25 FED COM
SURFACE HOLE FOOTAGE:	280'/S & 1320'/E
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LOCATION:	Section 25,R33E, T.25S,NMPM
COUNTY:	LEA County, New Mexico.

TABLE OF CONTENTS

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**
- Lesser Prairie-Chicken Timing Stipulations
- Below Ground-level Abandoned Well Marker
- Range
- 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**

Approval Date: 04/09/2018

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 and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator 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 shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

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)

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Below 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. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

Range

The operator must contact the allotment holder prior to construction to identify the location of the pipeline. The operator must take measures to protect the pipeline from compression or other damages. If the pipeline is damaged or compromised in any way near the proposed project as a result of oil and gas activity, the operator is responsible for repairing the pipeline immediately. The operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

Watershed

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

VI. CONSTRUCTION

A. NOTIFICATION

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

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

B. TOPSOIL

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

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

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

F. EXCLOSURE FENCING (CELLARS & PITS)

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

G. ON LEASE ACCESS ROADS

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

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

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

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

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

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

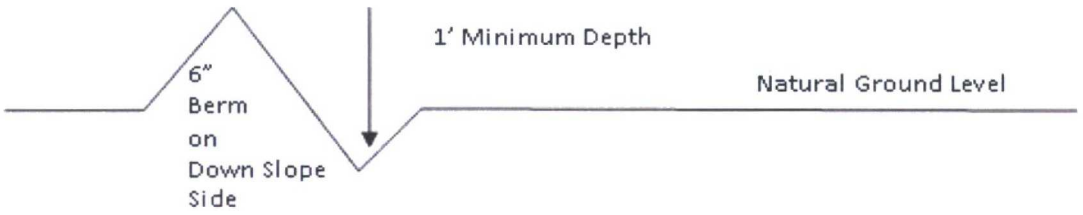
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

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

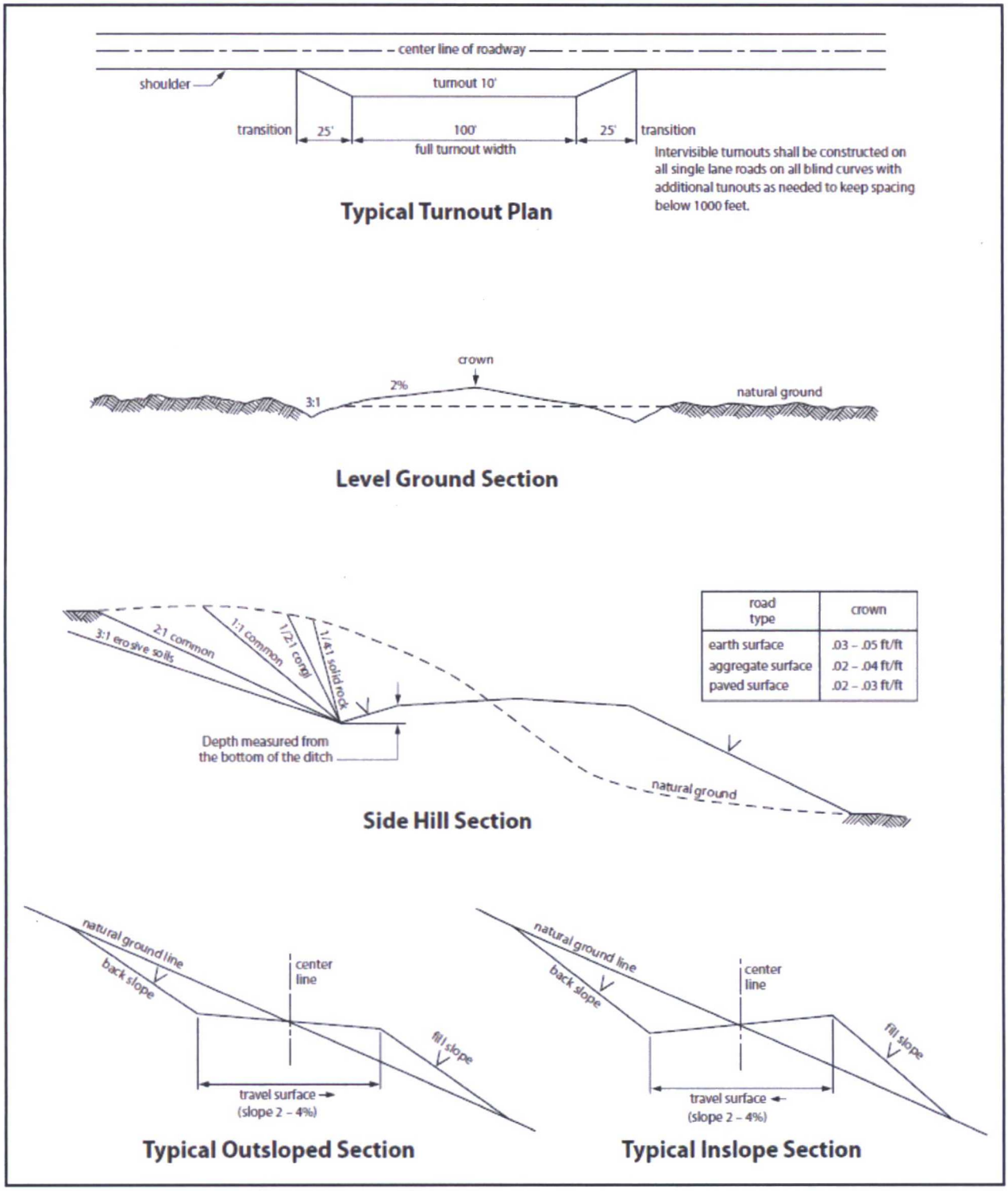


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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).

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

7. No blading or clearing of any vegetation shall be allowed unless approved in

writing by the Authorized Officer.

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

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

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

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

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

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

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

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. 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 cultural or scientific values. The holder will be responsible

for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

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 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.

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

18. Special Stipulations:

a. **Lesser Prairie-Chicken:** Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted.

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).

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

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

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

*Pounds of pure live seed:

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

COG OPERATING LLC
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

a. The hazards and characteristics of hydrogen sulfide (H_2S).
b. The proper use and maintenance of personal protective equipment and life support systems.
c. The proper use of H_2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
d. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

a. The effects of H2S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
b. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
c. The contents and requirements of the H_2S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H2S zone (within 3 days or 500 feet) and weekly H2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H2S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

2. H_2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H_2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H2S. If H2S greater than 100 ppm is encountered in the gas stream we will shut in and install H2S equipment.

a. Well Control Equipment:
   Flare line.
   Choke manifold with remotely operated choke.
   Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
   Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head.

b. Protective equipment for essential personnel:
Mark II Surviveair 30-minute units located in the dog house and at briefing areas.

c. H2S detection and monitoring equipment:
2 - portable H2S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 ppm are reached.

d. Visual warning systems:
Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

e. Mud Program:
The mud program has been designed to minimize the volume of H2S circulated to the surface.

f. Metallurgy:
All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.

g. Communication:
Company vehicles equipped with cellular telephone.

COG OPERATING LLC has conducted a review to determine if an H2S contingency plan is required for the above referenced well. We were able to conclude that any potential hazardous volume would be minimal. H2S concentrations of wells in this area from surface to TD are low enough; therefore, we do not believe that an H2S contingency plan is necessary.

WARNING

YOU ARE ENTERING AN H_2S AREA
AUTHORIZED PERSONNEL ONLY

1. ***BEARDS OR CONTACT LENSES NOT ALLOWED***
2. ***HARD HATS REQUIRED***
3. ***SMOKING IN DESIGNATED AREAS ONLY***
4. ***BE WIND CONSCIOUS AT ALL TIMES***
5. ***CK WITH COG OPERATING LLC FOREMAN AT MAIN OFFICE***

COG OPERATING LLC

1-575-748-6940

EMERGENCY CALL LIST

	OFFICE	MOBILE
COG OPERATING LLC OFFICE	575-748-6940	
SETH WILD	432-683-7443	432-528-3633
WALTER ROYE	575-748-6940	432-934-1886

EMERGENCY RESPONSE NUMBERS

	OFFICE
STATE POLICE	575-748-9718
EDDY COUNTY SHERIFF	575-746-2701
EMERGENCY MEDICAL SERVICES (AMBULANCE)	911 or 575-746-2701
EDDY COUNTY EMERGENCY MANAGEMENT (HARRY BURGESS)	575-887-9511
STATE EMERGENCY RESPONSE CENTER (SERC)	575-476-9620
CARLSBAD POLICE DEPARTMENT	575-885-2111
CARLSBAD FIRE DEPARTMENT	575-885-3125
NEW MEXICO OIL CONSERVATION DIVISION	575-748-1283
INDIAN FIRE & SAFETY	800-530-8693
HALLIBURTON SERVICES	800-844-8451

COG Operating L L C

Lea County, NM (NAD27 NME)
Sec. 25, T 25 S. , R 33 E
Dominator 25 Fed Com 604H

Wellbore #1
Plan #1

Anticollision Report

15 November, 2017

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Plan #1

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 center-center distance of 10,000.00 ft	**Error Surface:**	Circular Conic
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 11/15/2017

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	12,119.58	Plan #1 (Wellbore #1)	Keeper	Standard Wireline Keeper ver 1.0.2
12,119.58	17,448.09	Plan #1 (Wellbore #1)	MWD	MWD - Standard

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Sec. 25, T 25 S. , R 33 E						
Dominator 25 Fed 302H - Wellbore #1 - Plan #1	4,500.00	4,497.80	67.17	55.45	5.730	CC, ES
Dominator 25 Fed 302H - Wellbore #1 - Plan #1	4,600.00	4,596.84	67.87	55.95	5.697	SF
Dominator 25 Fed 402H - Wellbore #1 - Plan #1	4,500.00	4,498.40	42.50	30.77	3.625	CC
Dominator 25 Fed 402H - Wellbore #1 - Plan #1	4,600.00	4,598.32	42.58	30.67	3.575	ES, SF
Dominator 25 Fed 703H - Wellbore #1 - Plan #1	5,947.54	5,946.37	58.37	43.55	3.937	CC
Dominator 25 Fed 703H - Wellbore #1 - Plan #1	6,000.00	5,998.80	58.40	43.53	3.927	ES
Dominator 25 Fed 703H - Wellbore #1 - Plan #1	17,448.09	17,658.32	364.53	180.14	1.977	SF
Dominator 25 Fed Com 103H - Wellbore #1 - Plan #1	4,466.63	4,466.73	42.43	30.79	3.645	CC
Dominator 25 Fed Com 103H - Wellbore #1 - Plan #1	4,500.00	4,500.00	42.43	30.70	3.618	ES
Dominator 25 Fed Com 103H - Wellbore #1 - Plan #1	4,600.00	4,599.61	42.98	31.06	3.606	SF
Dominator 25 Fed Com 303H - Wellbore #1 - Plan #1	4,922.53	4,922.29	25.73	13.26	2.064	CC, ES, SF
Dominator 25 Fed Com 603H - Wellbore #1 - Plan #1	7,000.00	6,998.90	30.00	11.68	1.638	CC, ES
Dominator 25 Fed Com 603H - Wellbore #1 - Plan #1	17,448.09	17,361.75	229.95	45.53	1.247	Level 2, SF
Dominator 25 Fed Com 704H - Wellbore #1 - Plan #1	4,466.57	4,466.87	30.00	18.36	2.578	CC
Dominator 25 Fed Com 704H - Wellbore #1 - Plan #1	17,448.09	17,612.66	173.27	-11.41	0.938	Level 1, ES, SF

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed 302H - Wellbore #1 - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-Keeper, 9724-MWD

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	62.90	30.60	59.80	67.21				
100.00	100.00	97.80	97.80	0.06	0.06	62.90	30.60	59.80	67.17	67.05	0.12	541.253	
200.00	200.00	197.80	197.80	0.20	0.19	62.90	30.60	59.80	67.17	66.79	0.39	173.033	
300.00	300.00	297.80	297.80	0.33	0.32	62.90	30.60	59.80	67.17	66.52	0.65	103.209	
400.00	400.00	397.80	397.80	0.46	0.46	62.90	30.60	59.80	67.17	66.26	0.91	73.486	
500.00	500.00	497.80	497.80	0.59	0.59	62.90	30.60	59.80	67.17	66.00	1.18	57.046	
600.00	600.00	597.80	597.80	0.72	0.72	62.90	30.60	59.80	67.17	65.73	1.44	46.614	
700.00	700.00	697.80	697.80	0.85	0.85	62.90	30.60	59.80	67.17	65.47	1.70	39.406	
800.00	800.00	797.80	797.80	0.99	0.98	62.90	30.60	59.80	67.17	65.21	1.97	34.129	
900.00	900.00	897.80	897.80	1.12	1.11	62.90	30.60	59.80	67.17	64.94	2.23	30.097	
1,000.00	1,000.00	997.80	997.80	1.25	1.25	62.90	30.60	59.80	67.17	64.68	2.50	26.918	

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed 302H - Wellbore #1 - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Keeper, 9724-MWD — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
1,100.00	1,100.00	1,097.80	1,097.80	1.38	1.38	62.90	30.60	59.80	67.17	64.42	2.76	24.346	
1,200.00	1,200.00	1,197.80	1,197.80	1.51	1.51	62.90	30.60	59.80	67.17	64.15	3.02	22.222	
1,300.00	1,300.00	1,297.80	1,297.80	1.64	1.64	62.90	30.60	59.80	67.17	63.89	3.29	20.440	
1,400.00	1,400.00	1,397.80	1,397.80	1.78	1.77	62.90	30.60	59.80	67.17	63.62	3.55	18.922	
1,500.00	1,500.00	1,497.80	1,497.80	1.91	1.91	62.90	30.60	59.80	67.17	63.36	3.81	17.614	
1,600.00	1,600.00	1,597.80	1,597.80	2.04	2.04	62.90	30.60	59.80	67.17	63.10	4.08	16.475	
1,700.00	1,700.00	1,697.80	1,697.80	2.17	2.17	62.90	30.60	59.80	67.17	62.83	4.34	15.474	
1,800.00	1,800.00	1,797.80	1,797.80	2.30	2.30	62.90	30.60	59.80	67.17	62.57	4.60	14.588	
1,900.00	1,900.00	1,897.80	1,897.80	2.44	2.43	62.90	30.60	59.80	67.17	62.31	4.87	13.798	
2,000.00	2,000.00	1,997.80	1,997.80	2.57	2.56	62.90	30.60	59.80	67.17	62.04	5.13	13.089	
2,100.00	2,100.00	2,097.80	2,097.80	2.70	2.70	62.90	30.60	59.80	67.17	61.78	5.40	12.449	
2,200.00	2,200.00	2,197.80	2,197.80	2.83	2.83	62.90	30.60	59.80	67.17	61.52	5.66	11.869	
2,300.00	2,300.00	2,297.80	2,297.80	2.96	2.96	62.90	30.60	59.80	67.17	61.25	5.92	11.341	
2,400.00	2,400.00	2,397.80	2,397.80	3.09	3.09	62.90	30.60	59.80	67.17	60.99	6.19	10.858	
2,500.00	2,500.00	2,497.80	2,497.80	3.23	3.22	62.90	30.60	59.80	67.17	60.72	6.45	10.414	
2,600.00	2,600.00	2,597.80	2,597.80	3.36	3.36	62.90	30.60	59.80	67.17	60.46	6.71	10.005	
2,700.00	2,700.00	2,697.80	2,697.80	3.49	3.49	62.90	30.60	59.80	67.17	60.20	6.98	9.627	
2,800.00	2,800.00	2,797.80	2,797.80	3.62	3.62	62.90	30.60	59.80	67.17	59.93	7.24	9.276	
2,900.00	2,900.00	2,897.80	2,897.80	3.75	3.75	62.90	30.60	59.80	67.17	59.67	7.51	8.950	
3,000.00	3,000.00	2,997.80	2,997.80	3.89	3.88	62.90	30.60	59.80	67.17	59.41	7.77	8.647	
3,100.00	3,100.00	3,097.80	3,097.80	4.02	4.01	62.90	30.60	59.80	67.17	59.14	8.03	8.363	
3,200.00	3,200.00	3,197.80	3,197.80	4.15	4.15	62.90	30.60	59.80	67.17	58.88	8.30	8.097	
3,300.00	3,300.00	3,297.80	3,297.80	4.28	4.28	62.90	30.60	59.80	67.17	58.61	8.56	7.848	
3,400.00	3,400.00	3,397.80	3,397.80	4.41	4.41	62.90	30.60	59.80	67.17	58.35	8.82	7.613	
3,500.00	3,500.00	3,497.80	3,497.80	4.55	4.54	62.90	30.60	59.80	67.17	58.09	9.09	7.392	
3,600.00	3,600.00	3,597.80	3,597.80	4.68	4.67	62.90	30.60	59.80	67.17	57.82	9.35	7.184	
3,700.00	3,700.00	3,697.80	3,697.80	4.81	4.81	62.90	30.60	59.80	67.17	57.56	9.61	6.987	
3,800.00	3,800.00	3,797.80	3,797.80	4.94	4.94	62.90	30.60	59.80	67.17	57.30	9.88	6.800	
3,900.00	3,900.00	3,897.80	3,897.80	5.07	5.07	62.90	30.60	59.80	67.17	57.03	10.14	6.623	
4,000.00	4,000.00	3,997.80	3,997.80	5.20	5.20	62.90	30.60	59.80	67.17	56.77	10.41	6.456	
4,100.00	4,100.00	4,097.80	4,097.80	5.34	5.33	62.90	30.60	59.80	67.17	56.51	10.67	6.296	
4,200.00	4,200.00	4,197.80	4,197.80	5.47	5.47	62.90	30.60	59.80	67.17	56.24	10.93	6.144	
4,300.00	4,300.00	4,297.80	4,297.80	5.60	5.60	62.90	30.60	59.80	67.17	55.98	11.20	5.999	
4,400.00	4,400.00	4,397.80	4,397.80	5.73	5.73	62.90	30.60	59.80	67.17	55.71	11.46	5.861	
4,500.00	4,500.00	4,497.80	4,497.80	5.86	5.86	62.90	30.60	59.80	67.17	55.45	11.72	5.730	CC, ES
4,600.00	4,600.00	4,596.84	4,596.82	6.00	5.92	64.16	29.57	61.08	67.87	55.95	11.91	5.697	SF
4,700.00	4,700.00	4,695.82	4,695.67	6.13	5.90	67.86	26.44	64.97	70.18	58.15	12.03	5.834	
4,800.00	4,800.00	4,795.63	4,795.28	6.26	5.89	72.11	22.55	69.82	73.41	61.27	12.15	6.044	
4,900.00	4,900.00	4,895.43	4,894.90	6.39	5.88	75.98	18.65	74.67	77.02	64.75	12.27	6.278	
5,000.00	5,000.00	4,995.24	4,994.51	6.52	5.87	79.49	14.75	79.52	80.94	68.55	12.39	6.532	
5,100.00	5,100.00	5,095.04	5,094.12	6.65	5.86	82.67	10.86	84.36	85.14	72.62	12.52	6.802	
5,200.00	5,200.00	5,194.85	5,193.73	6.79	5.86	85.54	6.96	89.21	89.58	76.93	12.65	7.084	
5,300.00	5,300.00	5,294.66	5,293.34	6.92	5.86	88.13	3.06	94.06	94.22	81.44	12.78	7.374	
5,400.00	5,400.00	5,394.46	5,392.95	7.05	5.86	90.48	-0.83	98.91	99.03	86.12	12.91	7.669	
5,500.00	5,500.00	5,494.27	5,492.57	7.18	5.87	92.61	-4.73	103.75	103.99	90.94	13.05	7.969	
5,600.00	5,600.00	5,594.07	5,592.18	7.31	5.88	94.54	-8.62	108.60	109.09	95.90	13.19	8.270	
5,700.00	5,700.00	5,693.88	5,691.79	7.45	5.89	96.30	-12.52	113.45	114.30	100.96	13.33	8.572	
5,800.00	5,800.00	5,793.68	5,791.40	7.58	5.90	97.90	-16.42	118.30	119.60	106.12	13.48	8.872	
5,900.00	5,900.00	5,893.49	5,891.01	7.71	5.92	99.37	-20.31	123.14	124.99	111.36	13.63	9.170	
6,000.00	6,000.00	5,993.30	5,990.62	7.84	5.94	100.71	-24.21	127.99	130.46	116.68	13.78	9.465	
6,100.00	6,100.00	6,093.10	6,090.24	7.97	5.97	101.95	-28.10	132.84	135.99	122.05	13.94	9.756	
6,200.00	6,200.00	6,192.91	6,189.85	8.10	5.99	103.08	-32.00	137.69	141.58	127.48	14.10	10.043	

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

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed 302H - Wellbore #1 - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-Keeper, 9724-MWD

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
6,300.00	6,300.00	6,292.71	6,289.46	8.24	6.02	104.14	-35.90	142.54	147.22	132.96	14.26	10.325	
6,400.00	6,400.00	6,392.52	6,389.07	8.37	6.05	105.11	-39.79	147.38	152.91	138.49	14.42	10.602	
6,500.00	6,500.00	6,492.32	6,488.68	8.50	6.09	106.01	-43.69	152.23	158.64	144.05	14.59	10.873	
6,600.00	6,600.00	6,592.13	6,588.29	8.63	6.13	106.85	-47.59	157.08	164.40	149.64	14.76	11.138	
6,700.00	6,700.00	6,691.93	6,687.91	8.76	6.17	107.64	-51.48	161.93	170.20	155.27	14.93	11.398	
6,800.00	6,800.00	6,791.74	6,787.52	8.90	6.21	108.37	-55.38	166.77	176.03	160.92	15.11	11.651	
6,900.00	6,900.00	6,891.55	6,887.13	9.03	6.26	109.05	-59.27	171.62	181.88	166.59	15.29	11.898	
7,000.00	7,000.00	6,991.35	6,986.74	9.16	6.31	109.70	-63.17	176.47	187.76	172.29	15.47	12.139	
7,100.00	7,099.98	7,091.12	7,086.32	9.21	6.36	-116.52	-67.06	181.31	194.43	178.86	15.57	12.486	
7,197.95	7,197.79	7,188.70	7,183.71	9.19	6.41	-117.11	-70.87	186.05	202.49	186.89	15.60	12.979	
7,200.00	7,199.84	7,190.74	7,185.75	9.19	6.41	-117.13	-70.95	186.15	202.68	187.08	15.60	12.991	
7,300.00	7,299.60	7,290.25	7,285.06	9.17	6.47	-118.23	-74.84	190.99	211.74	196.11	15.64	13.542	
7,400.00	7,399.36	7,389.76	7,384.38	9.15	6.53	-119.24	-78.72	195.82	220.88	205.20	15.68	14.091	
7,500.00	7,499.12	7,489.27	7,483.69	9.13	6.59	-120.16	-82.61	200.65	230.07	214.36	15.72	14.638	
7,600.00	7,598.88	7,588.78	7,583.01	9.11	6.65	-121.02	-86.49	205.49	239.33	223.56	15.76	15.181	
7,700.00	7,698.64	7,688.29	7,682.33	9.10	6.72	-121.81	-90.38	210.32	248.63	232.81	15.82	15.721	
7,800.00	7,798.41	7,787.80	7,781.64	9.08	6.79	-122.54	-94.26	215.15	257.97	242.10	15.87	16.255	
7,900.00	7,898.17	7,887.31	7,880.96	9.07	6.86	-123.23	-98.15	219.98	267.35	251.43	15.93	16.785	
8,000.00	7,997.93	7,986.82	7,980.28	9.06	6.93	-123.86	-102.03	224.82	276.77	260.78	15.99	17.308	
8,100.00	8,097.69	8,086.33	8,079.59	9.06	7.00	-124.46	-105.92	229.65	286.22	270.17	16.06	17.825	
8,200.00	8,197.45	8,185.84	8,178.91	9.05	7.07	-125.01	-109.80	234.48	295.70	279.57	16.13	18.336	
8,300.00	8,297.21	8,285.35	8,278.23	9.05	7.15	-125.54	-113.68	239.32	305.21	289.01	16.20	18.840	
8,400.00	8,396.97	8,384.86	8,377.54	9.05	7.23	-126.03	-117.57	244.15	314.73	298.46	16.28	19.336	
8,500.00	8,496.74	8,484.37	8,476.86	9.05	7.31	-126.49	-121.45	248.98	324.28	307.93	16.36	19.825	
8,600.00	8,596.50	8,583.88	8,576.18	9.05	7.39	-126.92	-125.34	253.82	333.85	317.41	16.44	20.305	
8,700.00	8,696.26	8,683.39	8,675.49	9.06	7.47	-127.33	-129.22	258.65	343.44	326.91	16.53	20.778	
8,800.00	8,796.02	8,782.90	8,774.81	9.06	7.56	-127.72	-133.11	263.48	353.05	336.43	16.62	21.242	
8,900.00	8,895.78	8,882.41	8,874.13	9.07	7.64	-128.09	-136.99	268.32	362.67	345.95	16.71	21.698	
9,000.00	8,995.54	8,981.92	8,973.44	9.08	7.73	-128.44	-140.88	273.15	372.30	355.49	16.81	22.146	
9,100.00	9,095.30	9,081.43	9,072.76	9.10	7.82	-128.77	-144.76	277.98	381.95	365.03	16.91	22.584	
9,200.00	9,195.07	9,180.94	9,172.08	9.11	7.91	-129.09	-148.65	282.82	391.60	374.59	17.02	23.014	
9,300.00	9,294.83	9,280.45	9,271.39	9.13	8.00	-129.39	-152.53	287.65	401.27	384.15	17.12	23.435	
9,400.00	9,394.59	9,379.96	9,370.71	9.15	8.09	-129.67	-156.42	292.48	410.95	393.72	17.23	23.846	
9,500.00	9,494.35	9,479.47	9,470.03	9.17	8.18	-129.94	-160.30	297.32	420.64	403.30	17.35	24.249	
9,600.00	9,594.11	9,578.98	9,569.34	9.19	8.27	-130.20	-164.18	302.15	430.34	412.88	17.46	24.643	
9,700.00	9,693.87	9,678.49	9,668.66	9.22	8.37	-130.45	-168.07	306.98	440.05	422.47	17.58	25.028	
9,800.00	9,793.63	9,783.55	9,773.50	9.24	8.42	-131.17	-168.49	312.06	449.43	431.75	17.68	25.421	
9,900.00	9,893.39	9,887.24	9,874.94	9.27	8.44	-134.38	-148.56	316.82	457.59	439.86	17.74	25.802	
10,000.00	9,993.16	9,976.93	9,957.48	9.31	8.50	-139.17	-114.00	320.55	467.60	449.77	17.83	26.227	
10,100.00	10,092.92	10,050.00	10,019.01	9.34	8.61	-144.22	-74.81	323.24	483.67	465.70	17.97	26.913	
10,200.00	10,192.68	10,108.95	10,063.84	9.37	8.75	-148.88	-36.63	325.13	509.00	490.84	18.16	28.034	
10,300.00	10,292.44	10,155.51	10,095.72	9.41	8.92	-152.80	-2.75	326.42	545.00	526.64	18.36	29.681	
10,400.00	10,392.20	10,192.73	10,118.74	9.45	9.10	-156.02	26.47	327.32	591.49	572.91	18.58	31.843	
10,500.00	10,491.96	10,225.00	10,136.81	9.49	9.28	-158.83	53.19	327.99	647.32	628.52	18.80	34.437	
10,600.00	10,591.72	10,250.00	10,149.54	9.54	9.44	-161.00	74.70	328.45	710.97	691.97	19.00	37.413	
10,700.00	10,691.49	10,267.94	10,157.98	9.58	9.58	-162.55	90.53	328.74	780.96	761.78	19.18	40.720	
10,800.00	10,791.25	10,285.14	10,165.51	9.63	9.71	-164.02	105.99	328.99	856.03	836.67	19.36	44.218	
10,900.00	10,891.01	10,300.00	10,171.56	9.68	9.83	-165.27	119.56	329.18	935.13	915.61	19.53	47.885	
11,000.00	10,990.77	10,312.33	10,176.25	9.73	9.94	-166.30	130.96	329.33	1,017.46	997.77	19.69	51.677	
11,100.00	11,090.53	10,325.00	10,180.77	9.79	10.05	-167.35	142.79	329.46	1,102.37	1,082.51	19.85	55.523	
11,200.00	11,190.29	10,325.00	10,180.77	9.84	10.05	-167.35	142.79	329.46	1,189.44	1,169.53	19.91	59.741	
11,300.00	11,290.05	10,341.15	10,186.08	9.90	10.21	-168.66	158.05	329.60	1,278.06	1,257.94	20.12	63.519	

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

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed 302H - Wellbore #1 - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-Keeper, 9724-MWD

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
11,400.00	11,389.82	10,350.00	10,188.77	9.96	10.29	-169.37	166.48	329.67	1,368.17	1,347.90	20.26	67.515	
11,500.00	11,489.58	10,350.00	10,188.77	10.02	10.29	-169.37	166.48	329.67	1,459.47	1,439.15	20.33	71.805	
11,600.00	11,589.34	10,361.24	10,191.95	10.08	10.41	-170.26	177.26	329.74	1,551.69	1,531.19	20.50	75.681	
11,700.00	11,689.10	10,375.00	10,195.51	10.15	10.55	-171.33	190.55	329.82	1,644.86	1,624.15	20.71	79.430	
11,800.00	11,788.86	10,375.00	10,195.51	10.21	10.55	-171.33	190.55	329.82	1,738.57	1,717.80	20.77	83.688	
11,900.00	11,888.62	10,375.00	10,195.51	10.28	10.55	-171.33	190.55	329.82	1,832.95	1,812.11	20.84	87.945	
12,000.00	11,988.38	10,375.00	10,195.51	10.35	10.55	-171.33	190.55	329.82	1,927.89	1,906.98	20.91	92.194	
12,100.00	12,088.15	10,375.00	10,195.51	10.42	10.55	-171.33	190.55	329.82	2,023.32	2,002.34	20.98	96.430	
12,119.58	12,107.68	10,375.00	10,195.51	10.42	10.55	-171.33	190.55	329.82	2,042.06	2,021.08	20.98	97.316	
12,125.00	12,113.09	10,375.00	10,195.51	10.42	10.55	179.24	190.55	329.82	2,047.24	2,026.26	20.99	97.555	
12,150.00	12,138.05	10,385.77	10,198.02	10.42	10.67	118.06	201.02	329.86	2,070.88	2,049.76	21.12	98.048	
12,175.00	12,162.99	10,387.05	10,198.31	10.43	10.68	76.76	202.27	329.87	2,094.37	2,073.20	21.17	98.927	
12,200.00	12,187.85	10,388.55	10,198.63	10.43	10.70	58.52	203.73	329.87	2,117.53	2,096.29	21.24	99.685	
12,225.00	12,212.54	10,400.00	10,200.98	10.43	10.82	48.10	214.94	329.90	2,140.44	2,118.99	21.45	99.811	
12,250.00	12,237.01	10,400.00	10,200.98	10.44	10.82	41.50	214.94	329.90	2,162.75	2,141.20	21.55	100.372	
12,275.00	12,261.18	10,400.00	10,200.98	10.44	10.82	36.72	214.94	329.90	2,184.59	2,162.92	21.68	100.777	
12,300.00	12,285.00	10,400.00	10,200.98	10.45	10.82	33.05	214.94	329.90	2,205.92	2,184.08	21.84	101.016	
12,325.00	12,308.39	10,400.00	10,200.98	10.46	10.82	30.14	214.94	329.90	2,226.68	2,204.65	22.03	101.089	
12,350.00	12,331.30	10,400.00	10,200.98	10.48	10.82	27.76	214.94	329.90	2,246.84	2,224.59	22.24	101.005	
12,375.00	12,353.65	10,400.00	10,200.98	10.49	10.82	25.78	214.94	329.90	2,266.36	2,243.87	22.49	100.774	
12,400.00	12,375.39	10,400.00	10,200.98	10.51	10.82	24.11	214.94	329.90	2,285.20	2,262.44	22.76	100.424	
12,425.00	12,396.46	10,400.00	10,200.98	10.53	10.82	22.70	214.94	329.90	2,303.33	2,280.29	23.04	99.978	
12,450.00	12,416.79	10,413.37	10,203.39	10.56	10.98	21.40	228.09	329.92	2,320.50	2,297.01	23.49	98.796	
12,475.00	12,436.35	10,425.00	10,205.18	10.59	11.11	20.29	239.58	329.92	2,337.08	2,313.15	23.93	97.683	
12,500.00	12,455.06	10,425.00	10,205.18	10.63	11.11	19.40	239.58	329.92	2,352.68	2,328.45	24.23	97.089	
12,525.00	12,472.88	10,425.00	10,205.18	10.68	11.11	18.61	239.58	329.92	2,367.45	2,342.91	24.54	96.476	
12,550.00	12,489.76	10,425.00	10,205.18	10.73	11.11	17.93	239.58	329.92	2,381.36	2,356.51	24.84	95.857	
12,575.00	12,505.66	10,425.00	10,205.18	10.79	11.11	17.32	239.58	329.92	2,394.38	2,369.24	25.14	95.240	
12,600.00	12,520.53	10,425.00	10,205.18	10.87	11.11	16.80	239.58	329.92	2,406.50	2,381.07	25.43	94.637	
12,625.00	12,534.33	10,438.38	10,206.89	10.95	11.27	16.31	252.86	329.91	2,417.48	2,391.62	25.87	93.458	
12,650.00	12,547.02	10,450.00	10,208.07	11.05	11.41	15.89	264.41	329.88	2,427.67	2,401.40	26.27	92.411	
12,675.00	12,558.57	10,450.00	10,208.07	11.17	11.41	15.55	264.41	329.88	2,436.73	2,410.21	26.52	91.891	
12,700.00	12,568.94	10,450.00	10,208.07	11.31	11.41	15.26	264.41	329.88	2,444.81	2,418.07	26.75	91.404	
12,725.00	12,578.11	10,450.00	10,208.07	11.46	11.41	15.01	264.41	329.88	2,451.91	2,424.95	26.96	90.954	
12,750.00	12,586.05	10,450.00	10,208.07	11.64	11.41	14.80	264.41	329.88	2,458.01	2,430.86	27.15	90.542	
12,775.00	12,592.75	10,462.54	10,209.04	11.84	11.57	14.62	276.92	329.83	2,462.92	2,435.44	27.47	89.650	
12,800.00	12,598.17	10,475.00	10,209.67	12.06	11.73	14.48	289.36	329.77	2,466.93	2,439.16	27.77	88.822	
12,825.00	12,602.32	10,475.00	10,209.67	12.29	11.73	14.39	289.36	329.77	2,469.74	2,441.84	27.89	88.537	
12,850.00	12,605.16	10,475.00	10,209.67	12.55	11.73	14.33	289.36	329.77	2,471.51	2,443.52	27.99	88.296	
12,875.00	12,606.71	10,475.00	10,209.67	12.82	11.73	14.30	289.36	329.77	2,472.26	2,444.20	28.06	88.098	
12,896.09	12,607.00	10,475.00	10,209.67	13.06	11.73	14.30	289.36	329.77	2,472.10	2,443.99	28.10	87.966	
12,900.00	12,606.97	10,475.00	10,209.67	13.10	11.73	14.30	289.36	329.77	2,472.00	2,443.89	28.11	87.946	
13,000.00	12,606.13	10,520.26	10,209.84	14.35	12.33	14.31	334.61	329.44	2,470.78	2,441.92	28.86	85.605	
13,100.00	12,605.30	10,620.26	10,209.17	15.73	13.72	14.31	434.60	328.67	2,470.61	2,440.14	30.47	81.084	
13,200.00	12,604.46	10,720.26	10,208.50	17.20	15.21	14.31	534.60	327.90	2,470.45	2,437.90	32.55	75.898	
13,300.00	12,603.63	10,820.26	10,207.83	18.73	16.77	14.31	634.59	327.13	2,470.28	2,434.76	35.53	69.533	
13,400.00	12,602.79	10,920.26	10,207.17	20.32	18.38	14.31	734.59	326.36	2,470.12	2,431.42	38.70	63.820	
13,500.00	12,601.96	11,020.26	10,206.50	21.94	20.02	14.31	834.58	325.59	2,469.96	2,427.99	41.97	58.852	
13,600.00	12,601.12	11,120.26	10,205.83	23.60	21.69	14.31	934.58	324.82	2,469.79	2,424.50	45.30	54.527	
13,700.00	12,600.29	11,220.26	10,205.16	25.28	23.39	14.31	1,034.57	324.04	2,469.63	2,420.96	48.67	50.743	
13,800.00	12,599.45	11,320.26	10,204.49	26.97	25.10	14.31	1,134.57	323.27	2,469.46	2,417.38	52.08	47.416	
13,900.00	12,598.62	11,420.26	10,203.82	28.69	26.83	14.31	1,234.56	322.50	2,469.30	2,413.78	55.52	44.474	

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

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed 302H - Wellbore #1 - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-Keeper, 9724-MWD

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
14,000.00	12,597.78	11,520.26	10,203.16	30.41	28.57	14.31	1,334.56	321.73	2,469.13	2,410.14	58.99	41.857	
14,100.00	12,596.95	11,620.26	10,202.49	32.15	30.33	14.31	1,434.55	320.96	2,468.97	2,406.49	62.48	39.517	
14,200.00	12,596.12	11,720.26	10,201.82	33.90	32.08	14.32	1,534.55	320.19	2,468.81	2,402.82	65.98	37.416	
14,300.00	12,595.28	11,820.26	10,201.15	35.65	33.85	14.32	1,634.54	319.41	2,468.64	2,399.14	69.50	35.518	
14,400.00	12,594.45	11,920.26	10,200.48	37.41	35.62	14.32	1,734.53	318.64	2,468.48	2,395.44	73.04	33.798	
14,500.00	12,593.61	12,020.26	10,199.81	39.18	37.40	14.32	1,834.53	317.87	2,468.31	2,391.73	76.58	32.232	
14,600.00	12,592.78	12,120.26	10,199.14	40.95	39.18	14.32	1,934.52	317.10	2,468.15	2,388.02	80.13	30.800	
14,700.00	12,591.94	12,220.26	10,198.48	42.73	40.97	14.32	2,034.52	316.33	2,467.98	2,384.29	83.70	29.488	
14,800.00	12,591.11	12,320.26	10,197.81	44.51	42.75	14.32	2,134.51	315.56	2,467.82	2,380.56	87.26	28.280	
14,900.00	12,590.27	12,420.26	10,197.14	46.29	44.55	14.32	2,234.51	314.78	2,467.66	2,376.82	90.84	27.165	
15,000.00	12,589.44	12,520.26	10,196.47	48.08	46.34	14.32	2,334.50	314.01	2,467.49	2,373.07	94.42	26.133	
15,100.00	12,588.60	12,620.26	10,195.80	49.87	48.14	14.32	2,434.50	313.24	2,467.33	2,369.32	98.01	25.175	
15,200.00	12,587.77	12,720.26	10,195.13	51.66	49.93	14.32	2,534.49	312.47	2,467.16	2,365.57	101.60	24.284	
15,300.00	12,586.93	12,820.26	10,194.46	53.46	51.73	14.32	2,634.49	311.70	2,467.00	2,361.81	105.19	23.453	
15,400.00	12,586.10	12,920.26	10,193.80	55.25	53.54	14.32	2,734.48	310.93	2,466.84	2,358.05	108.79	22.675	
15,500.00	12,585.26	13,020.26	10,193.13	57.05	55.34	14.32	2,834.48	310.15	2,466.67	2,354.28	112.39	21.947	
15,600.00	12,584.43	13,120.26	10,192.46	58.85	57.14	14.32	2,934.47	309.38	2,466.51	2,350.51	115.99	21.264	
15,700.00	12,583.59	13,220.25	10,191.79	60.65	58.95	14.33	3,034.47	308.61	2,466.34	2,346.74	119.60	20.621	
15,800.00	12,582.76	13,320.25	10,191.12	62.45	60.76	14.33	3,134.46	307.84	2,466.18	2,342.97	123.21	20.016	
15,900.00	12,581.92	13,420.25	10,190.45	64.26	62.56	14.33	3,234.45	307.07	2,466.01	2,339.19	126.82	19.445	
16,000.00	12,581.09	13,520.25	10,189.79	66.06	64.37	14.33	3,334.45	306.30	2,465.85	2,335.41	130.44	18.905	
16,100.00	12,580.25	13,620.25	10,189.12	67.87	66.18	14.33	3,434.44	305.52	2,465.69	2,331.63	134.05	18.393	
16,200.00	12,579.42	13,720.25	10,188.45	69.68	67.99	14.33	3,534.44	304.75	2,465.52	2,327.85	137.67	17.909	
16,300.00	12,578.58	13,820.25	10,187.78	71.48	69.81	14.33	3,634.43	303.98	2,465.36	2,324.07	141.29	17.449	
16,400.00	12,577.75	13,920.25	10,187.11	73.29	71.62	14.33	3,734.43	303.21	2,465.19	2,320.28	144.91	17.012	
16,500.00	12,576.91	14,020.25	10,186.44	75.10	73.43	14.33	3,834.42	302.44	2,465.03	2,316.50	148.53	16.596	
16,600.00	12,576.08	14,120.25	10,185.77	76.91	75.24	14.33	3,934.42	301.67	2,464.86	2,312.71	152.15	16.200	
16,700.00	12,575.25	14,220.25	10,185.11	78.72	77.06	14.33	4,034.41	300.89	2,464.70	2,308.92	155.78	15.822	
16,800.00	12,574.41	14,320.25	10,184.44	80.53	78.87	14.33	4,134.41	300.12	2,464.54	2,305.13	159.40	15.461	
16,900.00	12,573.58	14,420.25	10,183.77	82.35	80.69	14.33	4,234.40	299.35	2,464.37	2,301.34	163.03	15.116	
17,000.00	12,572.74	14,520.25	10,183.10	84.16	82.50	14.33	4,334.40	298.58	2,464.21	2,297.55	166.66	14.786	
17,100.00	12,571.91	14,620.25	10,182.43	85.97	84.32	14.33	4,434.39	297.81	2,464.04	2,293.75	170.29	14.470	
17,200.00	12,571.07	14,720.25	10,181.76	87.78	86.13	14.34	4,534.38	297.04	2,463.88	2,289.96	173.92	14.167	
17,300.00	12,570.24	14,820.25	10,181.10	89.60	87.95	14.34	4,634.38	296.26	2,463.71	2,286.17	177.55	13.876	
17,400.00	12,569.40	14,920.25	10,180.43	91.41	89.77	14.34	4,734.37	295.49	2,463.55	2,282.37	181.18	13.597	
17,448.09	12,569.00	14,968.34	10,180.11	92.29	90.64	14.34	4,782.46	295.12	2,463.47	2,280.55	182.92	13.467	

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed 402H - Wellbore #1 - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-Keeper, 10224-MWD

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	44.52	30.30	29.80	42.53				
100.00	100.00	98.40	98.40	0.06	0.07	44.52	30.30	29.80	42.50	42.37	0.12	341.337	
200.00	200.00	198.40	198.40	0.20	0.19	44.52	30.30	29.80	42.50	42.11	0.39	109.253	
300.00	300.00	298.40	298.40	0.33	0.32	44.52	30.30	29.80	42.50	41.85	0.65	65.217	
400.00	400.00	398.40	398.40	0.46	0.46	44.52	30.30	29.80	42.50	41.58	0.91	46.451	
500.00	500.00	498.40	498.40	0.59	0.59	44.52	30.30	29.80	42.50	41.32	1.18	36.066	
600.00	600.00	598.40	598.40	0.72	0.72	44.52	30.30	29.80	42.50	41.06	1.44	29.474	
700.00	700.00	698.40	698.40	0.85	0.85	44.52	30.30	29.80	42.50	40.79	1.71	24.919	
800.00	800.00	798.40	798.40	0.99	0.98	44.52	30.30	29.80	42.50	40.53	1.97	21.583	
900.00	900.00	898.40	898.40	1.12	1.12	44.52	30.30	29.80	42.50	40.27	2.23	19.035	
1,000.00	1,000.00	998.40	998.40	1.25	1.25	44.52	30.30	29.80	42.50	40.00	2.50	17.024	
1,100.00	1,100.00	1,098.40	1,098.40	1.38	1.38	44.52	30.30	29.80	42.50	39.74	2.76	15.398	
1,200.00	1,200.00	1,198.40	1,198.40	1.51	1.51	44.52	30.30	29.80	42.50	39.48	3.02	14.056	
1,300.00	1,300.00	1,298.40	1,298.40	1.64	1.64	44.52	30.30	29.80	42.50	39.21	3.29	12.928	
1,400.00	1,400.00	1,398.40	1,398.40	1.78	1.77	44.52	30.30	29.80	42.50	38.95	3.55	11.968	
1,500.00	1,500.00	1,498.40	1,498.40	1.91	1.91	44.52	30.30	29.80	42.50	38.68	3.81	11.141	
1,600.00	1,600.00	1,598.40	1,598.40	2.04	2.04	44.52	30.30	29.80	42.50	38.42	4.08	10.421	
1,700.00	1,700.00	1,698.40	1,698.40	2.17	2.17	44.52	30.30	29.80	42.50	38.16	4.34	9.788	
1,800.00	1,800.00	1,798.40	1,798.40	2.30	2.30	44.52	30.30	29.80	42.50	37.89	4.61	9.228	
1,900.00	1,900.00	1,898.40	1,898.40	2.44	2.43	44.52	30.30	29.80	42.50	37.63	4.87	8.728	
2,000.00	2,000.00	1,998.40	1,998.40	2.57	2.57	44.52	30.30	29.80	42.50	37.37	5.13	8.280	
2,100.00	2,100.00	2,098.40	2,098.40	2.70	2.70	44.52	30.30	29.80	42.50	37.10	5.40	7.875	
2,200.00	2,200.00	2,198.40	2,198.40	2.83	2.83	44.52	30.30	29.80	42.50	36.84	5.66	7.508	
2,300.00	2,300.00	2,298.40	2,298.40	2.96	2.96	44.52	30.30	29.80	42.50	36.57	5.92	7.174	
2,400.00	2,400.00	2,398.40	2,398.40	3.09	3.09	44.52	30.30	29.80	42.50	36.31	6.19	6.868	
2,500.00	2,500.00	2,498.40	2,498.40	3.23	3.22	44.52	30.30	29.80	42.50	36.05	6.45	6.588	
2,600.00	2,600.00	2,598.40	2,598.40	3.36	3.36	44.52	30.30	29.80	42.50	35.78	6.71	6.329	
2,700.00	2,700.00	2,698.40	2,698.40	3.49	3.49	44.52	30.30	29.80	42.50	35.52	6.98	6.090	
2,800.00	2,800.00	2,798.40	2,798.40	3.62	3.62	44.52	30.30	29.80	42.50	35.26	7.24	5.868	
2,900.00	2,900.00	2,898.40	2,898.40	3.75	3.75	44.52	30.30	29.80	42.50	34.99	7.51	5.662	
3,000.00	3,000.00	2,998.40	2,998.40	3.89	3.88	44.52	30.30	29.80	42.50	34.73	7.77	5.470	
3,100.00	3,100.00	3,098.40	3,098.40	4.02	4.02	44.52	30.30	29.80	42.50	34.47	8.03	5.290	
3,200.00	3,200.00	3,198.40	3,198.40	4.15	4.15	44.52	30.30	29.80	42.50	34.20	8.30	5.122	
3,300.00	3,300.00	3,298.40	3,298.40	4.28	4.28	44.52	30.30	29.80	42.50	33.94	8.56	4.964	
3,400.00	3,400.00	3,398.40	3,398.40	4.41	4.41	44.52	30.30	29.80	42.50	33.67	8.82	4.816	
3,500.00	3,500.00	3,498.40	3,498.40	4.55	4.54	44.52	30.30	29.80	42.50	33.41	9.09	4.676	
3,600.00	3,600.00	3,598.40	3,598.40	4.68	4.67	44.52	30.30	29.80	42.50	33.15	9.35	4.544	
3,700.00	3,700.00	3,698.40	3,698.40	4.81	4.81	44.52	30.30	29.80	42.50	32.88	9.62	4.420	
3,800.00	3,800.00	3,798.40	3,798.40	4.94	4.94	44.52	30.30	29.80	42.50	32.62	9.88	4.302	
3,900.00	3,900.00	3,898.40	3,898.40	5.07	5.07	44.52	30.30	29.80	42.50	32.36	10.14	4.190	
4,000.00	4,000.00	3,998.40	3,998.40	5.20	5.20	44.52	30.30	29.80	42.50	32.09	10.41	4.084	
4,100.00	4,100.00	4,098.40	4,098.40	5.34	5.33	44.52	30.30	29.80	42.50	31.83	10.67	3.983	
4,200.00	4,200.00	4,198.40	4,198.40	5.47	5.47	44.52	30.30	29.80	42.50	31.56	10.93	3.887	
4,300.00	4,300.00	4,298.40	4,298.40	5.60	5.60	44.52	30.30	29.80	42.50	31.30	11.20	3.795	
4,400.00	4,400.00	4,398.40	4,398.40	5.73	5.73	44.52	30.30	29.80	42.50	31.04	11.46	3.708	
4,500.00	4,500.00	4,498.40	4,498.40	5.86	5.86	44.52	30.30	29.80	42.50	30.77	11.72	3.625	CC
4,600.00	4,600.00	4,598.32	4,598.30	6.00	5.92	46.79	29.15	31.04	42.58	30.67	11.91	3.575	ES, SF
4,700.00	4,700.00	4,698.01	4,697.86	6.13	5.89	53.62	25.65	34.81	43.24	31.22	12.02	3.597	
4,800.00	4,800.00	4,797.78	4,797.40	6.26	5.88	62.09	21.05	39.75	44.99	32.86	12.13	3.708	
4,900.00	4,900.00	4,897.56	4,896.94	6.39	5.86	69.78	16.46	44.69	47.65	35.40	12.25	3.890	
5,000.00	5,000.00	4,997.33	4,996.48	6.52	5.85	76.55	11.87	49.63	51.07	38.70	12.37	4.129	
5,100.00	5,100.00	5,097.10	5,096.03	6.65	5.84	82.40	7.28	54.57	55.11	42.62	12.49	4.412	

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

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed 402H - Wellbore #1 - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Keeper, 10224-MWD — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.00	5,200.00	5,196.87	5,195.57	6.79	5.83	87.41	2.69	59.51	59.64	47.03	12.61	4.728	
5,300.00	5,300.00	5,296.64	5,295.11	6.92	5.82	91.69	-1.90	64.45	64.57	51.82	12.74	5.068	
5,400.00	5,400.00	5,396.41	5,394.66	7.05	5.82	95.35	-6.50	69.39	69.80	56.93	12.87	5.423	
5,500.00	5,500.00	5,496.18	5,494.20	7.18	5.82	98.48	-11.09	74.34	75.28	62.27	13.00	5.789	
5,600.00	5,600.00	5,595.95	5,593.74	7.31	5.83	101.19	-15.68	79.28	80.95	67.81	13.14	6.160	
5,700.00	5,700.00	5,695.72	5,693.28	7.45	5.83	103.53	-20.27	84.22	86.77	73.49	13.28	6.535	
5,800.00	5,800.00	5,795.50	5,792.83	7.58	5.84	105.58	-24.86	89.16	92.73	79.31	13.42	6.909	
5,900.00	5,900.00	5,895.27	5,892.37	7.71	5.86	107.38	-29.45	94.10	98.79	85.22	13.57	7.282	
6,000.00	6,000.00	5,995.04	5,991.91	7.84	5.87	108.97	-34.05	99.04	104.93	91.22	13.71	7.651	
6,100.00	6,100.00	6,094.81	6,091.46	7.97	5.89	110.38	-38.64	103.98	111.14	97.28	13.87	8.016	
6,200.00	6,200.00	6,194.58	6,191.00	8.10	5.91	111.65	-43.23	108.92	117.42	103.40	14.02	8.375	
6,300.00	6,300.00	6,294.35	6,290.54	8.24	5.94	112.78	-47.82	113.86	123.75	109.57	14.18	8.729	
6,400.00	6,400.00	6,394.12	6,390.09	8.37	5.97	113.81	-52.41	118.80	130.12	115.78	14.34	9.075	
6,500.00	6,500.00	6,493.89	6,489.63	8.50	6.00	114.73	-57.00	123.74	136.53	122.02	14.50	9.415	
6,600.00	6,600.00	6,593.67	6,589.17	8.63	6.03	115.58	-61.60	128.69	142.97	128.30	14.67	9.747	
6,700.00	6,700.00	6,693.44	6,688.71	8.76	6.07	116.35	-66.19	133.63	149.43	134.60	14.84	10.072	
6,800.00	6,800.00	6,793.21	6,788.26	8.90	6.11	117.06	-70.78	138.57	155.93	140.92	15.01	10.389	
6,900.00	6,900.00	6,892.98	6,887.80	9.03	6.16	117.71	-75.37	143.51	162.44	147.26	15.18	10.699	
7,000.00	7,000.00	6,992.75	6,987.34	9.16	6.20	118.31	-79.96	148.45	168.98	153.62	15.36	11.000	
7,100.00	7,099.98	7,092.49	7,086.86	9.21	6.25	-108.02	-84.55	153.39	176.06	160.60	15.46	11.386	
7,197.95	7,197.79	7,190.06	7,184.20	9.19	6.30	-108.86	-89.04	158.22	184.07	168.58	15.49	11.884	
7,200.00	7,199.84	7,192.10	7,186.24	9.19	6.30	-108.89	-89.14	158.32	184.25	168.76	15.49	11.895	
7,300.00	7,299.60	7,291.61	7,285.51	9.17	6.36	-110.29	-93.72	163.25	193.07	177.55	15.52	12.438	
7,400.00	7,399.36	7,391.11	7,384.79	9.15	6.41	-111.57	-98.30	168.18	201.99	186.43	15.56	12.983	
7,500.00	7,499.12	7,490.61	7,484.07	9.13	6.47	-112.74	-102.88	173.10	211.01	195.41	15.60	13.526	
7,600.00	7,598.88	7,590.12	7,583.34	9.11	6.53	-113.82	-107.45	178.03	220.10	204.46	15.64	14.069	
7,700.00	7,698.64	7,689.62	7,682.62	9.10	6.60	-114.81	-112.03	182.96	229.27	213.57	15.69	14.609	
7,800.00	7,798.41	7,789.13	7,781.90	9.08	6.66	-115.72	-116.61	187.89	238.50	222.75	15.75	15.146	
7,900.00	7,898.17	7,888.63	7,881.17	9.07	6.73	-116.57	-121.19	192.82	247.78	231.98	15.80	15.678	
8,000.00	7,997.93	7,988.13	7,980.45	9.06	6.80	-117.35	-125.77	197.74	257.11	241.25	15.86	16.206	
8,100.00	8,097.69	8,087.64	8,079.73	9.06	6.87	-118.08	-130.35	202.67	266.49	250.56	15.93	16.729	
8,200.00	8,197.45	8,187.14	8,179.00	9.05	6.95	-118.76	-134.93	207.60	275.91	259.91	16.00	17.246	
8,300.00	8,297.21	8,286.65	8,278.28	9.05	7.02	-119.39	-139.51	212.53	285.36	269.29	16.07	17.756	
8,400.00	8,396.97	8,386.15	8,377.55	9.05	7.10	-119.99	-144.09	217.45	294.85	278.70	16.15	18.260	
8,500.00	8,496.74	8,485.65	8,476.83	9.05	7.18	-120.54	-148.67	222.38	304.36	288.14	16.23	18.757	
8,600.00	8,596.50	8,585.16	8,576.11	9.05	7.26	-121.07	-153.25	227.31	313.91	297.60	16.31	19.246	
8,700.00	8,696.26	8,684.66	8,675.38	9.06	7.34	-121.56	-157.83	232.24	323.47	307.08	16.40	19.727	
8,800.00	8,796.02	8,784.17	8,774.66	9.06	7.42	-122.02	-162.41	237.16	333.06	316.57	16.49	20.201	
8,900.00	8,895.78	8,883.67	8,873.94	9.07	7.51	-122.46	-166.99	242.09	342.67	326.09	16.58	20.666	
9,000.00	8,995.54	8,983.17	8,973.21	9.08	7.60	-122.87	-171.57	247.02	352.30	335.62	16.68	21.123	
9,100.00	9,095.30	9,082.68	9,072.49	9.10	7.68	-123.27	-176.15	251.95	361.95	345.17	16.78	21.572	
9,200.00	9,195.07	9,182.18	9,171.77	9.11	7.77	-123.64	-180.72	256.87	371.61	354.72	16.88	22.012	
9,300.00	9,294.83	9,281.69	9,271.04	9.13	7.86	-123.99	-185.30	261.80	381.28	364.29	16.99	22.443	
9,400.00	9,394.59	9,381.19	9,370.32	9.15	7.95	-124.32	-189.88	266.73	390.97	373.87	17.10	22.866	
9,500.00	9,494.35	9,480.69	9,469.59	9.17	8.04	-124.64	-194.46	271.66	400.68	383.46	17.21	23.279	
9,600.00	9,594.11	9,580.20	9,568.87	9.19	8.14	-124.95	-199.04	276.59	410.39	393.06	17.33	23.684	
9,700.00	9,693.87	9,679.70	9,668.15	9.22	8.23	-125.24	-203.62	281.51	420.11	402.67	17.45	24.079	
9,800.00	9,793.63	9,779.21	9,767.42	9.24	8.33	-125.51	-208.20	286.44	429.85	412.28	17.57	24.466	
9,900.00	9,893.39	9,878.71	9,866.70	9.27	8.42	-125.78	-212.78	291.37	439.59	421.90	17.70	24.842	
10,000.00	9,993.16	9,978.21	9,965.98	9.31	8.52	-126.03	-217.36	296.30	449.35	431.52	17.83	25.209	
10,100.00	10,092.92	10,077.72	10,065.25	9.34	8.61	-126.27	-221.94	301.22	459.11	441.15	17.96	25.567	
10,200.00	10,192.68	10,177.22	10,164.53	9.37	8.71	-126.51	-226.52	306.15	468.88	450.79	18.09	25.916	

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed 402H - Wellbore #1 - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-Keeper, 10224-MWD

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,300.00	10,292.44	10,287.37	10,274.44	9.41	8.74	-127.25	-227.36	311.58	478.06	459.89	18.17	26.310	
10,400.00	10,392.20	10,399.56	10,383.90	9.45	8.77	-130.72	-204.63	316.81	484.47	466.23	18.24	26.564	
10,500.00	10,491.96	10,494.71	10,470.49	9.49	8.83	-135.83	-165.75	320.80	491.49	473.14	18.35	26.780	
10,600.00	10,591.72	10,570.71	10,533.05	9.54	8.96	-141.13	-122.82	323.58	504.00	485.48	18.53	27.204	
10,700.00	10,691.49	10,630.02	10,576.67	9.58	9.13	-145.85	-82.75	325.45	525.74	507.00	18.74	28.049	
10,800.00	10,791.25	10,675.00	10,606.27	9.63	9.32	-149.66	-48.91	326.67	558.45	539.48	18.97	29.434	
10,900.00	10,891.01	10,712.68	10,628.51	9.68	9.51	-152.95	-18.53	327.55	602.10	582.89	19.22	31.330	
11,000.00	10,990.77	10,741.80	10,644.03	9.73	9.69	-155.51	6.10	328.14	655.60	636.15	19.45	33.713	
11,100.00	11,090.53	10,765.45	10,655.51	9.79	9.85	-157.59	26.77	328.56	717.38	697.72	19.66	36.485	
11,200.00	11,190.29	10,784.95	10,664.20	9.84	10.00	-159.30	44.22	328.86	785.91	766.04	19.86	39.564	
11,300.00	11,290.05	10,800.00	10,670.41	9.90	10.12	-160.61	57.93	329.07	859.83	839.79	20.04	42.906	
11,400.00	11,389.82	10,815.05	10,676.20	9.96	10.25	-161.91	71.82	329.25	938.03	917.80	20.23	46.373	
11,500.00	11,489.58	10,825.00	10,679.77	10.02	10.34	-162.76	81.10	329.37	1,019.64	999.26	20.37	50.045	
11,600.00	11,589.34	10,837.09	10,683.86	10.08	10.45	-163.78	92.48	329.49	1,103.97	1,083.42	20.55	53.723	
11,700.00	11,689.10	10,850.00	10,687.91	10.15	10.57	-164.86	104.74	329.60	1,190.53	1,169.80	20.73	57.420	
11,800.00	11,788.86	10,850.00	10,687.91	10.21	10.57	-164.86	104.74	329.60	1,278.86	1,258.06	20.80	61.484	
11,900.00	11,888.62	10,860.81	10,691.04	10.28	10.68	-165.76	115.08	329.68	1,368.65	1,347.67	20.98	65.251	
12,000.00	11,988.38	10,875.00	10,694.80	10.35	10.82	-166.92	128.77	329.77	1,459.76	1,438.57	21.19	68.903	
12,100.00	12,088.15	10,875.00	10,694.80	10.42	10.82	-166.92	128.77	329.77	1,551.73	1,530.48	21.26	73.000	
12,119.58	12,107.68	10,875.00	10,694.80	10.42	10.82	-166.92	128.77	329.77	1,569.86	1,548.60	21.26	73.847	
12,125.00	12,113.09	10,875.00	10,694.80	10.42	10.82	-175.98	128.77	329.77	1,574.87	1,553.61	21.26	74.077	
12,150.00	12,138.05	10,875.00	10,694.80	10.42	10.82	124.76	128.77	329.77	1,597.88	1,576.61	21.28	75.096	
12,175.00	12,162.99	10,875.00	10,694.80	10.43	10.82	84.09	128.77	329.77	1,620.64	1,599.33	21.31	76.039	
12,200.00	12,187.85	10,875.00	10,694.80	10.43	10.82	66.11	128.77	329.77	1,643.09	1,621.72	21.37	76.894	
12,225.00	12,212.54	10,875.00	10,694.80	10.43	10.82	55.98	128.77	329.77	1,665.19	1,643.75	21.45	77.648	
12,250.00	12,237.01	10,875.00	10,694.80	10.44	10.82	49.15	128.77	329.77	1,686.89	1,665.35	21.55	78.288	
12,275.00	12,261.18	10,886.65	10,697.58	10.44	10.94	43.74	140.08	329.82	1,707.98	1,686.18	21.80	78.343	
12,300.00	12,285.00	10,889.57	10,698.23	10.45	10.98	39.74	142.93	329.83	1,728.66	1,706.67	21.99	78.604	
12,325.00	12,308.39	10,900.00	10,700.42	10.46	11.09	36.35	153.12	329.87	1,748.86	1,726.57	22.29	78.448	
12,350.00	12,331.30	10,900.00	10,700.42	10.48	11.09	33.74	153.12	329.87	1,768.35	1,745.84	22.51	78.553	
12,375.00	12,353.65	10,900.00	10,700.42	10.49	11.09	31.54	153.12	329.87	1,787.25	1,764.49	22.76	78.542	
12,400.00	12,375.39	10,900.00	10,700.42	10.51	11.09	29.66	153.12	329.87	1,805.50	1,782.48	23.02	78.431	
12,425.00	12,396.46	10,900.00	10,700.42	10.53	11.09	28.03	153.12	329.87	1,823.09	1,799.79	23.30	78.236	
12,450.00	12,416.79	10,910.83	10,702.46	10.56	11.21	26.52	163.76	329.89	1,839.84	1,816.12	23.72	77.569	
12,475.00	12,436.35	10,914.90	10,703.16	10.59	11.25	25.26	167.77	329.90	1,855.89	1,831.82	24.07	77.114	
12,500.00	12,455.06	10,925.00	10,704.76	10.63	11.37	24.13	177.74	329.91	1,871.19	1,846.70	24.49	76.415	
12,525.00	12,472.88	10,925.00	10,704.76	10.68	11.37	23.20	177.74	329.91	1,885.59	1,860.79	24.79	76.050	
12,550.00	12,489.76	10,925.00	10,704.76	10.73	11.37	22.38	177.74	329.91	1,899.19	1,874.09	25.10	75.671	
12,575.00	12,505.66	10,925.00	10,704.76	10.79	11.37	21.66	177.74	329.91	1,911.97	1,886.58	25.40	75.288	
12,600.00	12,520.53	10,936.91	10,706.38	10.87	11.51	20.97	189.54	329.90	1,923.75	1,897.92	25.82	74.495	
12,625.00	12,534.33	10,950.00	10,707.81	10.95	11.66	20.37	202.55	329.88	1,934.77	1,908.51	26.25	73.693	
12,650.00	12,547.02	10,950.00	10,707.81	11.05	11.66	19.89	202.55	329.88	1,944.70	1,918.19	26.52	73.337	
12,675.00	12,558.57	10,950.00	10,707.81	11.17	11.66	19.47	202.55	329.88	1,953.75	1,926.99	26.76	72.997	
12,700.00	12,568.94	10,950.00	10,707.81	11.31	11.66	19.11	202.55	329.88	1,961.91	1,934.91	26.99	72.678	
12,725.00	12,578.11	10,960.96	10,708.74	11.46	11.79	18.78	213.48	329.85	1,969.00	1,941.67	27.34	72.022	
12,750.00	12,586.05	10,975.00	10,709.56	11.64	11.97	18.49	227.49	329.79	1,975.27	1,947.57	27.70	71.309	
12,775.00	12,592.75	10,975.00	10,709.56	11.84	11.97	18.28	227.49	329.79	1,980.36	1,952.49	27.87	71.062	
12,800.00	12,598.17	10,975.00	10,709.56	12.06	11.97	18.12	227.49	329.79	1,984.51	1,956.50	28.01	70.841	
12,825.00	12,602.32	10,975.00	10,709.56	12.29	11.97	17.99	227.49	329.79	1,987.72	1,959.59	28.14	70.647	
12,850.00	12,605.16	10,986.14	10,709.92	12.55	12.11	17.90	238.63	329.73	1,989.84	1,961.46	28.37	70.130	
12,875.00	12,606.71	11,000.60	10,710.00	12.82	12.29	17.85	253.08	329.63	1,991.09	1,962.47	28.63	69.552	
12,896.09	12,607.00	11,000.60	10,710.00	13.06	12.29	17.84	253.08	329.63	1,991.20	1,962.53	28.67	69.456	

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

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed 402H - Wellbore #1 - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-Keeper, 10224-MWD

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
12,900.00	12,606.97	11,000.60	10,710.00	13.10	12.29	17.84	253.08	329.63	1,991.16	1,962.48	28.67	69.442	
12,928.83	12,606.73	11,008.55	10,709.92	13.46	12.40	17.84	261.03	329.57	1,991.08	1,962.26	28.82	69.080	
13,000.00	12,606.13	11,079.72	10,709.23	14.35	13.35	17.84	332.19	329.03	1,991.17	1,961.28	29.89	66.621	
13,100.00	12,605.30	11,179.72	10,708.27	15.73	14.78	17.84	432.19	328.27	1,991.30	1,959.77	31.53	63.162	
13,200.00	12,604.46	11,279.72	10,707.30	17.20	16.29	17.84	532.18	327.51	1,991.43	1,957.80	33.62	59.225	
13,300.00	12,603.63	11,379.72	10,706.33	18.73	17.85	17.84	632.17	326.75	1,991.55	1,954.94	36.61	54.396	
13,400.00	12,602.79	11,479.72	10,705.36	20.32	19.47	17.84	732.16	325.99	1,991.68	1,951.88	39.80	50.048	
13,500.00	12,601.96	11,579.72	10,704.39	21.94	21.11	17.84	832.15	325.23	1,991.81	1,948.74	43.06	46.254	
13,600.00	12,601.12	11,679.72	10,703.43	23.60	22.79	17.84	932.15	324.47	1,991.93	1,945.54	46.39	42.939	
13,700.00	12,600.29	11,779.72	10,702.46	25.28	24.48	17.84	1,032.14	323.71	1,992.06	1,942.30	49.76	40.031	
13,800.00	12,599.45	11,879.72	10,701.49	26.97	26.20	17.83	1,132.13	322.95	1,992.18	1,939.01	53.17	37.466	
13,900.00	12,598.62	11,979.72	10,700.52	28.69	27.92	17.83	1,232.12	322.19	1,992.31	1,935.70	56.61	35.191	
14,000.00	12,597.78	12,079.72	10,699.55	30.41	29.66	17.83	1,332.12	321.43	1,992.44	1,932.36	60.08	33.164	
14,100.00	12,596.95	12,179.72	10,698.59	32.15	31.41	17.83	1,432.11	320.67	1,992.56	1,929.00	63.56	31.347	
14,200.00	12,596.12	12,279.72	10,697.62	33.90	33.17	17.83	1,532.10	319.91	1,992.69	1,925.62	67.07	29.711	
14,300.00	12,595.28	12,379.72	10,696.65	35.65	34.93	17.83	1,632.09	319.15	1,992.82	1,922.23	70.59	28.232	
14,400.00	12,594.45	12,479.72	10,695.68	37.41	36.70	17.83	1,732.09	318.39	1,992.94	1,918.83	74.12	26.889	
14,500.00	12,593.61	12,579.72	10,694.71	39.18	38.48	17.83	1,832.08	317.63	1,993.07	1,915.41	77.66	25.664	
14,600.00	12,592.78	12,679.72	10,693.75	40.95	40.26	17.82	1,932.07	316.87	1,993.20	1,911.99	81.21	24.544	
14,700.00	12,591.94	12,779.72	10,692.78	42.73	42.04	17.82	2,032.06	316.11	1,993.32	1,908.55	84.77	23.514	
14,800.00	12,591.11	12,879.72	10,691.81	44.51	43.83	17.82	2,132.05	315.35	1,993.45	1,905.11	88.34	22.566	
14,900.00	12,590.27	12,979.72	10,690.84	46.29	45.62	17.82	2,232.05	314.59	1,993.58	1,901.67	91.91	21.690	
15,000.00	12,589.44	13,079.72	10,689.87	48.08	47.41	17.82	2,332.04	313.83	1,993.70	1,898.21	95.49	20.879	
15,100.00	12,588.60	13,179.72	10,688.91	49.87	49.20	17.82	2,432.03	313.07	1,993.83	1,894.76	99.07	20.125	
15,200.00	12,587.77	13,279.72	10,687.94	51.66	51.00	17.82	2,532.02	312.31	1,993.96	1,891.29	102.66	19.422	
15,300.00	12,586.93	13,379.72	10,686.97	53.46	52.80	17.82	2,632.02	311.55	1,994.08	1,887.83	106.26	18.767	
15,400.00	12,586.10	13,479.72	10,686.00	55.25	54.60	17.82	2,732.01	310.79	1,994.21	1,884.36	109.85	18.154	
15,500.00	12,585.26	13,579.72	10,685.03	57.05	56.40	17.81	2,832.00	310.03	1,994.34	1,880.88	113.45	17.579	
15,600.00	12,584.43	13,679.72	10,684.07	58.85	58.20	17.81	2,931.99	309.27	1,994.46	1,877.41	117.05	17.039	
15,700.00	12,583.59	13,779.72	10,683.10	60.65	60.01	17.81	3,031.99	308.51	1,994.59	1,873.93	120.66	16.531	
15,800.00	12,582.76	13,879.72	10,682.13	62.45	61.81	17.81	3,131.98	307.75	1,994.71	1,870.45	124.27	16.052	
15,900.00	12,581.92	13,979.72	10,681.16	64.26	63.62	17.81	3,231.97	306.99	1,994.84	1,866.96	127.88	15.599	
16,000.00	12,581.09	14,079.72	10,680.19	66.06	65.43	17.81	3,331.96	306.23	1,994.97	1,863.48	131.49	15.172	
16,100.00	12,580.25	14,179.72	10,679.23	67.87	67.24	17.81	3,431.96	305.47	1,995.09	1,859.99	135.11	14.767	
16,200.00	12,579.42	14,279.72	10,678.26	69.68	69.05	17.81	3,531.95	304.71	1,995.22	1,856.50	138.72	14.383	
16,300.00	12,578.58	14,379.72	10,677.29	71.48	70.86	17.80	3,631.94	303.95	1,995.35	1,853.01	142.34	14.018	
16,400.00	12,577.75	14,479.72	10,676.32	73.29	72.67	17.80	3,731.93	303.19	1,995.47	1,849.51	145.96	13.671	
16,500.00	12,576.91	14,579.72	10,675.35	75.10	74.48	17.80	3,831.92	302.43	1,995.60	1,846.02	149.58	13.341	
16,600.00	12,576.08	14,679.72	10,674.39	76.91	76.29	17.80	3,931.92	301.67	1,995.73	1,842.52	153.20	13.027	
16,700.00	12,575.25	14,779.72	10,673.42	78.72	78.11	17.80	4,031.91	300.91	1,995.85	1,839.03	156.83	12.726	
16,800.00	12,574.41	14,879.72	10,672.45	80.53	79.92	17.80	4,131.90	300.15	1,995.98	1,835.53	160.45	12.440	
16,900.00	12,573.58	14,979.72	10,671.48	82.35	81.73	17.80	4,231.89	299.39	1,996.11	1,832.03	164.08	12.166	
17,000.00	12,572.74	15,079.71	10,670.51	84.16	83.55	17.80	4,331.89	298.63	1,996.23	1,828.53	167.71	11.903	
17,100.00	12,571.91	15,179.71	10,669.55	85.97	85.36	17.79	4,431.88	297.87	1,996.36	1,825.03	171.33	11.652	
17,200.00	12,571.07	15,279.71	10,668.58	87.78	87.18	17.79	4,531.87	297.11	1,996.49	1,821.52	174.96	11.411	
17,300.00	12,570.24	15,379.71	10,667.61	89.60	88.99	17.79	4,631.86	296.35	1,996.61	1,818.02	178.59	11.180	
17,400.00	12,569.40	15,479.71	10,666.64	91.41	90.81	17.79	4,731.86	295.59	1,996.74	1,814.52	182.22	10.958	
17,448.09	12,569.00	15,527.81	10,666.18	92.29	91.68	17.79	4,779.94	295.22	1,996.80	1,812.83	183.97	10.854	

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed 703H - Wellbore #1 - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Keeper, 12341-MWD — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	89.43	0.60	60.00	60.02				
100.00	100.00	98.60	98.60	0.06	0.07	89.43	0.60	60.00	60.00	59.88	0.12	481.416	
200.00	200.00	198.60	198.60	0.20	0.19	89.43	0.60	60.00	60.00	59.61	0.39	154.150	
300.00	300.00	298.60	298.60	0.33	0.33	89.43	0.60	60.00	60.00	59.35	0.65	92.042	
400.00	400.00	398.60	398.60	0.46	0.46	89.43	0.60	60.00	60.00	59.09	0.92	65.565	
500.00	500.00	498.60	498.60	0.59	0.59	89.43	0.60	60.00	60.00	58.82	1.18	50.910	
600.00	600.00	598.60	598.60	0.72	0.72	89.43	0.60	60.00	60.00	58.56	1.44	41.607	
700.00	700.00	698.60	698.60	0.85	0.85	89.43	0.60	60.00	60.00	58.30	1.71	35.178	
800.00	800.00	798.60	798.60	0.99	0.98	89.43	0.60	60.00	60.00	58.03	1.97	30.469	
900.00	900.00	898.60	898.60	1.12	1.12	89.43	0.60	60.00	60.00	57.77	2.23	26.872	
1,000.00	1,000.00	998.60	998.60	1.25	1.25	89.43	0.60	60.00	60.00	57.51	2.50	24.034	
1,100.00	1,100.00	1,098.60	1,098.60	1.38	1.38	89.43	0.60	60.00	60.00	57.24	2.76	21.738	
1,200.00	1,200.00	1,198.60	1,198.60	1.51	1.51	89.43	0.60	60.00	60.00	56.98	3.02	19.843	
1,300.00	1,300.00	1,298.60	1,298.60	1.64	1.64	89.43	0.60	60.00	60.00	56.72	3.29	18.252	
1,400.00	1,400.00	1,398.60	1,398.60	1.78	1.77	89.43	0.60	60.00	60.00	56.45	3.55	16.897	
1,500.00	1,500.00	1,498.60	1,498.60	1.91	1.91	89.43	0.60	60.00	60.00	56.19	3.81	15.729	
1,600.00	1,600.00	1,598.60	1,598.60	2.04	2.04	89.43	0.60	60.00	60.00	55.92	4.08	14.712	
1,700.00	1,700.00	1,698.60	1,698.60	2.17	2.17	89.43	0.60	60.00	60.00	55.66	4.34	13.819	
1,800.00	1,800.00	1,798.60	1,798.60	2.30	2.30	89.43	0.60	60.00	60.00	55.40	4.61	13.028	
1,900.00	1,900.00	1,898.60	1,898.60	2.44	2.43	89.43	0.60	60.00	60.00	55.13	4.87	12.322	
2,000.00	2,000.00	1,998.60	1,998.60	2.57	2.57	89.43	0.60	60.00	60.00	54.87	5.13	11.689	
2,100.00	2,100.00	2,098.60	2,098.60	2.70	2.70	89.43	0.60	60.00	60.00	54.61	5.40	11.118	
2,200.00	2,200.00	2,198.60	2,198.60	2.83	2.83	89.43	0.60	60.00	60.00	54.34	5.66	10.600	
2,300.00	2,300.00	2,298.60	2,298.60	2.96	2.96	89.43	0.60	60.00	60.00	54.08	5.92	10.128	
2,400.00	2,400.00	2,398.60	2,398.60	3.09	3.09	89.43	0.60	60.00	60.00	53.82	6.19	9.697	
2,500.00	2,500.00	2,498.60	2,498.60	3.23	3.22	89.43	0.60	60.00	60.00	53.55	6.45	9.301	
2,600.00	2,600.00	2,598.60	2,598.60	3.36	3.36	89.43	0.60	60.00	60.00	53.29	6.72	8.935	
2,700.00	2,700.00	2,698.60	2,698.60	3.49	3.49	89.43	0.60	60.00	60.00	53.02	6.98	8.598	
2,800.00	2,800.00	2,798.60	2,798.60	3.62	3.62	89.43	0.60	60.00	60.00	52.76	7.24	8.285	
2,900.00	2,900.00	2,898.60	2,898.60	3.75	3.75	89.43	0.60	60.00	60.00	52.50	7.51	7.994	
3,000.00	3,000.00	2,998.60	2,998.60	3.89	3.88	89.43	0.60	60.00	60.00	52.23	7.77	7.722	
3,100.00	3,100.00	3,098.60	3,098.60	4.02	4.02	89.43	0.60	60.00	60.00	51.97	8.03	7.469	
3,200.00	3,200.00	3,198.60	3,198.60	4.15	4.15	89.43	0.60	60.00	60.00	51.71	8.30	7.232	
3,300.00	3,300.00	3,298.60	3,298.60	4.28	4.28	89.43	0.60	60.00	60.00	51.44	8.56	7.009	
3,400.00	3,400.00	3,398.60	3,398.60	4.41	4.41	89.43	0.60	60.00	60.00	51.18	8.82	6.799	
3,500.00	3,500.00	3,498.60	3,498.60	4.55	4.54	89.43	0.60	60.00	60.00	50.91	9.09	6.602	
3,600.00	3,600.00	3,598.60	3,598.60	4.68	4.68	89.43	0.60	60.00	60.00	50.65	9.35	6.416	
3,700.00	3,700.00	3,698.60	3,698.60	4.81	4.81	89.43	0.60	60.00	60.00	50.39	9.62	6.240	
3,800.00	3,800.00	3,798.60	3,798.60	4.94	4.94	89.43	0.60	60.00	60.00	50.12	9.88	6.074	
3,900.00	3,900.00	3,898.60	3,898.60	5.07	5.07	89.43	0.60	60.00	60.00	49.86	10.14	5.916	
4,000.00	4,000.00	3,998.60	3,998.60	5.20	5.20	89.43	0.60	60.00	60.00	49.60	10.41	5.766	
4,100.00	4,100.00	4,098.60	4,098.60	5.34	5.33	89.43	0.60	60.00	60.00	49.33	10.67	5.623	
4,200.00	4,200.00	4,198.60	4,198.60	5.47	5.47	89.43	0.60	60.00	60.00	49.07	10.93	5.488	
4,300.00	4,300.00	4,298.60	4,298.60	5.60	5.60	89.43	0.60	60.00	60.00	48.81	11.20	5.358	
4,400.00	4,400.00	4,398.60	4,398.60	5.73	5.73	89.43	0.60	60.00	60.00	48.54	11.46	5.235	
4,500.00	4,500.00	4,498.60	4,498.60	5.86	5.86	89.43	0.60	60.00	60.00	48.28	11.73	5.117	
4,600.00	4,600.00	4,598.60	4,598.60	6.00	5.99	89.43	0.60	60.00	60.00	48.01	11.99	5.005	
4,700.00	4,700.00	4,698.60	4,698.60	6.13	6.13	89.43	0.60	60.00	60.00	47.75	12.25	4.897	
4,800.00	4,800.00	4,798.60	4,798.60	6.26	6.26	89.43	0.60	60.00	60.00	47.49	12.52	4.794	
4,900.00	4,900.00	4,898.60	4,898.60	6.39	6.39	89.43	0.60	60.00	60.00	47.22	12.78	4.695	
5,000.00	5,000.00	4,998.60	4,998.60	6.52	6.52	89.43	0.60	60.00	60.00	46.96	13.04	4.600	
5,100.00	5,100.00	5,098.60	5,098.60	6.65	6.65	89.43	0.60	60.00	60.00	46.70	13.31	4.509	

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed 703H - Wellbore #1 - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Keeper, 12341-MWD — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.00	5,200.00	5,198.60	5,198.60	6.79	6.78	89.43	0.60	60.00	60.00	46.43	13.57	4.421	
5,300.00	5,300.00	5,298.60	5,298.60	6.92	6.92	89.43	0.60	60.00	60.00	46.17	13.83	4.337	
5,400.00	5,400.00	5,398.60	5,398.60	7.05	7.05	89.43	0.60	60.00	60.00	45.90	14.10	4.256	
5,500.00	5,500.00	5,498.60	5,498.60	7.18	7.18	89.43	0.60	60.00	60.00	45.64	14.36	4.178	
5,600.00	5,600.00	5,599.04	5,599.02	7.31	7.22	91.03	-1.07	59.62	59.63	45.10	14.53	4.103	
5,700.00	5,700.00	5,698.99	5,698.90	7.45	7.17	94.36	-4.49	58.84	59.01	44.40	14.62	4.037	
5,800.00	5,800.00	5,798.92	5,798.78	7.58	7.12	97.75	-7.91	58.06	58.60	43.90	14.70	3.987	
5,900.00	5,900.00	5,898.86	5,898.66	7.71	7.07	101.18	-11.32	57.29	58.40	43.61	14.78	3.950	
5,947.54	5,947.54	5,946.37	5,946.14	7.77	7.05	102.82	-12.95	56.92	58.37	43.55	14.83	3.937	CC
6,000.00	6,000.00	5,998.80	5,998.54	7.84	7.03	104.62	-14.74	56.51	58.40	43.53	14.87	3.927	ES
6,100.00	6,100.00	6,098.74	6,098.41	7.97	6.99	108.05	-18.16	55.73	58.62	43.66	14.96	3.918	
6,200.00	6,200.00	6,198.68	6,198.29	8.10	6.95	111.44	-21.58	54.95	59.04	43.99	15.05	3.923	
6,300.00	6,300.00	6,298.62	6,298.17	8.24	6.91	114.77	-25.00	54.18	59.67	44.52	15.14	3.940	
6,400.00	6,400.00	6,398.56	6,398.04	8.37	6.87	118.02	-28.42	53.40	60.49	45.25	15.24	3.969	
6,500.00	6,500.00	6,498.49	6,497.92	8.50	6.84	121.17	-31.83	52.62	61.51	46.17	15.34	4.010	
6,600.00	6,600.00	6,598.43	6,597.80	8.63	6.81	124.22	-35.25	51.84	62.70	47.26	15.44	4.062	
6,700.00	6,700.00	6,698.37	6,697.67	8.76	6.78	127.14	-38.67	51.07	64.06	48.52	15.54	4.123	
6,800.00	6,800.00	6,798.31	6,797.55	8.90	6.75	129.93	-42.09	50.29	65.59	49.94	15.64	4.192	
6,900.00	6,900.00	6,898.25	6,897.43	9.03	6.72	132.59	-45.51	49.51	67.26	51.51	15.75	4.270	
7,000.00	7,000.00	6,998.19	6,997.31	9.16	6.70	135.11	-48.93	48.73	69.07	53.21	15.86	4.354	
7,100.00	7,099.98	7,098.16	7,097.21	9.21	6.68	-90.34	-52.35	47.95	70.99	55.10	15.89	4.467	
7,197.95	7,197.79	7,196.06	7,195.05	9.19	6.66	-92.05	-55.69	47.19	72.95	57.09	15.85	4.601	
7,200.00	7,199.84	7,198.10	7,197.10	9.19	6.66	-92.11	-55.76	47.18	72.99	57.14	15.85	4.604	
7,300.00	7,299.60	7,298.01	7,296.94	9.17	6.65	-95.09	-59.18	46.40	75.18	59.37	15.82	4.754	
7,400.00	7,399.36	7,397.91	7,396.78	9.15	6.64	-97.90	-62.60	45.62	77.57	61.78	15.78	4.914	
7,500.00	7,499.12	7,497.81	7,496.62	9.13	6.63	-100.53	-66.02	44.84	80.13	64.37	15.76	5.086	
7,600.00	7,598.88	7,597.71	7,596.46	9.11	6.62	-102.99	-69.43	44.07	82.85	67.11	15.73	5.266	
7,700.00	7,698.64	7,697.61	7,696.30	9.10	6.62	-105.30	-72.85	43.29	85.71	69.99	15.71	5.455	
7,800.00	7,798.41	7,797.51	7,796.14	9.08	6.61	-107.45	-76.27	42.51	88.70	73.00	15.70	5.651	
7,900.00	7,898.17	7,897.42	7,895.98	9.07	6.61	-109.46	-79.68	41.73	91.81	76.12	15.69	5.853	
8,000.00	7,997.93	7,997.32	7,995.82	9.06	6.62	-111.33	-83.10	40.96	95.02	79.34	15.68	6.060	
8,100.00	8,097.69	8,097.22	8,095.66	9.06	6.62	-113.09	-86.52	40.18	98.33	82.65	15.68	6.271	
8,200.00	8,197.45	8,197.12	8,195.50	9.05	6.63	-114.72	-89.94	39.40	101.72	86.04	15.68	6.487	
8,300.00	8,297.21	8,297.02	8,295.34	9.05	6.64	-116.25	-93.35	38.62	105.20	89.51	15.69	6.705	
8,400.00	8,396.97	8,396.92	8,395.18	9.05	6.65	-117.68	-96.77	37.85	108.74	93.04	15.70	6.926	
8,500.00	8,496.74	8,496.82	8,495.02	9.05	6.67	-119.02	-100.19	37.07	112.35	96.63	15.72	7.148	
8,600.00	8,596.50	8,596.73	8,594.86	9.05	6.69	-120.28	-103.61	36.29	116.01	100.27	15.74	7.371	
8,700.00	8,696.26	8,696.63	8,694.70	9.06	6.71	-121.46	-107.02	35.52	119.73	103.96	15.76	7.595	
8,800.00	8,796.02	8,796.53	8,794.54	9.06	6.73	-122.56	-110.44	34.74	123.49	107.70	15.79	7.819	
8,900.00	8,895.78	8,896.43	8,894.38	9.07	6.76	-123.60	-113.86	33.96	127.30	111.47	15.83	8.043	
9,000.00	8,995.54	8,996.33	8,994.22	9.08	6.78	-124.58	-117.27	33.18	131.14	115.28	15.87	8.266	
9,100.00	9,095.30	9,096.23	9,094.06	9.10	6.81	-125.51	-120.69	32.41	135.02	119.12	15.91	8.487	
9,200.00	9,195.07	9,196.14	9,193.90	9.11	6.85	-126.38	-124.11	31.63	138.94	122.98	15.96	8.707	
9,300.00	9,294.83	9,296.04	9,293.74	9.13	6.88	-127.21	-127.53	30.85	142.89	126.88	16.01	8.926	
9,400.00	9,394.59	9,395.94	9,393.58	9.15	6.92	-127.99	-130.94	30.07	146.86	130.80	16.06	9.142	
9,500.00	9,494.35	9,495.84	9,493.42	9.17	6.96	-128.73	-134.36	29.30	150.86	134.73	16.12	9.356	
9,600.00	9,594.11	9,595.74	9,593.26	9.19	7.00	-129.43	-137.78	28.52	154.88	138.69	16.19	9.567	
9,700.00	9,693.87	9,695.64	9,693.10	9.22	7.04	-130.09	-141.19	27.74	158.93	142.67	16.26	9.775	
9,800.00	9,793.63	9,795.54	9,792.94	9.24	7.09	-130.72	-144.61	26.96	162.99	146.66	16.33	9.980	
9,900.00	9,893.39	9,895.45	9,892.78	9.27	7.14	-131.32	-148.03	26.19	167.08	150.67	16.41	10.182	
10,000.00	9,993.16	9,995.35	9,992.62	9.31	7.19	-131.90	-151.45	25.41	171.18	154.69	16.49	10.381	
10,100.00	10,092.92	10,095.25	10,092.46	9.34	7.24	-132.44	-154.86	24.63	175.30	158.72	16.58	10.576	

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

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed 703H - Wellbore #1 - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Keeper, 12341-MWD — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.00	10,192.68	10,195.15	10,192.30	9.37	7.29	-132.96	-158.28	23.85	179.43	162.77	16.67	10.767	
10,300.00	10,292.44	10,295.05	10,292.14	9.41	7.35	-133.46	-161.70	23.08	183.58	166.82	16.76	10.954	
10,400.00	10,392.20	10,394.95	10,391.98	9.45	7.40	-133.93	-165.11	22.30	187.74	170.88	16.86	11.137	
10,500.00	10,491.96	10,494.86	10,491.82	9.49	7.46	-134.39	-168.53	21.52	191.91	174.95	16.96	11.316	
10,600.00	10,591.72	10,594.76	10,591.66	9.54	7.52	-134.82	-171.95	20.74	196.10	179.03	17.07	11.491	
10,700.00	10,691.49	10,694.66	10,691.50	9.58	7.59	-135.24	-175.37	19.97	200.29	183.12	17.18	11.662	
10,800.00	10,791.25	10,794.56	10,791.34	9.63	7.65	-135.64	-178.78	19.19	204.50	187.21	17.29	11.828	
10,900.00	10,891.01	10,894.46	10,891.18	9.68	7.72	-136.02	-182.20	18.41	208.72	191.31	17.41	11.991	
11,000.00	10,990.77	10,994.36	10,991.02	9.73	7.78	-136.39	-185.62	17.63	212.94	195.41	17.53	12.150	
11,100.00	11,090.53	11,094.27	11,090.86	9.79	7.85	-136.75	-189.03	16.86	217.17	199.52	17.65	12.304	
11,200.00	11,190.29	11,194.17	11,190.70	9.84	7.92	-137.09	-192.45	16.08	221.41	203.64	17.78	12.455	
11,300.00	11,290.05	11,294.07	11,290.54	9.90	8.00	-137.42	-195.87	15.30	225.66	207.75	17.91	12.601	
11,400.00	11,389.82	11,393.97	11,390.38	9.96	8.07	-137.73	-199.29	14.52	229.92	211.87	18.04	12.744	
11,500.00	11,489.58	11,493.87	11,490.22	10.02	8.14	-138.03	-202.70	13.75	234.18	216.00	18.18	12.882	
11,600.00	11,589.34	11,593.77	11,590.06	10.08	8.22	-138.33	-206.12	12.97	238.45	220.13	18.32	13.017	
11,700.00	11,689.10	11,693.67	11,689.90	10.15	8.30	-138.61	-209.54	12.19	242.72	224.26	18.46	13.148	
11,800.00	11,788.86	11,793.58	11,789.74	10.21	8.38	-138.88	-212.95	11.41	247.00	228.39	18.61	13.275	
11,900.00	11,888.62	11,893.48	11,889.58	10.28	8.46	-139.15	-216.37	10.64	251.29	232.53	18.75	13.399	
12,000.00	11,988.38	11,993.38	11,989.42	10.35	8.54	-139.40	-219.79	9.86	255.58	236.67	18.91	13.518	
12,100.00	12,088.15	12,093.28	12,089.26	10.42	8.62	-139.65	-223.21	9.08	259.87	240.81	19.06	13.635	
12,119.58	12,107.68	12,112.84	12,108.81	10.42	8.64	-139.70	-223.87	8.93	260.71	241.64	19.08	13.666	
12,125.00	12,113.09	12,118.26	12,114.22	10.42	8.64	-147.42	-224.06	8.89	260.95	241.86	19.08	13.676	
12,150.00	12,138.05	12,143.22	12,139.18	10.42	8.67	159.17	-224.91	8.69	261.98	242.86	19.11	13.708	
12,175.00	12,162.99	12,168.12	12,164.06	10.43	8.69	123.90	-225.77	8.50	262.95	243.78	19.17	13.718	
12,200.00	12,187.85	12,192.89	12,188.81	10.43	8.71	110.88	-226.61	8.31	263.90	244.60	19.30	13.670	
12,225.00	12,212.54	12,217.45	12,213.36	10.43	8.73	105.36	-227.45	8.12	264.87	245.31	19.56	13.542	
12,250.00	12,237.01	12,241.75	12,237.64	10.44	8.75	102.85	-228.28	7.93	265.92	246.03	19.89	13.370	
12,275.00	12,261.18	12,265.71	12,261.58	10.44	8.77	101.87	-229.10	7.74	267.12	246.84	20.29	13.169	
12,300.00	12,285.00	12,289.26	12,285.12	10.45	8.79	101.78	-229.91	7.56	268.58	247.84	20.74	12.947	
12,325.00	12,308.39	12,312.35	12,308.20	10.46	8.81	102.27	-230.70	7.38	270.40	249.14	21.26	12.717	
12,350.00	12,331.30	12,334.91	12,330.75	10.48	8.83	103.15	-231.47	7.20	272.69	250.86	21.83	12.489	
12,375.00	12,353.65	12,358.70	12,354.53	10.49	8.84	104.41	-231.97	7.01	275.52	253.07	22.45	12.271	
12,400.00	12,375.39	12,383.74	12,379.56	10.51	8.84	105.85	-231.27	6.81	278.80	255.70	23.10	12.071	
12,425.00	12,396.46	12,409.50	12,405.23	10.53	8.84	107.35	-229.17	6.59	282.49	258.73	23.77	11.887	
12,450.00	12,416.79	12,436.06	12,431.53	10.56	8.84	108.90	-225.57	6.35	286.57	262.12	24.45	11.719	
12,475.00	12,436.35	12,463.46	12,458.42	10.59	8.84	110.46	-220.32	6.09	291.00	265.84	25.15	11.568	
12,500.00	12,455.06	12,491.79	12,485.86	10.63	8.85	112.04	-213.28	5.81	295.72	269.87	25.86	11.436	
12,525.00	12,472.88	12,521.12	12,513.77	10.68	8.86	113.60	-204.30	5.52	300.71	274.15	26.56	11.322	
12,550.00	12,489.76	12,551.53	12,542.07	10.73	8.88	115.15	-193.19	5.21	305.89	278.64	27.25	11.226	
12,575.00	12,505.66	12,583.10	12,570.64	10.79	8.90	116.66	-179.78	4.88	311.20	283.29	27.92	11.147	
12,600.00	12,520.53	12,615.89	12,599.32	10.87	8.94	118.14	-163.88	4.52	316.59	288.02	28.58	11.078	
12,625.00	12,534.33	12,650.00	12,627.90	10.95	8.99	119.58	-145.30	4.15	321.99	292.78	29.20	11.026	
12,650.00	12,547.02	12,685.47	12,656.15	11.05	9.06	120.95	-123.86	3.76	327.31	297.51	29.80	10.984	
12,675.00	12,558.57	12,722.37	12,683.76	11.17	9.16	122.26	-99.40	3.35	332.48	302.12	30.36	10.951	
12,700.00	12,568.94	12,760.73	12,710.37	11.31	9.29	123.49	-71.79	2.93	337.42	306.53	30.89	10.925	
12,725.00	12,578.11	12,800.55	12,735.56	11.46	9.48	124.62	-40.96	2.49	342.05	310.68	31.37	10.904	
12,750.00	12,586.05	12,841.81	12,758.86	11.64	9.72	125.65	-6.92	2.04	346.28	314.48	31.81	10.887	
12,775.00	12,592.75	12,884.45	12,779.75	11.84	10.02	126.56	30.22	1.59	350.05	317.85	32.20	10.871	
12,800.00	12,598.17	12,928.34	12,797.71	12.06	10.39	127.33	70.26	1.14	353.26	320.72	32.54	10.855	
12,825.00	12,602.32	12,973.34	12,812.22	12.29	10.81	127.96	112.83	0.70	355.87	323.03	32.84	10.837	
12,850.00	12,605.16	13,019.22	12,822.83	12.55	11.30	128.42	157.45	0.27	357.79	324.71	33.08	10.816	
12,875.00	12,606.71	13,065.74	12,829.17	12.82	11.85	128.72	203.51	-0.13	359.01	325.74	33.27	10.791	

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed 703H - Wellbore #1 - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Keeper, 12341-MWD — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
12,896.09	12,607.00	13,105.27	12,831.00	13.06	12.34	128.83	242.99	-0.45	359.45	326.07	33.38	10.767	
12,900.00	12,606.97	13,111.81	12,830.99	13.10	12.42	128.84	249.52	-0.50	359.47	326.07	33.40	10.763	
13,000.00	12,606.13	13,211.81	12,830.33	14.35	13.77	128.86	349.51	-1.26	359.58	325.89	33.69	10.674	
13,100.00	12,605.30	13,311.80	12,829.67	15.73	15.21	128.88	449.51	-2.02	359.69	325.62	34.06	10.559	
13,200.00	12,604.46	13,411.80	12,829.02	17.20	16.73	128.90	549.50	-2.78	359.80	324.95	34.85	10.324	
13,300.00	12,603.63	13,511.80	12,828.36	18.73	18.30	128.92	649.50	-3.53	359.91	322.85	37.06	9.712	
13,400.00	12,602.79	13,611.80	12,827.70	20.32	19.92	128.95	749.49	-4.29	360.02	319.78	40.24	8.946	
13,500.00	12,601.96	13,711.80	12,827.04	21.94	21.56	128.97	849.49	-5.05	360.13	316.62	43.51	8.276	
13,600.00	12,601.12	13,811.80	12,826.38	23.60	23.24	128.99	949.48	-5.81	360.24	313.40	46.84	7.690	
13,700.00	12,600.29	13,911.80	12,825.72	25.28	24.94	129.01	1,049.48	-6.57	360.35	310.13	50.22	7.176	
13,800.00	12,599.45	14,011.80	12,825.06	26.97	26.65	129.03	1,149.47	-7.33	360.46	306.83	53.63	6.722	
13,900.00	12,598.62	14,111.80	12,824.40	28.69	28.38	129.05	1,249.47	-8.09	360.57	303.50	57.07	6.318	
14,000.00	12,597.78	14,211.80	12,823.74	30.41	30.12	129.08	1,349.46	-8.85	360.68	300.15	60.53	5.958	
14,100.00	12,596.95	14,311.80	12,823.08	32.15	31.87	129.10	1,449.46	-9.61	360.79	296.77	64.02	5.636	
14,200.00	12,596.12	14,411.80	12,822.42	33.90	33.62	129.12	1,549.45	-10.36	360.90	293.38	67.52	5.345	
14,300.00	12,595.28	14,511.80	12,821.76	35.65	35.39	129.14	1,649.45	-11.12	361.01	289.97	71.04	5.082	
14,400.00	12,594.45	14,611.80	12,821.10	37.41	37.16	129.16	1,749.44	-11.88	361.12	286.55	74.57	4.843	
14,500.00	12,593.61	14,711.80	12,820.44	39.18	38.93	129.18	1,849.44	-12.64	361.24	283.12	78.11	4.625	
14,600.00	12,592.78	14,811.80	12,819.78	40.95	40.71	129.21	1,949.43	-13.40	361.35	279.68	81.66	4.425	
14,700.00	12,591.94	14,911.80	12,819.12	42.73	42.49	129.23	2,049.43	-14.16	361.46	276.23	85.22	4.241	
14,800.00	12,591.11	15,011.80	12,818.46	44.51	44.28	129.25	2,149.42	-14.92	361.57	272.78	88.79	4.072	
14,900.00	12,590.27	15,111.80	12,817.80	46.29	46.07	129.27	2,249.42	-15.68	361.68	269.32	92.36	3.916	
15,000.00	12,589.44	15,211.80	12,817.14	48.08	47.86	129.29	2,349.41	-16.44	361.79	265.85	95.94	3.771	
15,100.00	12,588.60	15,311.80	12,816.48	49.87	49.65	129.31	2,449.41	-17.19	361.90	262.38	99.52	3.636	
15,200.00	12,587.77	15,411.80	12,815.82	51.66	51.45	129.33	2,549.40	-17.95	362.01	258.90	103.11	3.511	
15,300.00	12,586.93	15,511.80	12,815.16	53.46	53.25	129.36	2,649.40	-18.71	362.12	255.42	106.71	3.394	
15,400.00	12,586.10	15,611.80	12,814.50	55.25	55.05	129.38	2,749.39	-19.47	362.23	251.93	110.30	3.284	
15,500.00	12,585.26	15,711.80	12,813.84	57.05	56.85	129.40	2,849.38	-20.23	362.35	248.44	113.90	3.181	
15,600.00	12,584.43	15,811.80	12,813.18	58.85	58.65	129.42	2,949.38	-20.99	362.46	244.95	117.50	3.085	
15,700.00	12,583.59	15,911.80	12,812.52	60.65	60.46	129.44	3,049.37	-21.75	362.57	241.46	121.11	2.994	
15,800.00	12,582.76	16,011.80	12,811.86	62.45	62.26	129.46	3,149.37	-22.51	362.68	237.96	124.72	2.908	
15,900.00	12,581.92	16,111.80	12,811.20	64.26	64.07	129.48	3,249.36	-23.26	362.79	234.46	128.33	2.827	
16,000.00	12,581.09	16,211.80	12,810.54	66.06	65.88	129.50	3,349.36	-24.02	362.90	230.96	131.94	2.751	
16,100.00	12,580.25	16,311.80	12,809.88	67.87	67.69	129.53	3,449.35	-24.78	363.01	227.46	135.55	2.678	
16,200.00	12,579.42	16,411.80	12,809.22	69.68	69.50	129.55	3,549.35	-25.54	363.13	223.96	139.17	2.609	
16,300.00	12,578.58	16,511.80	12,808.56	71.48	71.31	129.57	3,649.34	-26.30	363.24	220.45	142.79	2.544	
16,400.00	12,577.75	16,611.80	12,807.90	73.29	73.12	129.59	3,749.34	-27.06	363.35	216.94	146.41	2.482	
16,500.00	12,576.91	16,711.80	12,807.24	75.10	74.93	129.61	3,849.33	-27.82	363.46	213.43	150.03	2.423	
16,600.00	12,576.08	16,811.80	12,806.58	76.91	76.74	129.63	3,949.33	-28.58	363.57	209.92	153.65	2.366	
16,700.00	12,575.25	16,911.80	12,805.93	78.72	78.55	129.65	4,049.32	-29.34	363.69	206.41	157.27	2.312	
16,800.00	12,574.41	17,011.80	12,805.27	80.53	80.37	129.67	4,149.32	-30.09	363.80	202.90	160.90	2.261	
16,900.00	12,573.58	17,111.80	12,804.61	82.35	82.18	129.70	4,249.31	-30.85	363.91	199.38	164.53	2.212	
17,000.00	12,572.74	17,211.80	12,803.95	84.16	83.99	129.72	4,349.31	-31.61	364.02	195.87	168.15	2.165	
17,100.00	12,571.91	17,311.80	12,803.29	85.97	85.81	129.74	4,449.30	-32.37	364.13	192.35	171.78	2.120	
17,200.00	12,571.07	17,411.80	12,802.63	87.78	87.62	129.76	4,549.30	-33.13	364.25	188.84	175.41	2.077	
17,300.00	12,570.24	17,511.80	12,801.97	89.60	89.44	129.78	4,649.29	-33.89	364.36	185.32	179.04	2.035	
17,400.00	12,569.40	17,611.80	12,801.31	91.41	91.25	129.80	4,749.29	-34.65	364.47	181.80	182.67	1.995	
17,448.09	12,569.00	17,658.32	12,801.00	92.29	92.10	129.81	4,795.81	-35.00	364.53	180.14	184.38	1.977	SF

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed Com 103H - Wellbore #1 - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-Keeper, 9136-MWD

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.10	0.10	0.00	0.00	-45.38	29.80	-30.20	42.43				
100.00	100.00	100.10	100.10	0.06	0.07	-45.38	29.80	-30.20	42.43	42.30	0.13	337.543	
200.00	200.00	200.10	200.10	0.20	0.20	-45.38	29.80	-30.20	42.43	42.04	0.39	108.456	
300.00	300.00	300.10	300.10	0.33	0.33	-45.38	29.80	-30.20	42.43	41.77	0.65	64.885	
400.00	400.00	400.10	400.10	0.46	0.46	-45.38	29.80	-30.20	42.43	41.51	0.92	46.260	
500.00	500.00	500.10	500.10	0.59	0.59	-45.38	29.80	-30.20	42.43	41.25	1.18	35.938	
600.00	600.00	600.10	600.10	0.72	0.72	-45.38	29.80	-30.20	42.43	40.98	1.44	29.379	
700.00	700.00	700.10	700.10	0.85	0.85	-45.38	29.80	-30.20	42.43	40.72	1.71	24.845	
800.00	800.00	800.10	800.10	0.99	0.99	-45.38	29.80	-30.20	42.43	40.46	1.97	21.522	
900.00	900.00	900.10	900.10	1.12	1.12	-45.38	29.80	-30.20	42.43	40.19	2.23	18.984	
1,000.00	1,000.00	1,000.10	1,000.10	1.25	1.25	-45.38	29.80	-30.20	42.43	39.93	2.50	16.981	
1,100.00	1,100.00	1,100.10	1,100.10	1.38	1.38	-45.38	29.80	-30.20	42.43	39.67	2.76	15.360	
1,200.00	1,200.00	1,200.10	1,200.10	1.51	1.51	-45.38	29.80	-30.20	42.43	39.40	3.03	14.022	
1,300.00	1,300.00	1,300.10	1,300.10	1.64	1.64	-45.38	29.80	-30.20	42.43	39.14	3.29	12.898	
1,400.00	1,400.00	1,400.10	1,400.10	1.78	1.78	-45.38	29.80	-30.20	42.43	38.87	3.55	11.941	
1,500.00	1,500.00	1,500.10	1,500.10	1.91	1.91	-45.38	29.80	-30.20	42.43	38.61	3.82	11.116	
1,600.00	1,600.00	1,600.10	1,600.10	2.04	2.04	-45.38	29.80	-30.20	42.43	38.35	4.08	10.398	
1,700.00	1,700.00	1,700.10	1,700.10	2.17	2.17	-45.38	29.80	-30.20	42.43	38.08	4.34	9.767	
1,800.00	1,800.00	1,800.10	1,800.10	2.30	2.30	-45.38	29.80	-30.20	42.43	37.82	4.61	9.208	
1,900.00	1,900.00	1,900.10	1,900.10	2.44	2.44	-45.38	29.80	-30.20	42.43	37.56	4.87	8.709	
2,000.00	2,000.00	2,000.10	2,000.10	2.57	2.57	-45.38	29.80	-30.20	42.43	37.29	5.14	8.262	
2,100.00	2,100.00	2,100.10	2,100.10	2.70	2.70	-45.38	29.80	-30.20	42.43	37.03	5.40	7.859	
2,200.00	2,200.00	2,200.10	2,200.10	2.83	2.83	-45.38	29.80	-30.20	42.43	36.76	5.66	7.493	
2,300.00	2,300.00	2,300.10	2,300.10	2.96	2.96	-45.38	29.80	-30.20	42.43	36.50	5.93	7.159	
2,400.00	2,400.00	2,400.10	2,400.10	3.09	3.10	-45.38	29.80	-30.20	42.43	36.24	6.19	6.854	
2,500.00	2,500.00	2,500.10	2,500.10	3.23	3.23	-45.38	29.80	-30.20	42.43	35.97	6.45	6.574	
2,600.00	2,600.00	2,600.10	2,600.10	3.36	3.36	-45.38	29.80	-30.20	42.43	35.71	6.72	6.316	
2,700.00	2,700.00	2,700.10	2,700.10	3.49	3.49	-45.38	29.80	-30.20	42.43	35.45	6.98	6.078	
2,800.00	2,800.00	2,800.10	2,800.10	3.62	3.62	-45.38	29.80	-30.20	42.43	35.18	7.24	5.856	
2,900.00	2,900.00	2,900.10	2,900.10	3.75	3.75	-45.38	29.80	-30.20	42.43	34.92	7.51	5.651	
3,000.00	3,000.00	3,000.10	3,000.10	3.89	3.89	-45.38	29.80	-30.20	42.43	34.66	7.77	5.459	
3,100.00	3,100.00	3,100.10	3,100.10	4.02	4.02	-45.38	29.80	-30.20	42.43	34.39	8.04	5.280	
3,200.00	3,200.00	3,200.10	3,200.10	4.15	4.15	-45.38	29.80	-30.20	42.43	34.13	8.30	5.112	
3,300.00	3,300.00	3,300.10	3,300.10	4.28	4.28	-45.38	29.80	-30.20	42.43	33.86	8.56	4.955	
3,400.00	3,400.00	3,400.10	3,400.10	4.41	4.41	-45.38	29.80	-30.20	42.43	33.60	8.83	4.807	
3,500.00	3,500.00	3,500.10	3,500.10	4.55	4.55	-45.38	29.80	-30.20	42.43	33.34	9.09	4.667	
3,600.00	3,600.00	3,600.10	3,600.10	4.68	4.68	-45.38	29.80	-30.20	42.43	33.07	9.35	4.536	
3,700.00	3,700.00	3,700.10	3,700.10	4.81	4.81	-45.38	29.80	-30.20	42.43	32.81	9.62	4.411	
3,800.00	3,800.00	3,800.10	3,800.10	4.94	4.94	-45.38	29.80	-30.20	42.43	32.55	9.88	4.294	
3,900.00	3,900.00	3,900.10	3,900.10	5.07	5.07	-45.38	29.80	-30.20	42.43	32.28	10.15	4.182	
4,000.00	4,000.00	4,000.10	4,000.10	5.20	5.20	-45.38	29.80	-30.20	42.43	32.02	10.41	4.076	
4,100.00	4,100.00	4,100.10	4,100.10	5.34	5.34	-45.38	29.80	-30.20	42.43	31.76	10.67	3.975	
4,200.00	4,200.00	4,200.10	4,200.10	5.47	5.47	-45.38	29.80	-30.20	42.43	31.49	10.94	3.880	
4,300.00	4,300.00	4,300.10	4,300.10	5.60	5.60	-45.38	29.80	-30.20	42.43	31.23	11.20	3.788	
4,400.00	4,400.00	4,400.10	4,400.10	5.73	5.73	-45.38	29.80	-30.20	42.43	30.96	11.46	3.701	
4,466.63	4,466.63	4,466.73	4,466.73	5.82	5.82	-45.38	29.80	-30.20	42.43	30.79	11.64	3.645	CC
4,500.00	4,500.00	4,500.00	4,500.00	5.86	5.86	-45.38	29.80	-30.20	42.43	30.70	11.73	3.618	ES
4,600.00	4,600.00	4,599.61	4,599.59	6.00	5.93	-47.58	28.99	-31.73	42.98	31.06	11.92	3.606	SF
4,700.00	4,700.00	4,698.95	4,698.79	6.13	5.92	-53.78	26.58	-36.30	45.01	32.96	12.05	3.735	
4,800.00	4,800.00	4,798.73	4,798.35	6.26	5.92	-60.86	23.49	-42.15	48.28	36.10	12.18	3.963	
4,900.00	4,900.00	4,898.51	4,897.91	6.39	5.93	-66.97	20.40	-48.00	52.20	39.88	12.32	4.238	
5,000.00	5,000.00	4,998.29	4,997.47	6.52	5.93	-72.18	17.32	-53.85	56.63	44.17	12.46	4.546	

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

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed Com 103H - Wellbore #1 - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-Keeper, 9136-MWD

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.00	5,100.00	5,098.07	5,097.03	6.65	5.94	-76.60	14.23	-59.71	61.45	48.86	12.60	4.878	
5,200.00	5,200.00	5,197.85	5,196.59	6.79	5.95	-80.36	11.14	-65.56	66.59	53.85	12.74	5.226	
5,300.00	5,300.00	5,297.63	5,296.15	6.92	5.97	-83.57	8.05	-71.41	71.97	59.08	12.89	5.585	
5,400.00	5,400.00	5,397.41	5,395.71	7.05	5.99	-86.33	4.96	-77.26	77.55	64.51	13.04	5.948	
5,500.00	5,500.00	5,497.19	5,495.27	7.18	6.01	-88.71	1.87	-83.12	83.28	70.09	13.19	6.314	
5,600.00	5,600.00	5,596.97	5,594.83	7.31	6.03	-90.79	-1.22	-88.97	89.13	75.79	13.34	6.679	
5,700.00	5,700.00	5,696.75	5,694.39	7.45	6.06	-92.60	-4.31	-94.82	95.09	81.59	13.50	7.042	
5,800.00	5,800.00	5,796.53	5,793.95	7.58	6.09	-94.20	-7.40	-100.67	101.13	87.47	13.66	7.402	
5,900.00	5,900.00	5,896.31	5,893.51	7.71	6.12	-95.62	-10.49	-106.53	107.24	93.42	13.83	7.756	
6,000.00	6,000.00	5,996.09	5,993.07	7.84	6.15	-96.89	-13.58	-112.38	113.41	99.42	13.99	8.105	
6,100.00	6,100.00	6,095.87	6,092.63	7.97	6.19	-98.02	-16.67	-118.23	119.63	105.47	14.16	8.447	
6,200.00	6,200.00	6,195.65	6,192.19	8.10	6.23	-99.05	-19.76	-124.08	125.89	111.56	14.33	8.783	
6,300.00	6,300.00	6,295.43	6,291.75	8.24	6.27	-99.97	-22.84	-129.94	132.19	117.68	14.51	9.111	
6,400.00	6,400.00	6,395.21	6,391.31	8.37	6.32	-100.81	-25.93	-135.79	138.52	123.84	14.69	9.432	
6,500.00	6,500.00	6,494.99	6,490.87	8.50	6.37	-101.58	-29.02	-141.64	144.88	130.01	14.87	9.746	
6,600.00	6,600.00	6,594.77	6,590.43	8.63	6.42	-102.28	-32.11	-147.49	151.26	136.21	15.05	10.052	
6,700.00	6,700.00	6,694.55	6,689.99	8.76	6.47	-102.93	-35.20	-153.35	157.66	142.43	15.23	10.350	
6,800.00	6,800.00	6,794.33	6,789.55	8.90	6.52	-103.52	-38.29	-159.20	164.08	148.66	15.42	10.641	
6,900.00	6,900.00	6,894.11	6,889.11	9.03	6.58	-104.07	-41.38	-165.05	170.51	154.90	15.61	10.924	
7,000.00	7,000.00	6,993.89	6,988.67	9.16	6.64	-104.58	-44.47	-170.90	176.96	161.16	15.80	11.200	
7,100.00	7,099.98	7,093.76	7,088.33	9.21	6.70	28.68	-47.56	-176.76	181.90	165.98	15.92	11.429	
7,197.95	7,197.79	7,191.68	7,186.03	9.19	6.77	28.97	-50.59	-182.51	183.76	167.81	15.96	11.518	
7,200.00	7,199.84	7,193.73	7,188.08	9.19	6.77	28.98	-50.66	-182.63	183.77	167.82	15.96	11.517	
7,300.00	7,299.60	7,293.71	7,287.84	9.17	6.83	29.54	-53.75	-188.49	184.20	168.20	16.00	11.512	
7,400.00	7,399.36	7,393.69	7,387.60	9.15	6.90	30.11	-56.85	-194.35	184.64	168.59	16.05	11.505	
7,500.00	7,499.12	7,493.68	7,487.36	9.13	6.97	30.67	-59.94	-200.22	185.10	169.00	16.10	11.496	
7,600.00	7,598.88	7,593.66	7,587.13	9.11	7.05	31.23	-63.04	-206.08	185.58	169.42	16.16	11.486	
7,700.00	7,698.64	7,693.64	7,686.89	9.10	7.12	31.78	-66.13	-211.95	186.07	169.85	16.22	11.474	
7,800.00	7,798.41	7,793.62	7,786.65	9.08	7.20	32.33	-69.23	-217.81	186.58	170.30	16.28	11.461	
7,900.00	7,898.17	7,893.61	7,886.41	9.07	7.27	32.88	-72.32	-223.68	187.11	170.77	16.35	11.446	
8,000.00	7,997.93	7,993.59	7,986.18	9.06	7.35	33.43	-75.42	-229.54	187.66	171.24	16.42	11.431	
8,100.00	8,097.69	8,093.57	8,085.94	9.06	7.43	33.97	-78.52	-235.41	188.22	171.73	16.49	11.414	
8,200.00	8,197.45	8,193.55	8,185.70	9.05	7.52	34.51	-81.61	-241.27	188.81	172.24	16.57	11.395	
8,300.00	8,297.21	8,293.54	8,285.46	9.05	7.60	35.05	-84.71	-247.13	189.40	172.75	16.65	11.376	
8,400.00	8,396.97	8,393.52	8,385.23	9.05	7.69	35.58	-87.80	-253.00	190.02	173.28	16.73	11.355	
8,500.00	8,496.74	8,493.50	8,484.99	9.05	7.77	36.11	-90.90	-258.86	190.65	173.83	16.82	11.334	
8,600.00	8,596.50	8,593.49	8,584.75	9.05	7.86	36.64	-93.99	-264.73	191.29	174.38	16.91	11.311	
8,700.00	8,696.26	8,693.47	8,684.51	9.06	7.95	37.16	-97.09	-270.59	191.95	174.95	17.01	11.288	
8,800.00	8,796.02	8,793.45	8,784.28	9.06	8.04	37.68	-100.18	-276.46	192.63	175.53	17.10	11.263	
8,900.00	8,895.78	8,893.43	8,884.04	9.07	8.13	38.19	-103.28	-282.32	193.33	176.12	17.20	11.238	
9,000.00	8,995.54	8,993.42	8,983.80	9.08	8.22	38.70	-106.37	-288.19	194.04	176.73	17.31	11.212	
9,100.00	9,095.30	9,093.40	9,083.56	9.10	8.32	39.21	-109.47	-294.05	194.76	177.35	17.41	11.185	
9,200.00	9,195.07	9,194.30	9,184.24	9.11	8.34	40.35	-110.43	-299.99	195.39	177.94	17.45	11.199	
9,300.00	9,294.83	9,291.83	9,280.08	9.13	8.36	46.40	-94.30	-305.78	196.42	178.94	17.48	11.234	
9,400.00	9,394.59	9,377.98	9,360.48	9.15	8.40	56.07	-64.09	-310.78	203.65	186.11	17.55	11.605	
9,500.00	9,494.35	9,450.00	9,422.64	9.17	8.48	66.22	-28.07	-314.75	224.54	206.89	17.65	12.724	
9,600.00	9,594.11	9,508.95	9,469.02	9.19	8.59	74.89	8.12	-317.79	262.48	244.70	17.78	14.763	
9,700.00	9,693.87	9,556.43	9,502.92	9.22	8.72	81.54	41.27	-320.07	315.83	297.89	17.93	17.611	
9,800.00	9,793.63	9,594.87	9,527.85	9.24	8.86	86.50	70.46	-321.78	380.86	362.76	18.10	21.042	
9,900.00	9,893.39	9,625.00	9,545.70	9.27	8.99	90.06	94.70	-323.04	454.21	435.95	18.26	24.869	
10,000.00	9,993.16	9,650.00	9,559.33	9.31	9.12	92.78	115.63	-324.02	533.43	515.00	18.43	28.945	
10,100.00	10,092.92	9,675.00	9,571.84	9.34	9.28	95.30	137.25	-324.94	616.85	598.23	18.62	33.135	

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

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed Com 103H - Wellbore #1 - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Keeper, 9136-MWD — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.00	10,192.68	9,691.96	9,579.68	9.37	9.39	96.88	152.27	-325.52	703.36	684.59	18.77	37.473	
10,300.00	10,292.44	9,700.00	9,583.21	9.41	9.45	97.61	159.49	-325.79	792.27	773.41	18.86	41.999	
10,400.00	10,392.20	9,725.00	9,593.40	9.45	9.65	99.73	182.31	-326.58	882.81	863.71	19.10	46.221	
10,500.00	10,491.96	9,725.00	9,593.40	9.49	9.65	99.73	182.31	-326.58	974.87	955.73	19.14	50.928	
10,600.00	10,591.72	9,750.00	9,602.39	9.54	9.87	101.67	205.62	-327.31	1,067.96	1,048.56	19.40	55.040	
10,700.00	10,691.49	9,750.00	9,602.39	9.58	9.87	101.67	205.62	-327.31	1,161.88	1,142.43	19.45	59.739	
10,800.00	10,791.25	9,759.71	9,605.55	9.63	9.96	102.37	214.80	-327.57	1,256.61	1,237.02	19.59	64.148	
10,900.00	10,891.01	9,775.00	9,610.14	9.68	10.10	103.44	229.38	-327.97	1,352.04	1,332.25	19.79	68.335	
11,000.00	10,990.77	9,775.00	9,610.14	9.73	10.10	103.44	229.38	-327.97	1,447.80	1,427.96	19.84	72.983	
11,100.00	11,090.53	9,775.00	9,610.14	9.79	10.10	103.44	229.38	-327.97	1,544.09	1,524.20	19.89	77.627	
11,200.00	11,190.29	9,775.00	9,610.14	9.84	10.10	103.44	229.38	-327.97	1,640.83	1,620.88	19.95	82.261	
11,300.00	11,290.05	9,789.13	9,613.97	9.90	10.25	104.37	242.97	-328.30	1,737.67	1,717.52	20.15	86.240	
11,400.00	11,389.82	9,800.00	9,616.64	9.96	10.36	105.06	253.51	-328.55	1,834.96	1,814.64	20.32	90.298	
11,500.00	11,489.58	9,800.00	9,616.64	10.02	10.36	105.06	253.51	-328.55	1,932.38	1,912.00	20.38	94.807	
11,600.00	11,589.34	9,800.00	9,616.64	10.08	10.36	105.06	253.51	-328.55	2,030.06	2,009.61	20.44	99.294	
11,700.00	11,689.10	9,800.00	9,616.64	10.15	10.36	105.06	253.51	-328.55	2,127.95	2,107.44	20.51	103.755	
11,800.00	11,788.86	9,800.00	9,616.64	10.21	10.36	105.06	253.51	-328.55	2,226.03	2,205.45	20.58	108.189	
11,900.00	11,888.62	9,810.84	9,619.07	10.28	10.48	105.71	264.07	-328.78	2,324.12	2,303.36	20.76	111.940	
12,000.00	11,988.38	9,813.60	9,619.65	10.35	10.51	105.88	266.76	-328.84	2,422.42	2,401.56	20.86	116.117	
12,100.00	12,088.15	9,825.00	9,621.88	10.42	10.64	106.53	277.94	-329.06	2,520.94	2,499.88	21.06	119.707	
12,119.58	12,107.68	9,825.00	9,621.88	10.42	10.64	106.53	277.94	-329.06	2,540.21	2,519.15	21.06	120.613	
12,125.00	12,113.09	9,825.00	9,621.88	10.42	10.64	100.38	277.94	-329.06	2,545.54	2,524.48	21.06	120.854	
12,150.00	12,138.05	9,825.00	9,621.88	10.42	10.64	52.29	277.94	-329.06	2,569.99	2,548.91	21.08	121.903	
12,175.00	12,162.99	9,825.00	9,621.88	10.43	10.64	20.20	277.94	-329.06	2,594.17	2,573.05	21.12	122.835	
12,200.00	12,187.85	9,825.00	9,621.88	10.43	10.64	9.04	277.94	-329.06	2,618.02	2,596.84	21.18	123.635	
12,225.00	12,212.54	9,825.00	9,621.88	10.43	10.64	4.47	277.94	-329.06	2,641.48	2,620.23	21.25	124.285	
12,250.00	12,237.01	9,825.00	9,621.88	10.44	10.64	2.25	277.94	-329.06	2,664.51	2,643.15	21.36	124.762	
12,275.00	12,261.18	9,825.00	9,621.88	10.44	10.64	1.04	277.94	-329.06	2,687.05	2,665.56	21.49	125.049	
12,300.00	12,285.00	9,825.00	9,621.88	10.45	10.64	0.33	277.94	-329.06	2,709.04	2,687.39	21.65	125.137	
12,325.00	12,308.39	9,825.00	9,621.88	10.46	10.64	-0.11	277.94	-329.06	2,730.46	2,708.62	21.84	125.025	
12,350.00	12,331.30	9,825.00	9,621.88	10.48	10.64	-0.39	277.94	-329.06	2,751.24	2,729.18	22.06	124.725	
12,375.00	12,353.65	9,825.00	9,621.88	10.49	10.64	-0.58	277.94	-329.06	2,771.35	2,749.05	22.30	124.259	
12,400.00	12,375.39	9,825.00	9,621.88	10.51	10.64	-0.70	277.94	-329.06	2,790.76	2,768.19	22.57	123.654	
12,425.00	12,396.46	9,836.67	9,623.88	10.53	10.77	-0.76	289.44	-329.28	2,809.24	2,786.25	22.99	122.204	
12,450.00	12,416.79	9,839.21	9,624.28	10.56	10.80	-0.81	291.95	-329.32	2,827.03	2,803.71	23.31	121.264	
12,475.00	12,436.35	9,850.00	9,625.83	10.59	10.93	-0.83	302.62	-329.50	2,844.06	2,820.31	23.74	119.786	
12,500.00	12,455.06	9,850.00	9,625.83	10.63	10.93	-0.86	302.62	-329.50	2,860.09	2,836.04	24.05	118.924	
12,525.00	12,472.88	9,850.00	9,625.83	10.68	10.93	-0.88	302.62	-329.50	2,875.23	2,850.88	24.36	118.046	
12,550.00	12,489.76	9,850.00	9,625.83	10.73	10.93	-0.90	302.62	-329.50	2,889.47	2,864.80	24.66	117.169	
12,575.00	12,505.66	9,850.00	9,625.83	10.79	10.93	-0.91	302.62	-329.50	2,902.76	2,877.80	24.96	116.305	
12,600.00	12,520.53	9,850.00	9,625.83	10.87	10.93	-0.91	302.62	-329.50	2,915.09	2,889.85	25.25	115.465	
12,625.00	12,534.33	9,850.00	9,625.83	10.95	10.93	-0.92	302.62	-329.50	2,926.44	2,900.92	25.52	114.658	
12,650.00	12,547.02	9,862.79	9,627.35	11.05	11.09	-0.91	315.32	-329.70	2,936.59	2,910.65	25.94	113.194	
12,675.00	12,558.57	9,875.00	9,628.48	11.17	11.24	-0.91	327.48	-329.87	2,945.90	2,919.56	26.34	111.840	
12,700.00	12,568.94	9,875.00	9,628.48	11.31	11.24	-0.91	327.48	-329.87	2,954.00	2,927.43	26.57	111.177	
12,725.00	12,578.11	9,875.00	9,628.48	11.46	11.24	-0.91	327.48	-329.87	2,961.04	2,934.26	26.78	110.566	
12,750.00	12,586.05	9,875.00	9,628.48	11.64	11.24	-0.91	327.48	-329.87	2,967.01	2,940.04	26.97	110.010	
12,775.00	12,592.75	9,875.00	9,628.48	11.84	11.24	-0.92	327.48	-329.87	2,971.91	2,944.78	27.14	109.510	
12,800.00	12,598.17	9,875.00	9,628.48	12.06	11.24	-0.92	327.48	-329.87	2,975.73	2,948.45	27.28	109.068	
12,825.00	12,602.32	9,886.33	9,629.25	12.29	11.38	-0.92	338.78	-330.01	2,978.31	2,950.76	27.55	108.110	
12,850.00	12,605.16	9,900.00	9,629.83	12.55	11.56	-0.93	352.44	-330.15	2,979.97	2,952.15	27.82	107.116	
12,875.00	12,606.71	9,900.00	9,629.83	12.82	11.56	-0.93	352.44	-330.15	2,980.30	2,952.41	27.89	106.854	

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed Com 103H - Wellbore #1 - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-Keeper, 9136-MWD

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
12,896.09	12,607.00	9,900.00	9,629.83	13.06	11.56	-0.94	352.44	-330.15	2,979.73	2,951.80	27.93	106.680	
12,900.00	12,606.97	9,900.00	9,629.83	13.10	11.56	-0.94	352.44	-330.15	2,979.56	2,951.62	27.94	106.654	
13,000.00	12,606.13	9,917.37	9,630.00	14.35	11.78	-0.94	369.80	-330.31	2,976.73	2,948.42	28.32	105.118	
13,059.80	12,605.63	9,928.00	9,629.91	15.17	11.93	-0.94	380.43	-330.39	2,976.33	2,947.74	28.58	104.126	
13,100.00	12,605.30	9,968.19	9,629.58	15.73	12.49	-0.94	420.62	-330.71	2,976.33	2,947.10	29.23	101.819	
13,200.00	12,604.46	10,068.19	9,628.74	17.20	13.94	-0.94	520.62	-331.49	2,976.33	2,945.06	31.27	95.174	
13,300.00	12,603.63	10,168.19	9,627.90	18.73	15.47	-0.94	620.61	-332.28	2,976.33	2,942.11	34.23	86.962	
13,400.00	12,602.79	10,268.19	9,627.07	20.32	17.06	-0.94	720.60	-333.06	2,976.33	2,938.95	37.39	79.604	
13,500.00	12,601.96	10,368.19	9,626.23	21.94	18.70	-0.94	820.60	-333.84	2,976.34	2,935.69	40.65	73.226	
13,600.00	12,601.12	10,468.19	9,625.39	23.60	20.37	-0.94	920.59	-334.63	2,976.34	2,932.37	43.97	67.693	
13,700.00	12,600.29	10,568.19	9,624.56	25.28	22.06	-0.94	1,020.58	-335.41	2,976.34	2,929.00	47.34	62.872	
13,800.00	12,599.45	10,668.19	9,623.72	26.97	23.77	-0.94	1,120.58	-336.20	2,976.34	2,925.59	50.75	58.646	
13,900.00	12,598.62	10,768.19	9,622.88	28.69	25.50	-0.95	1,220.57	-336.98	2,976.34	2,922.15	54.19	54.921	
14,000.00	12,597.78	10,868.19	9,622.05	30.41	27.25	-0.95	1,320.56	-337.76	2,976.35	2,918.68	57.66	51.617	
14,100.00	12,596.95	10,968.19	9,621.21	32.15	29.00	-0.95	1,420.56	-338.55	2,976.35	2,915.20	61.15	48.672	
14,200.00	12,596.12	11,068.19	9,620.38	33.90	30.76	-0.95	1,520.55	-339.33	2,976.35	2,911.69	64.66	46.032	
14,300.00	12,595.28	11,168.19	9,619.54	35.65	32.53	-0.95	1,620.54	-340.12	2,976.35	2,908.17	68.18	43.654	
14,400.00	12,594.45	11,268.19	9,618.70	37.41	34.30	-0.95	1,720.54	-340.90	2,976.35	2,904.64	71.72	41.502	
14,500.00	12,593.61	11,368.19	9,617.87	39.18	36.08	-0.95	1,820.53	-341.69	2,976.36	2,901.10	75.26	39.547	
14,600.00	12,592.78	11,468.19	9,617.03	40.95	37.86	-0.95	1,920.52	-342.47	2,976.36	2,897.54	78.82	37.763	
14,700.00	12,591.94	11,568.19	9,616.19	42.73	39.65	-0.95	2,020.52	-343.25	2,976.36	2,893.98	82.38	36.130	
14,800.00	12,591.11	11,668.19	9,615.36	44.51	41.44	-0.95	2,120.51	-344.04	2,976.36	2,890.41	85.95	34.629	
14,900.00	12,590.27	11,768.19	9,614.52	46.29	43.23	-0.95	2,220.50	-344.82	2,976.36	2,886.84	89.53	33.245	
15,000.00	12,589.44	11,868.19	9,613.68	48.08	45.03	-0.95	2,320.50	-345.61	2,976.37	2,883.26	93.11	31.966	
15,100.00	12,588.60	11,968.19	9,612.85	49.87	46.83	-0.95	2,420.49	-346.39	2,976.37	2,879.67	96.70	30.780	
15,200.00	12,587.77	12,068.19	9,612.01	51.66	48.63	-0.95	2,520.49	-347.18	2,976.37	2,876.08	100.29	29.678	
15,300.00	12,586.93	12,168.19	9,611.18	53.46	50.43	-0.95	2,620.48	-347.96	2,976.37	2,872.49	103.89	28.651	
15,400.00	12,586.10	12,268.19	9,610.34	55.25	52.23	-0.95	2,720.47	-348.74	2,976.37	2,868.89	107.48	27.691	
15,500.00	12,585.26	12,368.19	9,609.50	57.05	54.04	-0.95	2,820.47	-349.53	2,976.38	2,865.29	111.09	26.793	
15,600.00	12,584.43	12,468.19	9,608.67	58.85	55.84	-0.95	2,920.46	-350.31	2,976.38	2,861.69	114.69	25.951	
15,700.00	12,583.59	12,568.19	9,607.83	60.65	57.65	-0.95	3,020.45	-351.10	2,976.38	2,858.08	118.30	25.159	
15,800.00	12,582.76	12,668.19	9,606.99	62.45	59.46	-0.95	3,120.45	-351.88	2,976.38	2,854.47	121.91	24.414	
15,900.00	12,581.92	12,768.19	9,606.16	64.26	61.27	-0.95	3,220.44	-352.66	2,976.38	2,850.86	125.52	23.712	
16,000.00	12,581.09	12,868.19	9,605.32	66.06	63.08	-0.96	3,320.43	-353.45	2,976.39	2,847.25	129.14	23.048	
16,100.00	12,580.25	12,968.19	9,604.48	67.87	64.89	-0.96	3,420.43	-354.23	2,976.39	2,843.63	132.76	22.420	
16,200.00	12,579.42	13,068.19	9,603.65	69.68	66.70	-0.96	3,520.42	-355.02	2,976.39	2,840.02	136.37	21.825	
16,300.00	12,578.58	13,168.19	9,602.81	71.48	68.51	-0.96	3,620.41	-355.80	2,976.39	2,836.40	140.00	21.261	
16,400.00	12,577.75	13,268.19	9,601.98	73.29	70.32	-0.96	3,720.41	-356.59	2,976.39	2,832.78	143.62	20.725	
16,500.00	12,576.91	13,368.19	9,601.14	75.10	72.14	-0.96	3,820.40	-357.37	2,976.40	2,829.16	147.24	20.215	
16,600.00	12,576.08	13,468.19	9,600.30	76.91	73.95	-0.96	3,920.39	-358.15	2,976.40	2,825.53	150.86	19.729	
16,700.00	12,575.25	13,568.19	9,599.47	78.72	75.77	-0.96	4,020.39	-358.94	2,976.40	2,821.91	154.49	19.266	
16,800.00	12,574.41	13,668.19	9,598.63	80.53	77.58	-0.96	4,120.38	-359.72	2,976.40	2,818.29	158.12	18.824	
16,900.00	12,573.58	13,768.19	9,597.79	82.35	79.40	-0.96	4,220.37	-360.51	2,976.40	2,814.66	161.74	18.402	
17,000.00	12,572.74	13,868.19	9,596.96	84.16	81.21	-0.96	4,320.37	-361.29	2,976.41	2,811.03	165.37	17.998	
17,100.00	12,571.91	13,968.19	9,596.12	85.97	83.03	-0.96	4,420.36	-362.08	2,976.41	2,807.41	169.00	17.612	
17,200.00	12,571.07	14,068.19	9,595.28	87.78	84.85	-0.96	4,520.35	-362.86	2,976.41	2,803.78	172.63	17.241	
17,300.00	12,570.24	14,168.19	9,594.45	89.60	86.66	-0.96	4,620.35	-363.64	2,976.41	2,800.15	176.26	16.886	
17,400.00	12,569.40	14,268.19	9,593.61	91.41	88.48	-0.96	4,720.34	-364.43	2,976.41	2,796.52	179.89	16.545	
17,448.09	12,569.00	14,316.28	9,593.21	92.29	89.35	-0.96	4,768.43	-364.80	2,976.42	2,794.78	181.64	16.386	

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed Com 303H - Wellbore #1 - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Keeper, 9723-MWD — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-0.38	30.00	-0.20	30.01				
100.00	100.00	99.30	99.30	0.06	0.07	-0.38	30.00	-0.20	30.00	29.88	0.13	239.810	
200.00	200.00	199.30	199.30	0.20	0.19	-0.38	30.00	-0.20	30.00	29.61	0.39	76.894	
300.00	300.00	299.30	299.30	0.33	0.33	-0.38	30.00	-0.20	30.00	29.35	0.65	45.955	
400.00	400.00	399.30	399.30	0.46	0.46	-0.38	30.00	-0.20	30.00	29.08	0.92	32.749	
500.00	500.00	499.30	499.30	0.59	0.59	-0.38	30.00	-0.20	30.00	28.82	1.18	25.434	
600.00	600.00	599.30	599.30	0.72	0.72	-0.38	30.00	-0.20	30.00	28.56	1.44	20.790	
700.00	700.00	699.30	699.30	0.85	0.85	-0.38	30.00	-0.20	30.00	28.29	1.71	17.579	
800.00	800.00	799.30	799.30	0.99	0.98	-0.38	30.00	-0.20	30.00	28.03	1.97	15.227	
900.00	900.00	899.30	899.30	1.12	1.12	-0.38	30.00	-0.20	30.00	27.77	2.23	13.430	
1,000.00	1,000.00	999.30	999.30	1.25	1.25	-0.38	30.00	-0.20	30.00	27.50	2.50	12.012	
1,100.00	1,100.00	1,099.30	1,099.30	1.38	1.38	-0.38	30.00	-0.20	30.00	27.24	2.76	10.865	
1,200.00	1,200.00	1,199.30	1,199.30	1.51	1.51	-0.38	30.00	-0.20	30.00	26.98	3.02	9.918	
1,300.00	1,300.00	1,299.30	1,299.30	1.64	1.64	-0.38	30.00	-0.20	30.00	26.71	3.29	9.123	
1,400.00	1,400.00	1,399.30	1,399.30	1.78	1.78	-0.38	30.00	-0.20	30.00	26.45	3.55	8.446	
1,500.00	1,500.00	1,499.30	1,499.30	1.91	1.91	-0.38	30.00	-0.20	30.00	26.18	3.82	7.862	
1,600.00	1,600.00	1,599.30	1,599.30	2.04	2.04	-0.38	30.00	-0.20	30.00	25.92	4.08	7.354	
1,700.00	1,700.00	1,699.30	1,699.30	2.17	2.17	-0.38	30.00	-0.20	30.00	25.66	4.34	6.908	
1,800.00	1,800.00	1,799.30	1,799.30	2.30	2.30	-0.38	30.00	-0.20	30.00	25.39	4.61	6.512	
1,900.00	1,900.00	1,899.30	1,899.30	2.44	2.43	-0.38	30.00	-0.20	30.00	25.13	4.87	6.160	
2,000.00	2,000.00	1,999.30	1,999.30	2.57	2.57	-0.38	30.00	-0.20	30.00	24.87	5.13	5.843	
2,100.00	2,100.00	2,099.30	2,099.30	2.70	2.70	-0.38	30.00	-0.20	30.00	24.60	5.40	5.558	
2,200.00	2,200.00	2,199.30	2,199.30	2.83	2.83	-0.38	30.00	-0.20	30.00	24.34	5.66	5.299	
2,300.00	2,300.00	2,299.30	2,299.30	2.96	2.96	-0.38	30.00	-0.20	30.00	24.08	5.93	5.063	
2,400.00	2,400.00	2,399.30	2,399.30	3.09	3.09	-0.38	30.00	-0.20	30.00	23.81	6.19	4.848	
2,500.00	2,500.00	2,499.30	2,499.30	3.23	3.23	-0.38	30.00	-0.20	30.00	23.55	6.45	4.649	
2,600.00	2,600.00	2,599.30	2,599.30	3.36	3.36	-0.38	30.00	-0.20	30.00	23.28	6.72	4.467	
2,700.00	2,700.00	2,699.30	2,699.30	3.49	3.49	-0.38	30.00	-0.20	30.00	23.02	6.98	4.298	
2,800.00	2,800.00	2,799.30	2,799.30	3.62	3.62	-0.38	30.00	-0.20	30.00	22.76	7.24	4.142	
2,900.00	2,900.00	2,899.30	2,899.30	3.75	3.75	-0.38	30.00	-0.20	30.00	22.49	7.51	3.996	
3,000.00	3,000.00	2,999.30	2,999.30	3.89	3.88	-0.38	30.00	-0.20	30.00	22.23	7.77	3.861	
3,100.00	3,100.00	3,099.30	3,099.30	4.02	4.02	-0.38	30.00	-0.20	30.00	21.97	8.03	3.734	
3,200.00	3,200.00	3,199.30	3,199.30	4.15	4.15	-0.38	30.00	-0.20	30.00	21.70	8.30	3.615	
3,300.00	3,300.00	3,299.30	3,299.30	4.28	4.28	-0.38	30.00	-0.20	30.00	21.44	8.56	3.504	
3,400.00	3,400.00	3,399.30	3,399.30	4.41	4.41	-0.38	30.00	-0.20	30.00	21.18	8.83	3.399	
3,500.00	3,500.00	3,499.30	3,499.30	4.55	4.54	-0.38	30.00	-0.20	30.00	20.91	9.09	3.301	
3,600.00	3,600.00	3,599.30	3,599.30	4.68	4.68	-0.38	30.00	-0.20	30.00	20.65	9.35	3.208	
3,700.00	3,700.00	3,699.30	3,699.30	4.81	4.81	-0.38	30.00	-0.20	30.00	20.38	9.62	3.120	
3,800.00	3,800.00	3,799.30	3,799.30	4.94	4.94	-0.38	30.00	-0.20	30.00	20.12	9.88	3.036	
3,900.00	3,900.00	3,899.30	3,899.30	5.07	5.07	-0.38	30.00	-0.20	30.00	19.86	10.14	2.957	
4,000.00	4,000.00	3,999.30	3,999.30	5.20	5.20	-0.38	30.00	-0.20	30.00	19.59	10.41	2.883	
4,100.00	4,100.00	4,099.30	4,099.30	5.34	5.34	-0.38	30.00	-0.20	30.00	19.33	10.67	2.811	
4,200.00	4,200.00	4,199.30	4,199.30	5.47	5.47	-0.38	30.00	-0.20	30.00	19.07	10.94	2.744	
4,300.00	4,300.00	4,299.30	4,299.30	5.60	5.60	-0.38	30.00	-0.20	30.00	18.80	11.20	2.679	
4,400.00	4,400.00	4,399.30	4,399.30	5.73	5.73	-0.38	30.00	-0.20	30.00	18.54	11.46	2.617	
4,500.00	4,500.00	4,499.30	4,499.30	5.86	5.86	-0.38	30.00	-0.20	30.00	18.27	11.73	2.558	
4,600.00	4,600.00	4,599.30	4,599.30	6.00	5.99	-0.38	30.00	-0.20	30.00	18.01	11.99	2.502	
4,700.00	4,700.00	4,699.80	4,699.78	6.13	6.06	-3.31	29.10	-1.68	29.15	16.97	12.18	2.393	
4,800.00	4,800.00	4,800.05	4,799.89	6.26	6.05	-13.15	26.37	-6.16	27.09	14.78	12.31	2.201	
4,900.00	4,900.00	4,899.81	4,899.41	6.39	6.04	-27.89	22.78	-12.05	25.77	13.34	12.43	2.073	
4,922.53	4,922.53	4,922.29	4,921.83	6.42	6.04	-31.35	21.97	-13.38	25.73	13.26	12.46	2.064	CC, ES, SF
5,000.00	5,000.00	4,999.57	4,998.93	6.52	6.04	-43.08	19.19	-17.95	26.28	13.71	12.56	2.091	

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

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed Com 303H - Wellbore #1 - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Keeper, 9723-MWD — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.00	5,100.00	5,099.33	5,098.45	6.65	6.04	-56.80	15.60	-23.84	28.50	15.81	12.70	2.245	
5,200.00	5,200.00	5,199.09	5,197.97	6.79	6.05	-68.00	12.01	-29.73	32.09	19.26	12.83	2.501	
5,300.00	5,300.00	5,298.85	5,297.49	6.92	6.05	-76.70	8.42	-35.62	36.65	23.68	12.97	2.825	
5,400.00	5,400.00	5,398.61	5,397.02	7.05	6.06	-83.36	4.83	-41.52	41.86	28.75	13.11	3.192	
5,500.00	5,500.00	5,498.37	5,496.54	7.18	6.08	-88.50	1.24	-47.41	47.51	34.25	13.26	3.583	
5,600.00	5,600.00	5,598.13	5,596.06	7.31	6.09	-92.52	-2.34	-53.30	53.45	40.05	13.41	3.987	
5,700.00	5,700.00	5,697.89	5,695.58	7.45	6.11	-95.72	-5.93	-59.19	59.61	46.05	13.56	4.397	
5,800.00	5,800.00	5,797.65	5,795.10	7.58	6.13	-98.32	-9.52	-65.09	65.91	52.21	13.71	4.808	
5,900.00	5,900.00	5,897.41	5,894.62	7.71	6.15	-100.47	-13.11	-70.98	72.33	58.47	13.86	5.217	
6,000.00	6,000.00	5,997.18	5,994.15	7.84	6.18	-102.26	-16.70	-76.87	78.83	64.81	14.02	5.622	
6,100.00	6,100.00	6,096.94	6,093.67	7.97	6.21	-103.78	-20.29	-82.76	85.40	71.22	14.18	6.021	
6,200.00	6,200.00	6,196.70	6,193.19	8.10	6.24	-105.08	-23.88	-88.66	92.02	77.67	14.35	6.413	
6,300.00	6,300.00	6,296.46	6,292.71	8.24	6.28	-106.20	-27.47	-94.55	98.68	84.16	14.51	6.798	
6,400.00	6,400.00	6,396.22	6,392.23	8.37	6.32	-107.18	-31.06	-100.44	105.37	90.69	14.68	7.176	
6,500.00	6,500.00	6,495.98	6,491.75	8.50	6.36	-108.05	-34.65	-106.33	112.09	97.23	14.86	7.545	
6,600.00	6,600.00	6,595.74	6,591.28	8.63	6.40	-108.81	-38.24	-112.23	118.83	103.80	15.03	7.905	
6,700.00	6,700.00	6,695.50	6,690.80	8.76	6.45	-109.50	-41.83	-118.12	125.59	110.38	15.21	8.257	
6,800.00	6,800.00	6,795.26	6,790.32	8.90	6.49	-110.11	-45.41	-124.01	132.37	116.98	15.39	8.601	
6,900.00	6,900.00	6,895.02	6,889.84	9.03	6.55	-110.67	-49.00	-129.90	139.16	123.59	15.57	8.936	
7,000.00	7,000.00	6,994.78	6,989.36	9.16	6.60	-111.17	-52.59	-135.80	145.96	130.20	15.76	9.263	
7,100.00	7,099.98	7,094.64	7,088.98	9.21	6.65	22.10	-56.19	-141.69	151.16	135.29	15.87	9.527	
7,197.95	7,197.79	7,192.56	7,186.67	9.19	6.71	22.37	-59.71	-147.48	153.12	137.22	15.90	9.630	
7,200.00	7,199.84	7,194.61	7,188.72	9.19	6.71	22.38	-59.78	-147.60	153.13	137.23	15.90	9.630	
7,300.00	7,299.60	7,294.60	7,288.47	9.17	6.77	22.90	-63.38	-153.50	153.56	137.62	15.94	9.634	
7,400.00	7,399.36	7,394.59	7,388.22	9.15	6.84	23.42	-66.98	-159.41	154.00	138.02	15.98	9.636	
7,500.00	7,499.12	7,494.58	7,487.97	9.13	6.90	23.94	-70.57	-165.32	154.45	138.43	16.03	9.636	
7,600.00	7,598.88	7,594.57	7,587.72	9.11	6.97	24.45	-74.17	-171.22	154.92	138.84	16.08	9.635	
7,700.00	7,698.64	7,694.56	7,687.46	9.10	7.04	24.96	-77.77	-177.13	155.40	139.27	16.13	9.632	
7,800.00	7,798.41	7,794.55	7,787.21	9.08	7.11	25.47	-81.37	-183.03	155.89	139.70	16.19	9.628	
7,900.00	7,898.17	7,894.54	7,886.96	9.07	7.18	25.98	-84.96	-188.94	156.40	140.14	16.25	9.622	
8,000.00	7,997.93	7,994.53	7,986.71	9.06	7.26	26.48	-88.56	-194.85	156.91	140.59	16.32	9.615	
8,100.00	8,097.69	8,094.52	8,086.46	9.06	7.33	26.98	-92.16	-200.75	157.44	141.05	16.39	9.606	
8,200.00	8,197.45	8,194.50	8,186.21	9.05	7.41	27.47	-95.76	-206.66	157.98	141.52	16.46	9.596	
8,300.00	8,297.21	8,294.49	8,285.96	9.05	7.49	27.96	-99.35	-212.56	158.53	141.99	16.54	9.585	
8,400.00	8,396.97	8,394.48	8,385.71	9.05	7.57	28.45	-102.95	-218.47	159.10	142.48	16.62	9.573	
8,500.00	8,496.74	8,494.47	8,485.46	9.05	7.65	28.94	-106.55	-224.38	159.67	142.97	16.70	9.559	
8,600.00	8,596.50	8,594.46	8,585.21	9.05	7.74	29.42	-110.15	-230.28	160.26	143.47	16.79	9.544	
8,700.00	8,696.26	8,694.45	8,684.96	9.06	7.82	29.90	-113.74	-236.19	160.85	143.97	16.88	9.529	
8,800.00	8,796.02	8,794.44	8,784.71	9.06	7.91	30.37	-117.34	-242.09	161.46	144.49	16.97	9.512	
8,900.00	8,895.78	8,894.43	8,884.46	9.07	8.00	30.84	-120.94	-248.00	162.08	145.01	17.07	9.494	
9,000.00	8,995.54	8,994.42	8,984.21	9.08	8.09	31.31	-124.54	-253.91	162.71	145.54	17.17	9.475	
9,100.00	9,095.30	9,094.41	9,083.96	9.10	8.18	31.77	-128.13	-259.81	163.35	146.08	17.28	9.456	
9,200.00	9,195.07	9,194.40	9,183.71	9.11	8.27	32.23	-131.73	-265.72	164.00	146.62	17.38	9.435	
9,300.00	9,294.83	9,294.39	9,283.46	9.13	8.36	32.69	-135.33	-271.62	164.67	147.17	17.49	9.414	
9,400.00	9,394.59	9,394.38	9,383.21	9.15	8.46	33.14	-138.92	-277.53	165.34	147.73	17.61	9.391	
9,500.00	9,494.35	9,494.36	9,482.96	9.17	8.55	33.59	-142.52	-283.43	166.02	148.30	17.72	9.368	
9,600.00	9,594.11	9,594.35	9,582.71	9.19	8.65	34.03	-146.12	-289.34	166.71	148.87	17.84	9.345	
9,700.00	9,693.87	9,694.34	9,682.46	9.22	8.74	34.47	-149.72	-295.25	167.42	149.45	17.96	9.320	
9,800.00	9,793.63	9,797.41	9,785.19	9.24	8.76	36.86	-147.70	-301.38	167.45	149.44	18.01	9.299	
9,856.83	9,850.33	9,854.21	9,840.95	9.26	8.77	41.22	-137.62	-304.78	167.06	149.03	18.03	9.264	
9,900.00	9,893.39	9,894.94	9,880.00	9.27	8.79	45.72	-126.35	-307.19	167.59	149.53	18.06	9.280	
10,000.00	9,993.16	9,979.24	9,957.01	9.31	8.84	58.07	-92.67	-312.06	176.45	158.30	18.15	9.724	

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

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed Com 303H - Wellbore #1 - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Keeper, 9723-MWD — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,100.00	10,092.92	10,050.00	10,016.26	9.34	8.93	70.14	-54.30	-315.90	202.55	184.27	18.27	11.084	
10,200.00	10,192.68	10,104.73	10,057.82	9.37	9.05	79.24	-18.84	-318.66	247.47	229.04	18.43	13.428	
10,300.00	10,292.44	10,150.00	10,088.95	9.41	9.19	86.04	13.94	-320.79	307.40	288.80	18.61	16.520	
10,400.00	10,392.20	10,185.99	10,111.40	9.45	9.34	90.84	42.02	-322.36	377.79	358.99	18.80	20.100	
10,500.00	10,491.96	10,215.58	10,128.23	9.49	9.49	94.37	66.32	-323.56	455.28	436.30	18.98	23.982	
10,600.00	10,591.72	10,240.00	10,140.97	9.54	9.63	97.00	87.12	-324.49	537.70	518.53	19.17	28.051	
10,700.00	10,691.49	10,260.38	10,150.78	9.58	9.76	99.02	104.97	-325.22	623.61	604.27	19.35	32.235	
10,800.00	10,791.25	10,275.00	10,157.34	9.63	9.86	100.36	118.02	-325.72	712.11	692.62	19.49	36.528	
10,900.00	10,891.01	10,300.00	10,167.63	9.68	10.05	102.49	140.79	-326.52	802.62	782.88	19.74	40.668	
11,000.00	10,990.77	10,300.00	10,167.63	9.73	10.05	102.49	140.79	-326.52	894.47	874.69	19.79	45.203	
11,100.00	11,090.53	10,316.00	10,173.58	9.79	10.19	103.75	155.64	-327.00	987.52	967.54	19.98	49.434	
11,200.00	11,190.29	10,325.00	10,176.71	9.84	10.27	104.42	164.07	-327.25	1,081.54	1,061.43	20.11	53.784	
11,300.00	11,290.05	10,334.22	10,179.75	9.90	10.35	105.08	172.77	-327.51	1,176.32	1,156.06	20.25	58.087	
11,400.00	11,389.82	10,350.00	10,184.56	9.96	10.50	106.16	187.79	-327.92	1,271.81	1,251.36	20.46	62.171	
11,500.00	11,489.58	10,350.00	10,184.56	10.02	10.50	106.16	187.79	-327.92	1,367.64	1,347.13	20.52	66.657	
11,600.00	11,589.34	10,350.00	10,184.56	10.08	10.50	106.16	187.79	-327.92	1,464.03	1,443.45	20.58	71.137	
11,700.00	11,689.10	10,360.26	10,187.43	10.15	10.60	106.82	197.64	-328.17	1,560.73	1,539.98	20.75	75.227	
11,800.00	11,788.86	10,365.28	10,188.75	10.21	10.65	107.14	202.48	-328.29	1,657.78	1,636.91	20.86	79.460	
11,900.00	11,888.62	10,375.00	10,191.17	10.28	10.75	107.73	211.89	-328.51	1,755.13	1,734.10	21.03	83.465	
12,000.00	11,988.38	10,375.00	10,191.17	10.35	10.75	107.73	211.89	-328.51	1,852.66	1,831.56	21.10	87.813	
12,100.00	12,088.15	10,375.00	10,191.17	10.42	10.75	107.73	211.89	-328.51	1,950.43	1,929.26	21.17	92.138	
12,119.58	12,107.68	10,375.00	10,191.17	10.42	10.75	107.73	211.89	-328.51	1,969.60	1,948.43	21.17	93.037	
12,125.00	12,113.09	10,375.00	10,191.17	10.42	10.75	101.32	211.89	-328.51	1,974.90	1,953.73	21.17	93.279	
12,150.00	12,138.05	10,375.00	10,191.17	10.42	10.75	52.49	211.89	-328.51	1,999.21	1,978.01	21.19	94.340	
12,175.00	12,162.99	10,375.00	10,191.17	10.43	10.75	20.07	211.89	-328.51	2,023.21	2,001.98	21.23	95.307	
12,200.00	12,187.85	10,375.00	10,191.17	10.43	10.75	8.74	211.89	-328.51	2,046.87	2,025.58	21.28	96.167	
12,225.00	12,212.54	10,375.00	10,191.17	10.43	10.75	4.09	211.89	-328.51	2,070.12	2,048.76	21.36	96.903	
12,250.00	12,237.01	10,386.32	10,193.74	10.44	10.87	1.95	222.92	-328.75	2,092.76	2,071.17	21.59	96.947	
12,275.00	12,261.18	10,388.42	10,194.19	10.44	10.89	0.72	224.96	-328.80	2,115.00	2,093.26	21.74	97.286	
12,300.00	12,285.00	10,400.00	10,196.50	10.45	11.01	0.07	236.31	-329.03	2,136.79	2,114.76	22.02	97.017	
12,325.00	12,308.39	10,400.00	10,196.50	10.46	11.01	-0.39	236.31	-329.03	2,157.81	2,135.60	22.22	97.130	
12,350.00	12,331.30	10,400.00	10,196.50	10.48	11.01	-0.69	236.31	-329.03	2,178.20	2,155.76	22.43	97.090	
12,375.00	12,353.65	10,400.00	10,196.50	10.49	11.01	-0.88	236.31	-329.03	2,197.92	2,175.24	22.68	96.912	
12,400.00	12,375.39	10,400.00	10,196.50	10.51	11.01	-1.00	236.31	-329.03	2,216.92	2,193.98	22.95	96.617	
12,425.00	12,396.46	10,400.00	10,196.50	10.53	11.01	-1.09	236.31	-329.03	2,235.19	2,211.96	23.23	96.227	
12,450.00	12,416.79	10,400.00	10,196.50	10.56	11.01	-1.14	236.31	-329.03	2,252.68	2,229.16	23.52	95.763	
12,475.00	12,436.35	10,410.76	10,198.40	10.59	11.14	-1.15	246.90	-329.23	2,269.23	2,245.28	23.95	94.756	
12,500.00	12,455.06	10,414.13	10,198.95	10.63	11.17	-1.17	250.22	-329.29	2,284.99	2,260.69	24.29	94.059	
12,525.00	12,472.88	10,425.00	10,200.55	10.68	11.30	-1.16	260.97	-329.47	2,299.92	2,275.20	24.72	93.025	
12,550.00	12,489.76	10,425.00	10,200.55	10.73	11.30	-1.17	260.97	-329.47	2,313.83	2,288.80	25.03	92.452	
12,575.00	12,505.66	10,425.00	10,200.55	10.79	11.30	-1.18	260.97	-329.47	2,326.82	2,301.50	25.32	91.879	
12,600.00	12,520.53	10,425.00	10,200.55	10.87	11.30	-1.18	260.97	-329.47	2,338.89	2,313.28	25.61	91.315	
12,625.00	12,534.33	10,425.00	10,200.55	10.95	11.30	-1.18	260.97	-329.47	2,350.02	2,324.13	25.89	90.769	
12,650.00	12,547.02	10,436.20	10,201.95	11.05	11.43	-1.17	272.08	-329.65	2,360.02	2,333.73	26.29	89.782	
12,675.00	12,558.57	10,450.00	10,203.31	11.17	11.59	-1.16	285.81	-329.84	2,369.20	2,342.50	26.70	88.742	
12,700.00	12,568.94	10,450.00	10,203.31	11.31	11.59	-1.16	285.81	-329.84	2,377.14	2,350.21	26.93	88.280	
12,725.00	12,578.11	10,450.00	10,203.31	11.46	11.59	-1.16	285.81	-329.84	2,384.07	2,356.93	27.14	87.851	
12,750.00	12,586.05	10,450.00	10,203.31	11.64	11.59	-1.16	285.81	-329.84	2,389.99	2,362.66	27.33	87.457	
12,775.00	12,592.75	10,450.00	10,203.31	11.84	11.59	-1.16	285.81	-329.84	2,394.88	2,367.39	27.50	87.101	
12,800.00	12,598.17	10,450.00	10,203.31	12.06	11.59	-1.16	285.81	-329.84	2,398.75	2,371.10	27.64	86.784	
12,825.00	12,602.32	10,464.52	10,204.32	12.29	11.77	-1.16	300.30	-330.02	2,401.30	2,373.36	27.94	85.942	
12,850.00	12,605.16	10,475.00	10,204.77	12.55	11.90	-1.16	310.77	-330.14	2,402.96	2,374.80	28.17	85.311	

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed Com 303H - Wellbore #1 - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Keeper, 9723-MWD — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
12,875.00	12,606.71	10,475.00	10,204.77	12.82	11.90	-1.17	310.77	-330.14	2,403.44	2,375.20	28.24	85.112	
12,896.09	12,607.00	10,475.00	10,204.77	13.06	11.90	-1.17	310.77	-330.14	2,403.03	2,374.75	28.28	84.977	
12,900.00	12,606.97	10,475.00	10,204.77	13.10	11.90	-1.17	310.77	-330.14	2,402.89	2,374.60	28.28	84.956	
13,000.00	12,606.13	10,494.24	10,205.00	14.35	12.15	-1.17	330.00	-330.31	2,400.99	2,372.30	28.68	83.709	
13,045.79	12,605.75	10,536.19	10,204.66	14.98	12.71	-1.17	371.95	-330.64	2,400.97	2,371.63	29.34	81.834	
13,100.00	12,605.30	10,590.40	10,204.22	15.73	13.46	-1.17	426.15	-331.06	2,400.96	2,370.75	30.20	79.495	
13,200.00	12,604.46	10,690.40	10,203.42	17.20	14.91	-1.17	526.15	-331.84	2,400.93	2,368.68	32.25	74.442	
13,300.00	12,603.63	10,790.40	10,202.61	18.73	16.45	-1.18	626.14	-332.62	2,400.90	2,365.69	35.21	68.191	
13,400.00	12,602.79	10,890.40	10,201.81	20.32	18.04	-1.18	726.13	-333.39	2,400.87	2,362.50	38.37	62.572	
13,500.00	12,601.96	10,990.40	10,201.00	21.94	19.67	-1.18	826.13	-334.17	2,400.84	2,359.22	41.62	57.681	
13,600.00	12,601.12	11,090.40	10,200.19	23.60	21.34	-1.18	926.12	-334.95	2,400.82	2,355.88	44.94	53.423	
13,700.00	12,600.29	11,190.40	10,199.39	25.28	23.03	-1.18	1,026.11	-335.73	2,400.79	2,352.48	48.31	49.700	
13,800.00	12,599.45	11,290.40	10,198.58	26.97	24.74	-1.18	1,126.11	-336.51	2,400.76	2,349.05	51.71	46.426	
13,900.00	12,598.62	11,390.40	10,197.77	28.69	26.46	-1.18	1,226.10	-337.29	2,400.73	2,345.58	55.15	43.532	
14,000.00	12,597.78	11,490.40	10,196.97	30.41	28.20	-1.18	1,326.10	-338.07	2,400.71	2,342.09	58.61	40.960	
14,100.00	12,596.95	11,590.40	10,196.16	32.15	29.94	-1.18	1,426.09	-338.85	2,400.68	2,338.58	62.10	38.661	
14,200.00	12,596.12	11,690.40	10,195.35	33.90	31.70	-1.18	1,526.08	-339.63	2,400.65	2,335.05	65.60	36.596	
14,300.00	12,595.28	11,790.40	10,194.55	35.65	33.46	-1.18	1,626.08	-340.41	2,400.62	2,331.51	69.12	34.733	
14,400.00	12,594.45	11,890.40	10,193.74	37.41	35.23	-1.18	1,726.07	-341.18	2,400.59	2,327.95	72.65	33.045	
14,500.00	12,593.61	11,990.40	10,192.93	39.18	37.01	-1.18	1,826.06	-341.96	2,400.57	2,324.38	76.19	31.508	
14,600.00	12,592.78	12,090.40	10,192.13	40.95	38.79	-1.18	1,926.06	-342.74	2,400.54	2,320.80	79.74	30.105	
14,700.00	12,591.94	12,190.40	10,191.32	42.73	40.57	-1.18	2,026.05	-343.52	2,400.51	2,317.21	83.30	28.818	
14,800.00	12,591.11	12,290.40	10,190.51	44.51	42.36	-1.18	2,126.05	-344.30	2,400.48	2,313.62	86.87	27.634	
14,900.00	12,590.27	12,390.40	10,189.71	46.29	44.15	-1.18	2,226.04	-345.08	2,400.45	2,310.01	90.44	26.542	
15,000.00	12,589.44	12,490.40	10,188.90	48.08	45.94	-1.18	2,326.03	-345.86	2,400.43	2,306.41	94.02	25.531	
15,100.00	12,588.60	12,590.40	10,188.09	49.87	47.74	-1.18	2,426.03	-346.64	2,400.40	2,302.79	97.61	24.593	
15,200.00	12,587.77	12,690.40	10,187.29	51.66	49.53	-1.18	2,526.02	-347.42	2,400.37	2,299.18	101.20	23.720	
15,300.00	12,586.93	12,790.40	10,186.48	53.46	51.33	-1.19	2,626.01	-348.20	2,400.34	2,295.55	104.79	22.907	
15,400.00	12,586.10	12,890.40	10,185.67	55.25	53.13	-1.19	2,726.01	-348.98	2,400.32	2,291.93	108.39	22.146	
15,500.00	12,585.26	12,990.40	10,184.87	57.05	54.94	-1.19	2,826.00	-349.75	2,400.29	2,288.30	111.99	21.434	
15,600.00	12,584.43	13,090.40	10,184.06	58.85	56.74	-1.19	2,925.99	-350.53	2,400.26	2,284.67	115.59	20.765	
15,700.00	12,583.59	13,190.40	10,183.25	60.65	58.54	-1.19	3,025.99	-351.31	2,400.23	2,281.04	119.20	20.137	
15,800.00	12,582.76	13,290.40	10,182.45	62.45	60.35	-1.19	3,125.98	-352.09	2,400.20	2,277.40	122.81	19.545	
15,900.00	12,581.92	13,390.40	10,181.64	64.26	62.16	-1.19	3,225.98	-352.87	2,400.18	2,273.76	126.42	18.986	
16,000.00	12,581.09	13,490.40	10,180.84	66.06	63.97	-1.19	3,325.97	-353.65	2,400.15	2,270.12	130.03	18.458	
16,100.00	12,580.25	13,590.40	10,180.03	67.87	65.78	-1.19	3,425.96	-354.43	2,400.12	2,266.48	133.65	17.959	
16,200.00	12,579.42	13,690.40	10,179.22	69.68	67.59	-1.19	3,525.96	-355.21	2,400.09	2,262.83	137.26	17.485	
16,300.00	12,578.58	13,790.40	10,178.42	71.48	69.40	-1.19	3,625.95	-355.99	2,400.06	2,259.18	140.88	17.036	
16,400.00	12,577.75	13,890.40	10,177.61	73.29	71.21	-1.19	3,725.94	-356.77	2,400.04	2,255.54	144.50	16.609	
16,500.00	12,576.91	13,990.40	10,176.80	75.10	73.02	-1.19	3,825.94	-357.54	2,400.01	2,251.89	148.12	16.203	
16,600.00	12,576.08	14,090.40	10,176.00	76.91	74.83	-1.19	3,925.93	-358.32	2,399.98	2,248.24	151.75	15.816	
16,700.00	12,575.25	14,190.40	10,175.19	78.72	76.65	-1.19	4,025.93	-359.10	2,399.95	2,244.58	155.37	15.447	
16,800.00	12,574.41	14,290.40	10,174.38	80.53	78.46	-1.19	4,125.92	-359.88	2,399.93	2,240.93	159.00	15.094	
16,900.00	12,573.58	14,390.40	10,173.58	82.35	80.28	-1.19	4,225.91	-360.66	2,399.90	2,237.28	162.62	14.758	
17,000.00	12,572.74	14,490.40	10,172.77	84.16	82.09	-1.19	4,325.91	-361.44	2,399.87	2,233.62	166.25	14.435	
17,100.00	12,571.91	14,590.40	10,171.96	85.97	83.91	-1.19	4,425.90	-362.22	2,399.84	2,229.97	169.88	14.127	
17,200.00	12,571.07	14,690.40	10,171.16	87.78	85.72	-1.19	4,525.89	-363.00	2,399.81	2,226.31	173.51	13.831	
17,300.00	12,570.24	14,790.40	10,170.35	89.60	87.54	-1.20	4,625.89	-363.78	2,399.79	2,222.65	177.14	13.548	
17,400.00	12,569.40	14,890.40	10,169.54	91.41	89.35	-1.20	4,725.88	-364.56	2,399.76	2,218.99	180.77	13.275	
17,448.09	12,569.00	14,938.49	10,169.16	92.29	90.23	-1.20	4,773.97	-364.93	2,399.75	2,217.23	182.51	13.148	

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed Com 603H - Wellbore #1 - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-Keeper, 12036-MWD

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	89.43	0.30	30.00	30.02				
100.00	100.00	98.90	98.90	0.06	0.07	89.43	0.30	30.00	30.00	29.88	0.12	240.325	
200.00	200.00	198.90	198.90	0.20	0.19	89.43	0.30	30.00	30.00	29.61	0.39	76.998	
300.00	300.00	298.90	298.90	0.33	0.33	89.43	0.30	30.00	30.00	29.35	0.65	45.993	
400.00	400.00	398.90	398.90	0.46	0.46	89.43	0.30	30.00	30.00	29.09	0.92	32.768	
500.00	500.00	498.90	498.90	0.59	0.59	89.43	0.30	30.00	30.00	28.82	1.18	25.446	
600.00	600.00	598.90	598.90	0.72	0.72	89.43	0.30	30.00	30.00	28.56	1.44	20.798	
700.00	700.00	698.90	698.90	0.85	0.85	89.43	0.30	30.00	30.00	28.30	1.71	17.585	
800.00	800.00	798.90	798.90	0.99	0.98	89.43	0.30	30.00	30.00	28.03	1.97	15.231	
900.00	900.00	898.90	898.90	1.12	1.12	89.43	0.30	30.00	30.00	27.77	2.23	13.433	
1,000.00	1,000.00	998.90	998.90	1.25	1.25	89.43	0.30	30.00	30.00	27.50	2.50	12.015	
1,100.00	1,100.00	1,098.90	1,098.90	1.38	1.38	89.43	0.30	30.00	30.00	27.24	2.76	10.868	
1,200.00	1,200.00	1,198.90	1,198.90	1.51	1.51	89.43	0.30	30.00	30.00	26.98	3.02	9.920	
1,300.00	1,300.00	1,298.90	1,298.90	1.64	1.64	89.43	0.30	30.00	30.00	26.71	3.29	9.125	
1,400.00	1,400.00	1,398.90	1,398.90	1.78	1.78	89.43	0.30	30.00	30.00	26.45	3.55	8.447	
1,500.00	1,500.00	1,498.90	1,498.90	1.91	1.91	89.43	0.30	30.00	30.00	26.19	3.82	7.864	
1,600.00	1,600.00	1,598.90	1,598.90	2.04	2.04	89.43	0.30	30.00	30.00	25.92	4.08	7.355	
1,700.00	1,700.00	1,698.90	1,698.90	2.17	2.17	89.43	0.30	30.00	30.00	25.66	4.34	6.909	
1,800.00	1,800.00	1,798.90	1,798.90	2.30	2.30	89.43	0.30	30.00	30.00	25.40	4.61	6.513	
1,900.00	1,900.00	1,898.90	1,898.90	2.44	2.43	89.43	0.30	30.00	30.00	25.13	4.87	6.161	
2,000.00	2,000.00	1,998.90	1,998.90	2.57	2.57	89.43	0.30	30.00	30.00	24.87	5.13	5.844	
2,100.00	2,100.00	2,098.90	2,098.90	2.70	2.70	89.43	0.30	30.00	30.00	24.60	5.40	5.559	
2,200.00	2,200.00	2,198.90	2,198.90	2.83	2.83	89.43	0.30	30.00	30.00	24.34	5.66	5.300	
2,300.00	2,300.00	2,298.90	2,298.90	2.96	2.96	89.43	0.30	30.00	30.00	24.08	5.92	5.064	
2,400.00	2,400.00	2,398.90	2,398.90	3.09	3.09	89.43	0.30	30.00	30.00	23.81	6.19	4.848	
2,500.00	2,500.00	2,498.90	2,498.90	3.23	3.23	89.43	0.30	30.00	30.00	23.55	6.45	4.650	
2,600.00	2,600.00	2,598.90	2,598.90	3.36	3.36	89.43	0.30	30.00	30.00	23.29	6.72	4.467	
2,700.00	2,700.00	2,698.90	2,698.90	3.49	3.49	89.43	0.30	30.00	30.00	23.02	6.98	4.299	
2,800.00	2,800.00	2,798.90	2,798.90	3.62	3.62	89.43	0.30	30.00	30.00	22.76	7.24	4.142	
2,900.00	2,900.00	2,898.90	2,898.90	3.75	3.75	89.43	0.30	30.00	30.00	22.49	7.51	3.997	
3,000.00	3,000.00	2,998.90	2,998.90	3.89	3.88	89.43	0.30	30.00	30.00	22.23	7.77	3.861	
3,100.00	3,100.00	3,098.90	3,098.90	4.02	4.02	89.43	0.30	30.00	30.00	21.97	8.03	3.734	
3,200.00	3,200.00	3,198.90	3,198.90	4.15	4.15	89.43	0.30	30.00	30.00	21.70	8.30	3.616	
3,300.00	3,300.00	3,298.90	3,298.90	4.28	4.28	89.43	0.30	30.00	30.00	21.44	8.56	3.504	
3,400.00	3,400.00	3,398.90	3,398.90	4.41	4.41	89.43	0.30	30.00	30.00	21.18	8.83	3.400	
3,500.00	3,500.00	3,498.90	3,498.90	4.55	4.54	89.43	0.30	30.00	30.00	20.91	9.09	3.301	
3,600.00	3,600.00	3,598.90	3,598.90	4.68	4.68	89.43	0.30	30.00	30.00	20.65	9.35	3.208	
3,700.00	3,700.00	3,698.90	3,698.90	4.81	4.81	89.43	0.30	30.00	30.00	20.39	9.62	3.120	
3,800.00	3,800.00	3,798.90	3,798.90	4.94	4.94	89.43	0.30	30.00	30.00	20.12	9.88	3.037	
3,900.00	3,900.00	3,898.90	3,898.90	5.07	5.07	89.43	0.30	30.00	30.00	19.86	10.14	2.958	
4,000.00	4,000.00	3,998.90	3,998.90	5.20	5.20	89.43	0.30	30.00	30.00	19.59	10.41	2.883	
4,100.00	4,100.00	4,098.90	4,098.90	5.34	5.33	89.43	0.30	30.00	30.00	19.33	10.67	2.812	
4,200.00	4,200.00	4,198.90	4,198.90	5.47	5.47	89.43	0.30	30.00	30.00	19.07	10.93	2.744	
4,300.00	4,300.00	4,298.90	4,298.90	5.60	5.60	89.43	0.30	30.00	30.00	18.80	11.20	2.679	
4,400.00	4,400.00	4,398.90	4,398.90	5.73	5.73	89.43	0.30	30.00	30.00	18.54	11.46	2.618	
4,500.00	4,500.00	4,498.90	4,498.90	5.86	5.86	89.43	0.30	30.00	30.00	18.28	11.73	2.559	
4,600.00	4,600.00	4,598.90	4,598.90	6.00	5.99	89.43	0.30	30.00	30.00	18.01	11.99	2.502	
4,700.00	4,700.00	4,698.90	4,698.90	6.13	6.13	89.43	0.30	30.00	30.00	17.75	12.25	2.449	
4,800.00	4,800.00	4,798.90	4,798.90	6.26	6.26	89.43	0.30	30.00	30.00	17.48	12.52	2.397	
4,900.00	4,900.00	4,898.90	4,898.90	6.39	6.39	89.43	0.30	30.00	30.00	17.22	12.78	2.347	
5,000.00	5,000.00	4,998.90	4,998.90	6.52	6.52	89.43	0.30	30.00	30.00	16.96	13.04	2.300	
5,100.00	5,100.00	5,098.90	5,098.90	6.65	6.65	89.43	0.30	30.00	30.00	16.69	13.31	2.254	

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed Com 603H - Wellbore #1 - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Keeper, 12036-MWD — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.00	5,200.00	5,198.90	5,198.90	6.79	6.78	89.43	0.30	30.00	30.00	16.43	13.57	2.211	
5,300.00	5,300.00	5,298.90	5,298.90	6.92	6.92	89.43	0.30	30.00	30.00	16.17	13.83	2.169	
5,400.00	5,400.00	5,398.90	5,398.90	7.05	7.05	89.43	0.30	30.00	30.00	15.90	14.10	2.128	
5,500.00	5,500.00	5,498.90	5,498.90	7.18	7.18	89.43	0.30	30.00	30.00	15.64	14.36	2.089	
5,600.00	5,600.00	5,598.90	5,598.90	7.31	7.31	89.43	0.30	30.00	30.00	15.38	14.63	2.051	
5,700.00	5,700.00	5,698.90	5,698.90	7.45	7.44	89.43	0.30	30.00	30.00	15.11	14.89	2.015	
5,800.00	5,800.00	5,798.90	5,798.90	7.58	7.58	89.43	0.30	30.00	30.00	14.85	15.15	1.980	
5,900.00	5,900.00	5,898.90	5,898.90	7.71	7.71	89.43	0.30	30.00	30.00	14.58	15.42	1.946	
6,000.00	6,000.00	5,998.90	5,998.90	7.84	7.84	89.43	0.30	30.00	30.00	14.32	15.68	1.913	
6,100.00	6,100.00	6,098.90	6,098.90	7.97	7.97	89.43	0.30	30.00	30.00	14.06	15.94	1.882	
6,200.00	6,200.00	6,198.90	6,198.90	8.10	8.10	89.43	0.30	30.00	30.00	13.79	16.21	1.851	
6,300.00	6,300.00	6,298.90	6,298.90	8.24	8.24	89.43	0.30	30.00	30.00	13.53	16.47	1.821	
6,400.00	6,400.00	6,398.90	6,398.90	8.37	8.37	89.43	0.30	30.00	30.00	13.27	16.74	1.793	
6,500.00	6,500.00	6,498.90	6,498.90	8.50	8.50	89.43	0.30	30.00	30.00	13.00	17.00	1.765	
6,600.00	6,600.00	6,598.90	6,598.90	8.63	8.63	89.43	0.30	30.00	30.00	12.74	17.26	1.738	
6,700.00	6,700.00	6,698.90	6,698.90	8.76	8.76	89.43	0.30	30.00	30.00	12.48	17.53	1.712	
6,800.00	6,800.00	6,798.90	6,798.90	8.90	8.89	89.43	0.30	30.00	30.00	12.21	17.79	1.686	
6,900.00	6,900.00	6,898.90	6,898.90	9.03	9.03	89.43	0.30	30.00	30.00	11.95	18.05	1.662	
7,000.00	7,000.00	6,998.90	6,998.90	9.16	9.16	89.43	0.30	30.00	30.00	11.68	18.32	1.638	CC, ES
7,100.00	7,099.98	7,099.23	7,099.21	9.21	9.20	-136.23	-1.33	29.46	30.73	12.32	18.41	1.669	
7,197.95	7,197.79	7,197.29	7,197.16	9.19	9.15	-134.80	-5.66	28.04	33.02	14.67	18.34	1.800	
7,200.00	7,199.84	7,199.34	7,199.21	9.19	9.15	-134.80	-5.76	28.01	33.09	14.75	18.34	1.804	
7,300.00	7,299.60	7,299.28	7,299.02	9.17	9.10	-135.00	-10.48	26.46	36.54	18.27	18.27	2.000	
7,400.00	7,399.36	7,399.22	7,398.84	9.15	9.06	-135.16	-15.21	24.90	39.99	21.78	18.21	2.196	
7,500.00	7,499.12	7,499.16	7,498.66	9.13	9.02	-135.30	-19.94	23.35	43.44	25.30	18.14	2.394	
7,600.00	7,598.88	7,599.10	7,598.47	9.11	8.97	-135.42	-24.67	21.79	46.89	28.81	18.08	2.593	
7,700.00	7,698.64	7,699.04	7,698.29	9.10	8.93	-135.52	-29.40	20.24	50.34	32.31	18.03	2.792	
7,800.00	7,798.41	7,798.98	7,798.11	9.08	8.89	-135.61	-34.13	18.68	53.79	35.82	17.98	2.992	
7,900.00	7,898.17	7,898.92	7,897.92	9.07	8.86	-135.68	-38.85	17.13	57.25	39.32	17.93	3.193	
8,000.00	7,997.93	7,998.86	7,997.74	9.06	8.82	-135.75	-43.58	15.58	60.70	42.81	17.89	3.394	
8,100.00	8,097.69	8,098.80	8,097.55	9.06	8.79	-135.81	-48.31	14.02	64.15	46.30	17.85	3.595	
8,200.00	8,197.45	8,198.74	8,197.37	9.05	8.76	-135.87	-53.04	12.47	67.60	49.79	17.81	3.796	
8,300.00	8,297.21	8,298.68	8,297.19	9.05	8.73	-135.92	-57.77	10.91	71.05	53.28	17.78	3.997	
8,400.00	8,396.97	8,398.62	8,397.00	9.05	8.70	-135.96	-62.50	9.36	74.51	56.76	17.75	4.198	
8,500.00	8,496.74	8,498.56	8,496.82	9.05	8.67	-136.00	-67.22	7.81	77.96	60.24	17.72	4.399	
8,600.00	8,596.50	8,598.50	8,596.64	9.05	8.65	-136.04	-71.95	6.25	81.41	63.71	17.70	4.600	
8,700.00	8,696.26	8,698.44	8,696.45	9.06	8.63	-136.07	-76.68	4.70	84.86	67.18	17.68	4.800	
8,800.00	8,796.02	8,798.38	8,796.27	9.06	8.61	-136.11	-81.41	3.14	88.32	70.65	17.67	4.999	
8,900.00	8,895.78	8,898.32	8,896.09	9.07	8.59	-136.14	-86.14	1.59	91.77	74.11	17.66	5.197	
9,000.00	8,995.54	8,998.26	8,995.90	9.08	8.57	-136.16	-90.87	0.04	95.22	77.57	17.65	5.394	
9,100.00	9,095.30	9,098.20	9,095.72	9.10	8.55	-136.19	-95.59	-1.52	98.67	81.02	17.65	5.591	
9,200.00	9,195.07	9,198.14	9,195.53	9.11	8.54	-136.21	-100.32	-3.07	102.13	84.47	17.65	5.786	
9,300.00	9,294.83	9,298.08	9,295.35	9.13	8.53	-136.23	-105.05	-4.63	105.58	87.92	17.66	5.979	
9,400.00	9,394.59	9,398.03	9,395.17	9.15	8.52	-136.25	-109.78	-6.18	109.03	91.36	17.67	6.171	
9,500.00	9,494.35	9,497.97	9,494.98	9.17	8.51	-136.27	-114.51	-7.74	112.48	94.80	17.68	6.361	
9,600.00	9,594.11	9,597.91	9,594.80	9.19	8.51	-136.29	-119.24	-9.29	115.94	98.24	17.70	6.550	
9,700.00	9,693.87	9,697.85	9,694.62	9.22	8.51	-136.31	-123.97	-10.84	119.39	101.67	17.72	6.737	
9,800.00	9,793.63	9,797.79	9,794.43	9.24	8.50	-136.33	-128.69	-12.40	122.84	105.09	17.75	6.921	
9,900.00	9,893.39	9,897.73	9,894.25	9.27	8.51	-136.34	-133.42	-13.95	126.29	108.51	17.78	7.104	
10,000.00	9,993.16	9,997.67	9,994.07	9.31	8.51	-136.36	-138.15	-15.51	129.75	111.93	17.81	7.284	
10,100.00	10,092.92	10,097.61	10,093.88	9.34	8.51	-136.37	-142.88	-17.06	133.20	115.35	17.85	7.461	
10,200.00	10,192.68	10,197.55	10,193.70	9.37	8.52	-136.38	-147.61	-18.61	136.65	118.76	17.89	7.637	

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

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed Com 603H - Wellbore #1 - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-Keeper, 12036-MWD

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,300.00	10,292.44	10,297.49	10,293.51	9.41	8.53	-136.39	-152.34	-20.17	140.10	122.16	17.94	7.809	
10,400.00	10,392.20	10,397.43	10,393.33	9.45	8.54	-136.41	-157.06	-21.72	143.56	125.57	17.99	7.979	
10,500.00	10,491.96	10,497.37	10,493.15	9.49	8.55	-136.42	-161.79	-23.28	147.01	128.96	18.05	8.147	
10,600.00	10,591.72	10,597.31	10,592.96	9.54	8.57	-136.43	-166.52	-24.83	150.46	132.36	18.10	8.311	
10,700.00	10,691.49	10,697.25	10,692.78	9.58	8.58	-136.44	-171.25	-26.39	153.91	135.75	18.17	8.473	
10,800.00	10,791.25	10,797.19	10,792.60	9.63	8.60	-136.45	-175.98	-27.94	157.37	139.13	18.23	8.631	
10,900.00	10,891.01	10,897.13	10,892.41	9.68	8.62	-136.46	-180.71	-29.49	160.82	142.52	18.30	8.787	
11,000.00	10,990.77	10,997.07	10,992.23	9.73	8.64	-136.47	-185.43	-31.05	164.27	145.90	18.38	8.940	
11,100.00	11,090.53	11,097.01	11,092.05	9.79	8.67	-136.48	-190.16	-32.60	167.72	149.27	18.45	9.089	
11,200.00	11,190.29	11,196.95	11,191.86	9.84	8.69	-136.48	-194.89	-34.16	171.18	152.64	18.53	9.235	
11,300.00	11,290.05	11,296.89	11,291.68	9.90	8.72	-136.49	-199.62	-35.71	174.63	156.01	18.62	9.379	
11,400.00	11,389.82	11,396.83	11,391.49	9.96	8.75	-136.50	-204.35	-37.26	178.08	159.37	18.71	9.519	
11,500.00	11,489.58	11,496.77	11,491.31	10.02	8.78	-136.51	-209.08	-38.82	181.53	162.73	18.80	9.656	
11,600.00	11,589.34	11,596.71	11,591.13	10.08	8.81	-136.51	-213.80	-40.37	184.99	166.09	18.90	9.790	
11,700.00	11,689.10	11,696.65	11,690.94	10.15	8.85	-136.52	-218.53	-41.93	188.44	169.44	19.00	9.920	
11,800.00	11,788.86	11,796.59	11,790.76	10.21	8.88	-136.53	-223.26	-43.48	191.89	172.79	19.10	10.048	
11,900.00	11,888.62	11,896.53	11,890.58	10.28	8.92	-136.53	-227.99	-45.03	195.34	176.14	19.20	10.172	
12,000.00	11,988.38	11,996.48	11,990.39	10.35	8.96	-136.54	-232.72	-46.59	198.80	179.48	19.31	10.293	
12,100.00	12,088.15	12,096.26	12,090.07	10.42	8.98	-137.61	-233.66	-48.17	202.26	182.86	19.40	10.426	
12,119.58	12,107.68	12,115.47	12,109.18	10.42	8.98	-138.40	-231.78	-48.49	202.99	183.59	19.40	10.462	
12,125.00	12,113.09	12,120.74	12,114.42	10.42	8.98	-146.36	-231.12	-48.58	203.20	183.80	19.41	10.471	
12,150.00	12,138.05	12,144.97	12,138.35	10.42	8.99	158.98	-227.38	-48.99	204.24	184.78	19.46	10.496	
12,175.00	12,162.99	12,169.00	12,161.87	10.43	8.99	122.18	-222.47	-49.41	205.34	185.78	19.56	10.499	
12,200.00	12,187.85	12,192.84	12,184.93	10.43	9.00	107.39	-216.44	-49.82	206.52	186.80	19.71	10.476	
12,225.00	12,212.54	12,216.51	12,207.49	10.43	9.01	99.87	-209.33	-50.24	207.75	187.83	19.93	10.426	
12,250.00	12,237.01	12,240.00	12,229.51	10.44	9.02	95.15	-201.16	-50.66	209.05	188.84	20.20	10.348	
12,275.00	12,261.18	12,263.33	12,250.96	10.44	9.03	91.77	-192.00	-51.07	210.38	189.84	20.54	10.241	
12,300.00	12,285.00	12,286.50	12,271.79	10.45	9.05	89.15	-181.87	-51.48	211.75	190.81	20.94	10.110	
12,325.00	12,308.39	12,309.51	12,291.97	10.46	9.07	86.99	-170.81	-51.89	213.15	191.74	21.41	9.957	
12,350.00	12,331.30	12,332.39	12,311.48	10.48	9.09	85.15	-158.88	-52.30	214.56	192.64	21.92	9.788	
12,375.00	12,353.65	12,355.13	12,330.28	10.49	9.12	83.54	-146.10	-52.70	215.98	193.50	22.48	9.608	
12,400.00	12,375.39	12,377.74	12,348.36	10.51	9.14	82.11	-132.52	-53.10	217.40	194.33	23.07	9.422	
12,425.00	12,396.46	12,400.00	12,365.50	10.53	9.18	80.82	-118.33	-53.49	218.81	195.11	23.70	9.232	
12,450.00	12,416.79	12,422.61	12,382.22	10.56	9.22	79.65	-103.12	-53.88	220.20	195.86	24.35	9.045	
12,475.00	12,436.35	12,444.88	12,397.96	10.59	9.26	78.59	-87.37	-54.25	221.56	196.56	25.00	8.862	
12,500.00	12,455.06	12,467.05	12,412.89	10.63	9.32	77.62	-70.99	-54.62	222.89	197.23	25.66	8.687	
12,525.00	12,472.88	12,489.12	12,426.98	10.68	9.39	76.73	-54.00	-54.98	224.17	197.86	26.31	8.519	
12,550.00	12,489.76	12,511.11	12,440.22	10.73	9.47	75.92	-36.45	-55.34	225.40	198.44	26.96	8.361	
12,575.00	12,505.66	12,533.02	12,452.59	10.79	9.58	75.18	-18.38	-55.68	226.57	198.98	27.59	8.213	
12,600.00	12,520.53	12,554.86	12,464.09	10.87	9.70	74.51	0.18	-56.01	227.68	199.48	28.20	8.075	
12,625.00	12,534.33	12,576.62	12,474.69	10.95	9.84	73.91	19.18	-56.33	228.71	199.93	28.78	7.947	
12,650.00	12,547.02	12,598.33	12,484.40	11.05	10.00	73.37	38.60	-56.64	229.67	200.33	29.33	7.830	
12,675.00	12,558.57	12,619.98	12,493.18	11.17	10.17	72.89	58.38	-56.94	230.54	200.69	29.85	7.723	
12,700.00	12,568.94	12,641.59	12,501.05	11.31	10.36	72.47	78.50	-57.23	231.32	200.99	30.33	7.626	
12,725.00	12,578.11	12,663.15	12,507.98	11.46	10.57	72.10	98.91	-57.50	232.02	201.25	30.77	7.540	
12,750.00	12,586.05	12,684.67	12,513.98	11.64	10.78	71.79	119.58	-57.76	232.62	201.45	31.17	7.463	
12,775.00	12,592.75	12,706.17	12,519.03	11.84	11.01	71.54	140.47	-58.01	233.12	201.60	31.52	7.395	
12,800.00	12,598.17	12,727.64	12,523.14	12.06	11.25	71.34	161.54	-58.24	233.52	201.69	31.83	7.338	
12,825.00	12,602.32	12,750.00	12,526.40	12.29	11.51	71.20	183.66	-58.47	233.82	201.74	32.08	7.289	
12,850.00	12,605.16	12,770.53	12,528.48	12.55	11.76	71.11	204.08	-58.67	234.01	201.73	32.28	7.249	
12,875.00	12,606.71	12,791.97	12,529.72	12.82	12.02	71.07	225.48	-58.86	234.10	201.67	32.43	7.219	
12,896.09	12,607.00	12,810.05	12,530.01	13.06	12.25	71.08	243.56	-59.01	234.09	201.57	32.51	7.200	

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

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed Com 603H - Wellbore #1 - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Keeper, 12036-MWD — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
12,900.00	12,606.97	12,813.67	12,529.99	13.10	12.30	71.09	247.18	-59.04	234.08	201.56	32.52	7.198	
13,000.00	12,606.13	12,913.67	12,529.35	14.35	13.66	71.13	347.17	-59.83	233.99	201.17	32.82	7.129	
13,100.00	12,605.30	13,013.67	12,528.71	15.73	15.11	71.17	447.16	-60.62	233.90	200.69	33.21	7.043	
13,200.00	12,604.46	13,113.67	12,528.08	17.20	16.64	71.22	547.16	-61.41	233.80	199.72	34.08	6.861	
13,300.00	12,603.63	13,213.67	12,527.44	18.73	18.22	71.26	647.15	-62.20	233.71	196.72	36.99	6.319	
13,400.00	12,602.79	13,313.67	12,526.80	20.32	19.85	71.30	747.15	-62.99	233.62	193.44	40.18	5.815	
13,500.00	12,601.96	13,413.67	12,526.16	21.94	21.50	71.35	847.14	-63.78	233.52	190.07	43.45	5.374	
13,600.00	12,601.12	13,513.67	12,525.53	23.60	23.19	71.39	947.14	-64.57	233.43	186.64	46.79	4.989	
13,700.00	12,600.29	13,613.67	12,524.89	25.28	24.89	71.43	1,047.13	-65.36	233.34	183.17	50.17	4.651	
13,800.00	12,599.45	13,713.67	12,524.25	26.97	26.61	71.48	1,147.13	-66.15	233.24	179.66	53.58	4.353	
13,900.00	12,598.62	13,813.67	12,523.62	28.69	28.34	71.52	1,247.12	-66.95	233.15	176.12	57.03	4.088	
14,000.00	12,597.78	13,913.67	12,522.98	30.41	30.08	71.56	1,347.12	-67.74	233.06	172.56	60.50	3.852	
14,100.00	12,596.95	14,013.67	12,522.34	32.15	31.83	71.61	1,447.11	-68.53	232.97	168.98	63.99	3.641	
14,200.00	12,596.12	14,113.67	12,521.70	33.90	33.59	71.65	1,547.11	-69.32	232.87	165.38	67.49	3.450	
14,300.00	12,595.28	14,213.67	12,521.07	35.65	35.36	71.69	1,647.10	-70.11	232.78	161.77	71.01	3.278	
14,400.00	12,594.45	14,313.67	12,520.43	37.41	37.13	71.74	1,747.10	-70.90	232.69	158.14	74.55	3.121	
14,500.00	12,593.61	14,413.66	12,519.79	39.18	38.91	71.78	1,847.09	-71.69	232.60	154.51	78.09	2.979	
14,600.00	12,592.78	14,513.66	12,519.15	40.95	40.69	71.83	1,947.08	-72.48	232.51	150.86	81.64	2.848	
14,700.00	12,591.94	14,613.66	12,518.52	42.73	42.47	71.87	2,047.08	-73.27	232.41	147.21	85.20	2.728	
14,800.00	12,591.11	14,713.66	12,517.88	44.51	44.26	71.91	2,147.07	-74.06	232.32	143.55	88.77	2.617	
14,900.00	12,590.27	14,813.66	12,517.24	46.29	46.05	71.96	2,247.07	-74.85	232.23	139.88	92.35	2.515	
15,000.00	12,589.44	14,913.66	12,516.60	48.08	47.85	72.00	2,347.06	-75.64	232.14	136.21	95.93	2.420	
15,100.00	12,588.60	15,013.66	12,515.97	49.87	49.64	72.04	2,447.06	-76.43	232.05	132.54	99.51	2.332	
15,200.00	12,587.77	15,113.66	12,515.33	51.66	51.44	72.09	2,547.05	-77.22	231.96	128.86	103.10	2.250	
15,300.00	12,586.93	15,213.66	12,514.69	53.46	53.24	72.13	2,647.05	-78.01	231.87	125.17	106.70	2.173	
15,400.00	12,586.10	15,313.66	12,514.06	55.25	55.04	72.18	2,747.04	-78.80	231.78	121.48	110.29	2.101	
15,500.00	12,585.26	15,413.66	12,513.42	57.05	56.84	72.22	2,847.04	-79.60	231.69	117.79	113.89	2.034	
15,600.00	12,584.43	15,513.66	12,512.78	58.85	58.65	72.26	2,947.03	-80.39	231.60	114.10	117.50	1.971	
15,700.00	12,583.59	15,613.66	12,512.14	60.65	60.45	72.31	3,047.03	-81.18	231.51	110.40	121.10	1.912	
15,800.00	12,582.76	15,713.66	12,511.51	62.45	62.26	72.35	3,147.02	-81.97	231.42	106.70	124.71	1.856	
15,900.00	12,581.92	15,813.66	12,510.87	64.26	64.07	72.40	3,247.01	-82.76	231.33	103.00	128.32	1.803	
16,000.00	12,581.09	15,913.66	12,510.23	66.06	65.87	72.44	3,347.01	-83.55	231.24	99.30	131.94	1.753	
16,100.00	12,580.25	16,013.66	12,509.59	67.87	67.68	72.49	3,447.00	-84.34	231.15	95.59	135.55	1.705	
16,200.00	12,579.42	16,113.66	12,508.96	69.68	69.49	72.53	3,547.00	-85.13	231.06	91.89	139.17	1.660	
16,300.00	12,578.58	16,213.66	12,508.32	71.48	71.30	72.57	3,646.99	-85.92	230.97	88.18	142.79	1.618	
16,400.00	12,577.75	16,313.66	12,507.68	73.29	73.12	72.62	3,746.99	-86.71	230.88	84.47	146.41	1.577	
16,500.00	12,576.91	16,413.66	12,507.04	75.10	74.93	72.66	3,846.98	-87.50	230.79	80.76	150.03	1.538	
16,600.00	12,576.08	16,513.66	12,506.41	76.91	76.74	72.71	3,946.98	-88.29	230.70	77.05	153.65	1.501	
16,700.00	12,575.25	16,613.66	12,505.77	78.72	78.55	72.75	4,046.97	-89.08	230.61	73.34	157.28	1.466	Level 3
16,800.00	12,574.41	16,713.66	12,505.13	80.53	80.37	72.80	4,146.97	-89.87	230.52	69.62	160.90	1.433	Level 3
16,900.00	12,573.58	16,813.66	12,504.50	82.35	82.18	72.84	4,246.96	-90.66	230.44	65.91	164.53	1.401	Level 3
17,000.00	12,572.74	16,913.66	12,503.86	84.16	84.00	72.89	4,346.96	-91.46	230.35	62.19	168.16	1.370	Level 3
17,100.00	12,571.91	17,013.66	12,503.22	85.97	85.81	72.93	4,446.95	-92.25	230.26	58.48	171.78	1.340	Level 3
17,200.00	12,571.07	17,113.66	12,502.58	87.78	87.63	72.98	4,546.95	-93.04	230.17	54.76	175.41	1.312	Level 3
17,300.00	12,570.24	17,213.66	12,501.95	89.60	89.44	73.02	4,646.94	-93.83	230.08	51.04	179.04	1.285	Level 3
17,400.00	12,569.40	17,313.66	12,501.31	91.41	91.26	73.07	4,746.93	-94.62	229.99	47.32	182.67	1.259	Level 3
17,448.09	12,569.00	17,361.75	12,501.00	92.29	92.13	73.09	4,795.02	-95.00	229.95	45.53	184.42	1.247	Level 2, SF

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed Com 704H - Wellbore #1 - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-Keeper, 12292-MWD

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.30	0.30	0.00	0.00	-90.38	-0.20	-30.00	30.00				
100.00	100.00	100.30	100.30	0.06	0.07	-90.38	-0.20	-30.00	30.00	29.87	0.13	238.189	
200.00	200.00	200.30	200.30	0.20	0.20	-90.38	-0.20	-30.00	30.00	29.61	0.39	76.639	
300.00	300.00	300.30	300.30	0.33	0.33	-90.38	-0.20	-30.00	30.00	29.35	0.65	45.862	
400.00	400.00	400.30	400.30	0.46	0.46	-90.38	-0.20	-30.00	30.00	29.08	0.92	32.702	
500.00	500.00	500.30	500.30	0.59	0.59	-90.38	-0.20	-30.00	30.00	28.82	1.18	25.406	
600.00	600.00	600.30	600.30	0.72	0.72	-90.38	-0.20	-30.00	30.00	28.56	1.44	20.771	
700.00	700.00	700.30	700.30	0.85	0.85	-90.38	-0.20	-30.00	30.00	28.29	1.71	17.565	
800.00	800.00	800.30	800.30	0.99	0.99	-90.38	-0.20	-30.00	30.00	28.03	1.97	15.217	
900.00	900.00	900.30	900.30	1.12	1.12	-90.38	-0.20	-30.00	30.00	27.77	2.24	13.422	
1,000.00	1,000.00	1,000.30	1,000.30	1.25	1.25	-90.38	-0.20	-30.00	30.00	27.50	2.50	12.006	
1,100.00	1,100.00	1,100.30	1,100.30	1.38	1.38	-90.38	-0.20	-30.00	30.00	27.24	2.76	10.860	
1,200.00	1,200.00	1,200.30	1,200.30	1.51	1.51	-90.38	-0.20	-30.00	30.00	26.97	3.03	9.914	
1,300.00	1,300.00	1,300.30	1,300.30	1.64	1.65	-90.38	-0.20	-30.00	30.00	26.71	3.29	9.119	
1,400.00	1,400.00	1,400.30	1,400.30	1.78	1.78	-90.38	-0.20	-30.00	30.00	26.45	3.55	8.443	
1,500.00	1,500.00	1,500.30	1,500.30	1.91	1.91	-90.38	-0.20	-30.00	30.00	26.18	3.82	7.860	
1,600.00	1,600.00	1,600.30	1,600.30	2.04	2.04	-90.38	-0.20	-30.00	30.00	25.92	4.08	7.352	
1,700.00	1,700.00	1,700.30	1,700.30	2.17	2.17	-90.38	-0.20	-30.00	30.00	25.66	4.34	6.906	
1,800.00	1,800.00	1,800.30	1,800.30	2.30	2.30	-90.38	-0.20	-30.00	30.00	25.39	4.61	6.510	
1,900.00	1,900.00	1,900.30	1,900.30	2.44	2.44	-90.38	-0.20	-30.00	30.00	25.13	4.87	6.158	
2,000.00	2,000.00	2,000.30	2,000.30	2.57	2.57	-90.38	-0.20	-30.00	30.00	24.87	5.14	5.842	
2,100.00	2,100.00	2,100.30	2,100.30	2.70	2.70	-90.38	-0.20	-30.00	30.00	24.60	5.40	5.557	
2,200.00	2,200.00	2,200.30	2,200.30	2.83	2.83	-90.38	-0.20	-30.00	30.00	24.34	5.66	5.298	
2,300.00	2,300.00	2,300.30	2,300.30	2.96	2.96	-90.38	-0.20	-30.00	30.00	24.07	5.93	5.062	
2,400.00	2,400.00	2,400.30	2,400.30	3.09	3.10	-90.38	-0.20	-30.00	30.00	23.81	6.19	4.847	
2,500.00	2,500.00	2,500.30	2,500.30	3.23	3.23	-90.38	-0.20	-30.00	30.00	23.55	6.45	4.649	
2,600.00	2,600.00	2,600.30	2,600.30	3.36	3.36	-90.38	-0.20	-30.00	30.00	23.28	6.72	4.466	
2,700.00	2,700.00	2,700.30	2,700.30	3.49	3.49	-90.38	-0.20	-30.00	30.00	23.02	6.98	4.297	
2,800.00	2,800.00	2,800.30	2,800.30	3.62	3.62	-90.38	-0.20	-30.00	30.00	22.76	7.24	4.141	
2,900.00	2,900.00	2,900.30	2,900.30	3.75	3.75	-90.38	-0.20	-30.00	30.00	22.49	7.51	3.996	
3,000.00	3,000.00	3,000.30	3,000.30	3.89	3.89	-90.38	-0.20	-30.00	30.00	22.23	7.77	3.860	
3,100.00	3,100.00	3,100.30	3,100.30	4.02	4.02	-90.38	-0.20	-30.00	30.00	21.96	8.04	3.733	
3,200.00	3,200.00	3,200.30	3,200.30	4.15	4.15	-90.38	-0.20	-30.00	30.00	21.70	8.30	3.615	
3,300.00	3,300.00	3,300.30	3,300.30	4.28	4.28	-90.38	-0.20	-30.00	30.00	21.44	8.56	3.503	
3,400.00	3,400.00	3,400.30	3,400.30	4.41	4.41	-90.38	-0.20	-30.00	30.00	21.17	8.83	3.399	
3,500.00	3,500.00	3,500.30	3,500.30	4.55	4.55	-90.38	-0.20	-30.00	30.00	20.91	9.09	3.300	
3,600.00	3,600.00	3,600.30	3,600.30	4.68	4.68	-90.38	-0.20	-30.00	30.00	20.65	9.35	3.207	
3,700.00	3,700.00	3,700.30	3,700.30	4.81	4.81	-90.38	-0.20	-30.00	30.00	20.38	9.62	3.119	
3,800.00	3,800.00	3,800.30	3,800.30	4.94	4.94	-90.38	-0.20	-30.00	30.00	20.12	9.88	3.036	
3,900.00	3,900.00	3,900.30	3,900.30	5.07	5.07	-90.38	-0.20	-30.00	30.00	19.86	10.15	2.957	
4,000.00	4,000.00	4,000.30	4,000.30	5.20	5.20	-90.38	-0.20	-30.00	30.00	19.59	10.41	2.882	
4,100.00	4,100.00	4,100.30	4,100.30	5.34	5.34	-90.38	-0.20	-30.00	30.00	19.33	10.67	2.811	
4,200.00	4,200.00	4,200.30	4,200.30	5.47	5.47	-90.38	-0.20	-30.00	30.00	19.06	10.94	2.743	
4,300.00	4,300.00	4,300.30	4,300.30	5.60	5.60	-90.38	-0.20	-30.00	30.00	18.80	11.20	2.679	
4,400.00	4,400.00	4,400.30	4,400.30	5.73	5.73	-90.38	-0.20	-30.00	30.00	18.54	11.46	2.617	
4,466.57	4,466.57	4,466.87	4,466.87	5.82	5.82	-90.38	-0.20	-30.00	30.00	18.36	11.64	2.578	CC
4,500.00	4,500.00	4,500.00	4,500.00	5.86	5.86	-90.38	-0.20	-30.00	30.00	18.28	11.73	2.558	
4,600.00	4,600.00	4,599.43	4,599.41	6.00	5.92	-92.29	-1.26	-31.36	31.40	19.49	11.92	2.635	
4,700.00	4,700.00	4,698.91	4,698.78	6.13	5.90	-96.68	-4.10	-35.04	35.31	23.28	12.03	2.935	
4,800.00	4,800.00	4,798.78	4,798.53	6.26	5.89	-100.42	-7.18	-39.01	39.71	27.56	12.15	3.268	
4,900.00	4,900.00	4,898.66	4,898.27	6.39	5.88	-103.41	-10.25	-42.98	44.23	31.96	12.27	3.605	
5,000.00	5,000.00	4,998.53	4,998.02	6.52	5.87	-105.84	-13.32	-46.95	48.85	36.46	12.40	3.941	

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed Com 704H - Wellbore #1 - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-Keeper, 12292-MWD

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.00	5,100.00	5,098.40	5,097.77	6.65	5.87	-107.85	-16.39	-50.92	53.55	41.03	12.52	4.276	
5,200.00	5,200.00	5,198.28	5,197.52	6.79	5.87	-109.53	-19.47	-54.88	58.30	45.65	12.65	4.608	
5,300.00	5,300.00	5,298.15	5,297.26	6.92	5.87	-110.96	-22.54	-58.85	63.09	50.31	12.78	4.935	
5,400.00	5,400.00	5,398.03	5,397.01	7.05	5.87	-112.18	-25.61	-62.82	67.92	55.00	12.92	5.257	
5,500.00	5,500.00	5,497.90	5,496.76	7.18	5.88	-113.24	-28.68	-66.79	72.77	59.71	13.06	5.573	
5,600.00	5,600.00	5,597.77	5,596.51	7.31	5.89	-114.17	-31.76	-70.76	77.65	64.45	13.20	5.883	
5,700.00	5,700.00	5,697.65	5,696.25	7.45	5.90	-114.99	-34.83	-74.72	82.54	69.20	13.34	6.186	
5,800.00	5,800.00	5,797.52	5,796.00	7.58	5.91	-115.72	-37.90	-78.69	87.45	73.96	13.49	6.482	
5,900.00	5,900.00	5,897.39	5,895.75	7.71	5.93	-116.37	-40.97	-82.66	92.37	78.73	13.64	6.772	
6,000.00	6,000.00	5,997.27	5,995.50	7.84	5.95	-116.95	-44.05	-86.63	97.30	83.51	13.79	7.055	
6,100.00	6,100.00	6,097.14	6,095.24	7.97	5.97	-117.48	-47.12	-90.60	102.24	88.29	13.95	7.330	
6,200.00	6,200.00	6,197.01	6,194.99	8.10	6.00	-117.96	-50.19	-94.56	107.19	93.09	14.11	7.599	
6,300.00	6,300.00	6,296.89	6,294.74	8.24	6.03	-118.39	-53.26	-98.53	112.15	97.88	14.27	7.861	
6,400.00	6,400.00	6,396.76	6,394.49	8.37	6.06	-118.79	-56.34	-102.50	117.11	102.68	14.43	8.116	
6,500.00	6,500.00	6,496.64	6,494.23	8.50	6.09	-119.16	-59.41	-106.47	122.07	107.48	14.60	8.364	
6,600.00	6,600.00	6,596.51	6,593.98	8.63	6.13	-119.50	-62.48	-110.44	127.04	112.28	14.76	8.605	
6,700.00	6,700.00	6,696.38	6,693.73	8.76	6.17	-119.81	-65.55	-114.41	132.02	117.09	14.93	8.840	
6,800.00	6,800.00	6,796.26	6,793.48	8.90	6.21	-120.10	-68.63	-118.37	137.00	121.89	15.11	9.068	
6,900.00	6,900.00	6,896.13	6,893.22	9.03	6.26	-120.37	-71.70	-122.34	141.98	126.70	15.28	9.290	
7,000.00	7,000.00	6,996.00	6,992.97	9.16	6.30	-120.62	-74.77	-126.31	146.96	131.50	15.46	9.506	
7,100.00	7,099.98	7,095.94	7,092.79	9.21	6.35	12.79	-77.85	-130.28	150.25	134.69	15.56	9.655	
7,197.95	7,197.79	7,193.89	7,190.61	9.19	6.40	13.00	-80.86	-134.17	150.17	134.58	15.59	9.634	
7,200.00	7,199.84	7,195.94	7,192.65	9.19	6.40	13.00	-80.92	-134.25	150.14	134.55	15.59	9.631	
7,300.00	7,299.60	7,295.92	7,292.51	9.17	6.45	13.36	-84.00	-138.23	148.39	132.77	15.62	9.501	
7,400.00	7,399.36	7,395.90	7,392.36	9.15	6.51	13.72	-87.07	-142.20	146.66	131.00	15.65	9.368	
7,500.00	7,499.12	7,495.88	7,492.22	9.13	6.57	14.10	-90.15	-146.17	144.93	129.23	15.69	9.235	
7,600.00	7,598.88	7,595.86	7,592.07	9.11	6.62	14.48	-93.23	-150.14	143.20	127.47	15.74	9.100	
7,700.00	7,698.64	7,695.84	7,691.92	9.10	6.69	14.87	-96.30	-154.12	141.48	125.70	15.78	8.965	
7,800.00	7,798.41	7,795.82	7,791.78	9.08	6.75	15.27	-99.38	-158.09	139.77	123.94	15.83	8.828	
7,900.00	7,898.17	7,895.80	7,891.63	9.07	6.81	15.68	-102.45	-162.06	138.07	122.18	15.89	8.691	
8,000.00	7,997.93	7,995.78	7,991.49	9.06	6.88	16.10	-105.53	-166.03	136.37	120.43	15.94	8.553	
8,100.00	8,097.69	8,095.76	8,091.34	9.06	6.95	16.53	-108.60	-170.00	134.68	118.68	16.01	8.414	
8,200.00	8,197.45	8,195.74	8,191.20	9.05	7.02	16.98	-111.68	-173.98	133.00	116.93	16.07	8.276	
8,300.00	8,297.21	8,295.72	8,291.05	9.05	7.09	17.43	-114.76	-177.95	131.33	115.19	16.14	8.137	
8,400.00	8,396.97	8,395.70	8,390.90	9.05	7.16	17.90	-117.83	-181.92	129.66	113.45	16.21	7.998	
8,500.00	8,496.74	8,495.68	8,490.76	9.05	7.24	18.37	-120.91	-185.89	128.01	111.72	16.29	7.859	
8,600.00	8,596.50	8,595.67	8,590.61	9.05	7.32	18.86	-123.98	-189.87	126.36	109.99	16.37	7.720	
8,700.00	8,696.26	8,695.65	8,690.47	9.06	7.39	19.37	-127.06	-193.84	124.72	108.27	16.45	7.582	
8,800.00	8,796.02	8,795.63	8,790.32	9.06	7.47	19.88	-130.14	-197.81	123.10	106.56	16.54	7.444	
8,900.00	8,895.78	8,895.61	8,890.18	9.07	7.55	20.41	-133.21	-201.78	121.48	104.85	16.63	7.307	
9,000.00	8,995.54	8,995.59	8,990.03	9.08	7.63	20.96	-136.29	-205.76	119.87	103.15	16.72	7.170	
9,100.00	9,095.30	9,095.57	9,089.88	9.10	7.72	21.52	-139.36	-209.73	118.28	101.46	16.81	7.034	
9,200.00	9,195.07	9,195.55	9,189.74	9.11	7.80	22.09	-142.44	-213.70	116.69	99.78	16.91	6.899	
9,300.00	9,294.83	9,295.53	9,289.59	9.13	7.89	22.68	-145.51	-217.67	115.12	98.10	17.02	6.765	
9,400.00	9,394.59	9,395.51	9,389.45	9.15	7.97	23.29	-148.59	-221.65	113.56	96.44	17.12	6.632	
9,500.00	9,494.35	9,495.49	9,489.30	9.17	8.06	23.91	-151.67	-225.62	112.01	94.78	17.23	6.501	
9,600.00	9,594.11	9,595.47	9,589.15	9.19	8.15	24.55	-154.74	-229.59	110.48	93.14	17.34	6.370	
9,700.00	9,693.87	9,695.45	9,689.01	9.22	8.24	25.21	-157.82	-233.56	108.96	91.50	17.46	6.241	
9,800.00	9,793.63	9,795.43	9,788.86	9.24	8.33	25.89	-160.89	-237.54	107.46	89.88	17.58	6.113	
9,900.00	9,893.39	9,895.41	9,888.72	9.27	8.43	26.58	-163.97	-241.51	105.97	88.27	17.70	5.987	
10,000.00	9,993.16	9,995.39	9,988.57	9.31	8.52	27.30	-167.04	-245.48	104.50	86.68	17.82	5.863	
10,100.00	10,092.92	10,095.37	10,088.43	9.34	8.61	28.04	-170.12	-249.45	103.04	85.09	17.95	5.740	

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

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed Com 704H - Wellbore #1 - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-Keeper, 12292-MWD

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.00	10,192.68	10,195.35	10,188.28	9.37	8.71	28.79	-173.20	-253.42	101.61	83.52	18.08	5.619	
10,300.00	10,292.44	10,295.33	10,288.13	9.41	8.80	29.57	-176.27	-257.40	100.19	81.97	18.22	5.500	
10,400.00	10,392.20	10,395.31	10,387.99	9.45	8.90	30.37	-179.35	-261.37	98.79	80.43	18.35	5.383	
10,500.00	10,491.96	10,495.30	10,487.84	9.49	9.00	31.20	-182.42	-265.34	97.41	78.91	18.49	5.268	
10,600.00	10,591.72	10,595.28	10,587.70	9.54	9.10	32.04	-185.50	-269.31	96.05	77.41	18.63	5.154	
10,700.00	10,691.49	10,695.26	10,687.55	9.58	9.19	32.91	-188.58	-273.29	94.71	75.93	18.78	5.043	
10,800.00	10,791.25	10,795.24	10,787.41	9.63	9.29	33.81	-191.65	-277.26	93.39	74.47	18.93	4.934	
10,900.00	10,891.01	10,895.22	10,887.26	9.68	9.39	34.73	-194.73	-281.23	92.10	73.02	19.08	4.828	
11,000.00	10,990.77	10,995.20	10,987.11	9.73	9.50	35.68	-197.80	-285.20	90.83	71.60	19.23	4.723	
11,100.00	11,090.53	11,095.18	11,086.97	9.79	9.60	36.65	-200.88	-289.18	89.59	70.20	19.39	4.621	
11,200.00	11,190.29	11,195.16	11,186.82	9.84	9.70	37.66	-203.95	-293.15	88.37	68.83	19.54	4.522	
11,300.00	11,290.05	11,295.14	11,286.68	9.90	9.80	38.68	-207.03	-297.12	87.19	67.48	19.70	4.425	
11,400.00	11,389.82	11,395.12	11,386.53	9.96	9.91	39.74	-210.11	-301.09	86.03	66.16	19.87	4.330	
11,500.00	11,489.58	11,495.10	11,486.38	10.02	10.01	40.83	-213.18	-305.07	84.90	64.87	20.03	4.238	
11,600.00	11,589.34	11,595.08	11,586.24	10.08	10.12	41.94	-216.26	-309.04	83.80	63.60	20.20	4.148	
11,700.00	11,689.10	11,695.06	11,686.09	10.15	10.22	43.08	-219.33	-313.01	82.74	62.36	20.37	4.062	
11,800.00	11,788.86	11,795.04	11,785.95	10.21	10.33	44.26	-222.41	-316.98	81.70	61.16	20.54	3.977	
11,900.00	11,888.62	11,895.02	11,885.80	10.28	10.44	45.46	-225.48	-320.95	80.71	59.99	20.72	3.896	
12,000.00	11,988.38	11,995.00	11,985.66	10.35	10.54	46.69	-228.56	-324.93	79.75	58.85	20.89	3.817	
12,100.00	12,088.15	12,094.98	12,085.51	10.42	10.65	47.95	-231.64	-328.90	78.83	57.75	21.07	3.741	
12,119.58	12,107.68	12,114.56	12,105.06	10.42	10.67	48.20	-232.24	-329.68	78.65	57.55	21.09	3.728	
12,125.00	12,113.09	12,119.98	12,110.47	10.42	10.68	40.55	-232.41	-329.89	78.60	57.50	21.10	3.725	
12,150.00	12,138.05	12,144.97	12,135.43	10.42	10.70	-13.27	-233.17	-330.89	78.29	57.14	21.15	3.702	
12,175.00	12,162.99	12,169.90	12,160.33	10.43	10.73	-50.22	-233.94	-331.88	77.90	56.68	21.21	3.672	
12,200.00	12,187.85	12,194.70	12,185.10	10.43	10.76	-66.16	-234.70	-332.86	77.50	56.21	21.30	3.639	
12,225.00	12,212.54	12,219.30	12,209.67	10.43	10.77	-75.78	-235.46	-333.84	77.27	55.89	21.39	3.613	
12,229.87	12,217.32	12,224.06	12,214.42	10.43	10.77	-77.37	-235.61	-334.03	77.27	55.86	21.41	3.610	
12,250.00	12,237.01	12,243.63	12,233.97	10.44	10.78	-83.48	-236.21	-334.81	77.43	55.93	21.50	3.602	
12,275.00	12,261.18	12,267.64	12,257.95	10.44	10.78	-90.57	-236.95	-335.76	78.25	56.61	21.63	3.617	
12,300.00	12,285.00	12,291.25	12,281.52	10.45	10.79	-97.46	-237.67	-336.70	80.03	58.23	21.80	3.671	
12,325.00	12,308.39	12,315.95	12,306.21	10.46	10.79	-104.25	-237.89	-337.68	82.88	60.89	21.99	3.768	
12,350.00	12,331.30	12,341.26	12,331.47	10.48	10.79	-110.41	-236.79	-338.70	86.57	64.36	22.21	3.897	
12,375.00	12,353.65	12,367.11	12,357.17	10.49	10.80	-115.96	-234.28	-339.75	90.98	68.51	22.47	4.049	
12,400.00	12,375.39	12,393.52	12,383.26	10.51	10.80	-120.92	-230.29	-340.83	95.99	72.94	23.05	4.164	
12,425.00	12,396.46	12,420.54	12,409.66	10.53	10.80	-125.35	-224.72	-341.93	101.47	77.75	23.73	4.277	
12,450.00	12,416.79	12,448.18	12,436.31	10.56	10.81	-129.28	-217.48	-343.06	107.32	82.90	24.42	4.395	
12,475.00	12,436.35	12,476.49	12,463.12	10.59	10.82	-132.77	-208.48	-344.20	113.42	88.30	25.12	4.515	
12,500.00	12,455.06	12,505.49	12,489.99	10.63	10.83	-135.86	-197.63	-345.37	119.68	93.86	25.82	4.635	
12,525.00	12,472.88	12,535.21	12,516.78	10.68	10.85	-138.60	-184.84	-346.54	126.01	99.49	26.52	4.751	
12,550.00	12,489.76	12,565.68	12,543.37	10.73	10.88	-141.02	-170.02	-347.73	132.33	105.12	27.21	4.863	
12,575.00	12,505.66	12,596.92	12,569.60	10.79	10.92	-143.17	-153.09	-348.91	138.57	110.69	27.88	4.970	
12,600.00	12,520.53	12,628.95	12,595.28	10.87	10.98	-145.07	-133.99	-350.09	144.66	116.13	28.53	5.070	
12,625.00	12,534.33	12,661.77	12,620.20	10.95	11.06	-146.74	-112.68	-351.26	150.53	121.37	29.15	5.163	
12,650.00	12,547.02	12,695.39	12,644.15	11.05	11.16	-148.21	-89.13	-352.41	156.12	126.37	29.75	5.248	
12,675.00	12,558.57	12,729.80	12,666.89	11.17	11.28	-149.50	-63.34	-353.53	161.37	131.07	30.30	5.325	
12,700.00	12,568.94	12,764.97	12,688.15	11.31	11.44	-150.62	-35.35	-354.61	166.23	135.41	30.82	5.394	
12,725.00	12,578.11	12,800.88	12,707.67	11.46	11.63	-151.58	-5.24	-355.63	170.64	139.35	31.29	5.453	
12,750.00	12,586.05	12,837.47	12,725.18	11.64	11.86	-152.40	26.87	-356.59	174.57	142.84	31.72	5.503	
12,775.00	12,592.75	12,874.68	12,740.42	11.84	12.12	-153.07	60.80	-357.48	177.96	145.85	32.11	5.542	
12,800.00	12,598.17	12,912.44	12,753.13	12.06	12.43	-153.62	96.33	-358.27	180.78	148.33	32.44	5.572	
12,825.00	12,602.32	12,950.65	12,763.09	12.29	12.77	-154.03	133.20	-358.97	182.99	150.26	32.73	5.592	
12,850.00	12,605.16	12,989.21	12,770.13	12.55	13.15	-154.32	171.10	-359.56	184.57	151.61	32.96	5.601	

Anticollision Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec. 25, T 25 S. , R 33 E - Dominator 25 Fed Com 704H - Wellbore #1 - Plan #1 — **Offset Site Error:** 0.00 ft

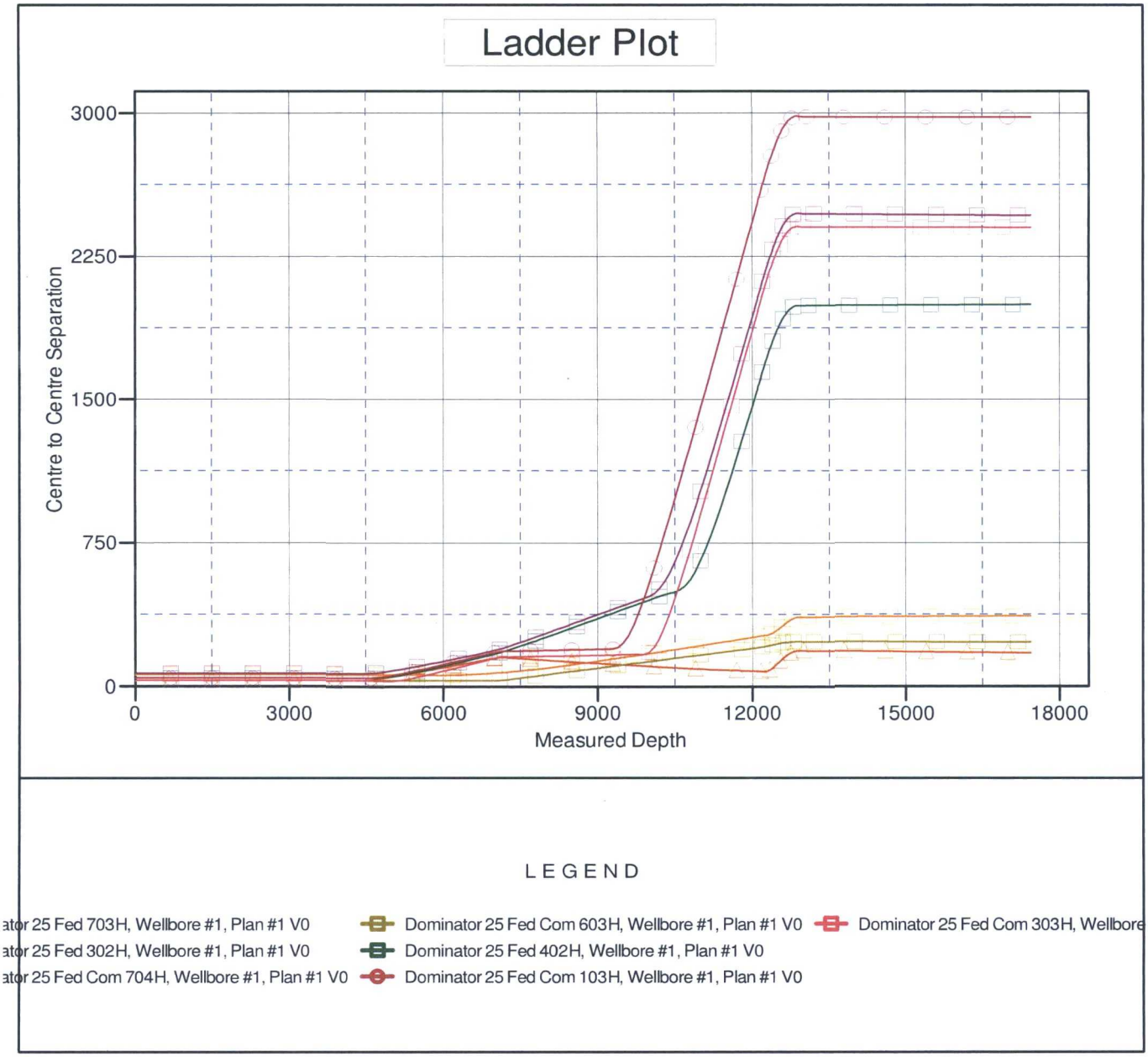
Survey Program: 0-Keeper, 12292-MWD — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
12,875.00	12,606.71	13,028.01	12,774.11	12.82	13.56	-154.49	209.68	-360.03	185.50	152.37	33.13	5.599	
12,896.09	12,607.00	13,060.83	12,775.02	13.06	13.92	-154.53	242.48	-360.33	185.77	152.54	33.24	5.589	
12,900.00	12,606.97	13,065.57	12,774.97	13.10	13.98	-154.53	247.22	-360.37	185.77	152.52	33.25	5.587	
13,000.00	12,606.13	13,165.57	12,773.83	14.35	15.21	-154.49	347.21	-361.13	185.49	151.94	33.55	5.529	
13,100.00	12,605.30	13,265.57	12,772.69	15.73	16.53	-154.45	447.20	-361.89	185.21	151.26	33.95	5.455	
13,200.00	12,604.46	13,365.57	12,771.54	17.20	17.94	-154.41	547.19	-362.65	184.93	149.61	35.32	5.236	
13,300.00	12,603.63	13,465.56	12,770.40	18.73	19.42	-154.37	647.18	-363.41	184.66	146.46	38.19	4.835	
13,400.00	12,602.79	13,565.56	12,769.26	20.32	20.96	-154.32	747.17	-364.18	184.38	143.09	41.29	4.465	
13,500.00	12,601.96	13,665.56	12,768.11	21.94	22.54	-154.28	847.16	-364.94	184.10	139.61	44.49	4.138	
13,600.00	12,601.12	13,765.56	12,766.97	23.60	24.15	-154.24	947.15	-365.70	183.83	136.07	47.76	3.849	
13,700.00	12,600.29	13,865.56	12,765.83	25.28	25.80	-154.20	1,047.14	-366.46	183.55	132.48	51.07	3.594	
13,800.00	12,599.45	13,965.56	12,764.68	26.97	27.46	-154.15	1,147.13	-367.22	183.27	128.84	54.44	3.367	
13,900.00	12,598.62	14,065.56	12,763.54	28.69	29.14	-154.11	1,247.12	-367.98	183.00	125.16	57.83	3.164	
14,000.00	12,597.78	14,165.56	12,762.40	30.41	30.84	-154.07	1,347.11	-368.75	182.72	121.46	61.26	2.983	
14,100.00	12,596.95	14,265.56	12,761.25	32.15	32.56	-154.02	1,447.10	-369.51	182.45	117.73	64.71	2.819	
14,200.00	12,596.12	14,365.56	12,760.11	33.90	34.28	-153.98	1,547.09	-370.27	182.17	113.99	68.18	2.672	
14,300.00	12,595.28	14,465.56	12,758.97	35.65	36.02	-153.94	1,647.08	-371.03	181.89	110.22	71.67	2.538	
14,400.00	12,594.45	14,565.56	12,757.83	37.41	37.76	-153.89	1,747.07	-371.79	181.62	106.44	75.18	2.416	
14,500.00	12,593.61	14,665.56	12,756.68	39.18	39.51	-153.85	1,847.06	-372.56	181.34	102.65	78.69	2.304	
14,600.00	12,592.78	14,765.56	12,755.54	40.95	41.27	-153.81	1,947.05	-373.32	181.07	98.84	82.22	2.202	
14,700.00	12,591.94	14,865.56	12,754.40	42.73	43.03	-153.76	2,047.04	-374.08	180.79	95.03	85.76	2.108	
14,800.00	12,591.11	14,965.56	12,753.25	44.51	44.80	-153.72	2,147.03	-374.84	180.52	91.21	89.31	2.021	
14,900.00	12,590.27	15,065.56	12,752.11	46.29	46.57	-153.67	2,247.02	-375.60	180.24	87.38	92.87	1.941	
15,000.00	12,589.44	15,165.56	12,750.97	48.08	48.35	-153.63	2,347.01	-376.36	179.97	83.54	96.43	1.866	
15,100.00	12,588.60	15,265.56	12,749.82	49.87	50.13	-153.59	2,447.00	-377.13	179.69	79.69	100.00	1.797	
15,200.00	12,587.77	15,365.56	12,748.68	51.66	51.91	-153.54	2,546.99	-377.89	179.42	75.84	103.57	1.732	
15,300.00	12,586.93	15,465.56	12,747.54	53.46	53.70	-153.50	2,646.98	-378.65	179.14	71.99	107.15	1.672	
15,400.00	12,586.10	15,565.55	12,746.39	55.25	55.48	-153.45	2,746.97	-379.41	178.87	68.13	110.74	1.615	
15,500.00	12,585.26	15,665.55	12,745.25	57.05	57.27	-153.41	2,846.96	-380.17	178.59	64.27	114.32	1.562	
15,600.00	12,584.43	15,765.55	12,744.11	58.85	59.07	-153.36	2,946.95	-380.93	178.32	60.40	117.92	1.512	
15,700.00	12,583.59	15,865.55	12,742.96	60.65	60.86	-153.32	3,046.94	-381.70	178.04	56.53	121.51	1.465	Level 3
15,800.00	12,582.76	15,965.55	12,741.82	62.45	62.66	-153.27	3,146.93	-382.46	177.77	52.66	125.11	1.421	Level 3
15,900.00	12,581.92	16,065.55	12,740.68	64.26	64.45	-153.23	3,246.92	-383.22	177.50	48.78	128.71	1.379	Level 3
16,000.00	12,581.09	16,165.55	12,739.54	66.06	66.25	-153.18	3,346.91	-383.98	177.22	44.91	132.32	1.339	Level 3
16,100.00	12,580.25	16,265.55	12,738.39	67.87	68.05	-153.13	3,446.90	-384.74	176.95	41.03	135.92	1.302	Level 3
16,200.00	12,579.42	16,365.55	12,737.25	69.68	69.85	-153.09	3,546.89	-385.51	176.67	37.14	139.53	1.266	Level 3
16,300.00	12,578.58	16,465.55	12,736.11	71.48	71.66	-153.04	3,646.88	-386.27	176.40	33.26	143.14	1.232	Level 2
16,400.00	12,577.75	16,565.55	12,734.96	73.29	73.46	-153.00	3,746.87	-387.03	176.13	29.37	146.75	1.200	Level 2
16,500.00	12,576.91	16,665.55	12,733.82	75.10	75.27	-152.95	3,846.86	-387.79	175.85	25.48	150.37	1.169	Level 2
16,600.00	12,576.08	16,765.55	12,732.68	76.91	77.07	-152.90	3,946.85	-388.55	175.58	21.60	153.98	1.140	Level 2
16,700.00	12,575.25	16,865.55	12,731.53	78.72	78.88	-152.86	4,046.84	-389.31	175.31	17.71	157.60	1.112	Level 2
16,800.00	12,574.41	16,965.55	12,730.39	80.53	80.69	-152.81	4,146.83	-390.08	175.03	13.81	161.22	1.086	Level 2
16,900.00	12,573.58	17,065.55	12,729.25	82.35	82.49	-152.76	4,246.82	-390.84	174.76	9.92	164.84	1.060	Level 2
17,000.00	12,572.74	17,165.55	12,728.10	84.16	84.30	-152.71	4,346.81	-391.60	174.49	6.03	168.46	1.036	Level 2
17,100.00	12,571.91	17,265.55	12,726.96	85.97	86.11	-152.67	4,446.80	-392.36	174.21	2.13	172.08	1.012	Level 2
17,200.00	12,571.07	17,365.55	12,725.82	87.78	87.92	-152.62	4,546.79	-393.12	173.94	-1.77	175.71	0.990	Level 1
17,300.00	12,570.24	17,465.55	12,724.67	89.60	89.73	-152.57	4,646.78	-393.89	173.67	-5.66	179.33	0.968	Level 1
17,400.00	12,569.40	17,565.55	12,723.53	91.41	91.55	-152.52	4,746.77	-394.65	173.40	-9.56	182.96	0.948	Level 1
17,441.02	12,569.06	17,606.57	12,723.06	92.16	92.29	-152.50	4,787.79	-394.96	173.29	-11.16	184.45	0.939	Level 1
17,448.09	12,569.00	17,612.66	12,722.99	92.29	92.40	-152.50	4,793.88	-395.01	173.27	-11.41	184.68	0.938	Level 1, ES, SF

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KB=26' @ 3362.90ft (Rig#3)
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334

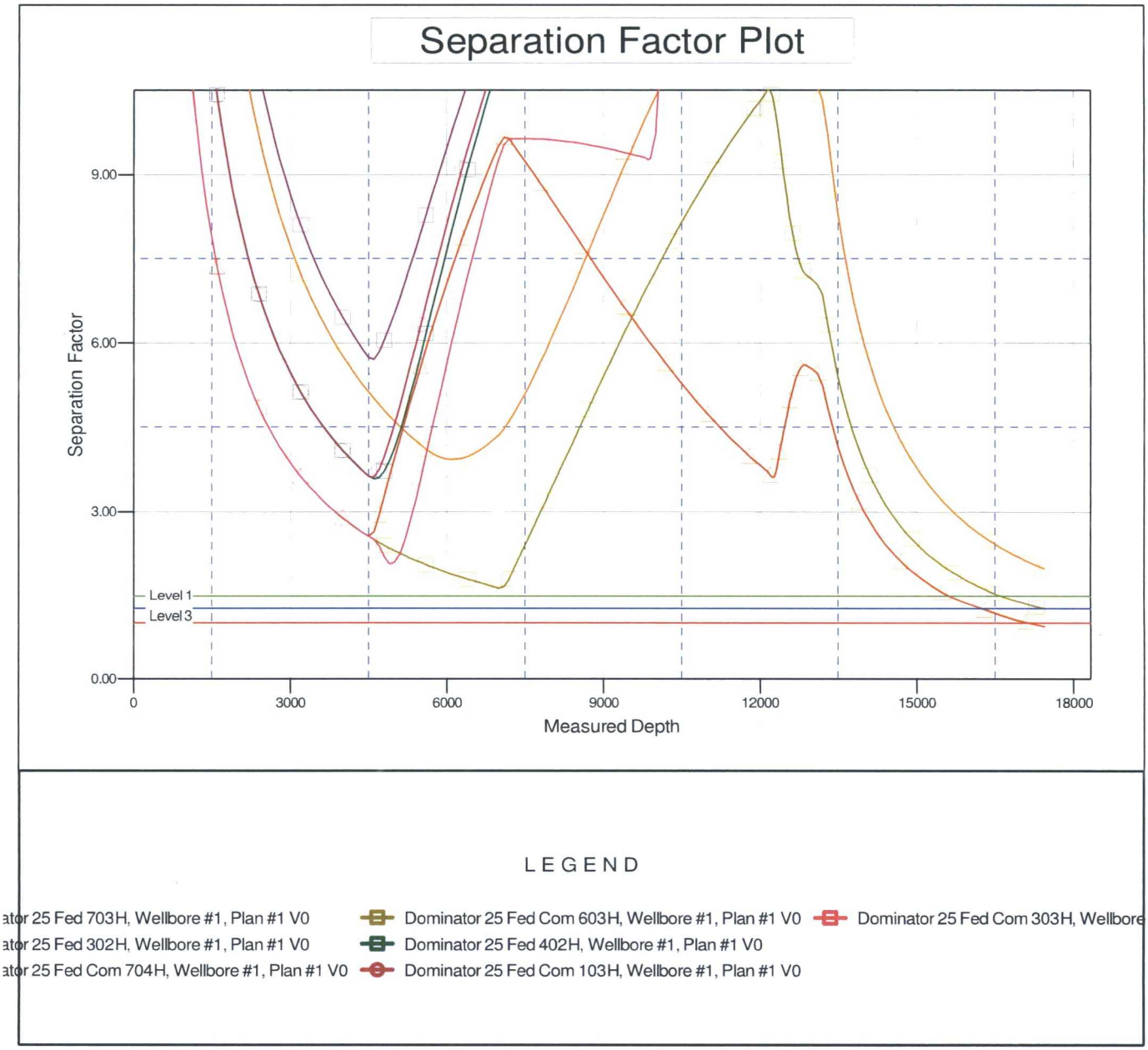
Coordinates are relative to: Dominator 25 Fed Com 604H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.43°



Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Reference Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Dominator 25 Fed Com 604H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KB=26' @ 3362.90ft (Rig#3)
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334

Coordinates are relative to: Dominator 25 Fed Com 604H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.43°



COG Operating L L C

Lea County, NM (NAD27 NME)
Sec. 25, T 25 S. , R 33 E
Dominator 25 Fed Com 604H

Wellbore #1

Plan: Plan #1

Standard Survey Report

15 November, 2017

Survey Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Well:	Dominator 25 Fed Com 604H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 5000.1

Project Lea County, NM (NAD27 NME)

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site Sec. 25, T 25 S. , R 33 E

Site Position:		**Northing:**	399,226.5000 usft	**Latitude:**	32.094988
From:	Map	**Easting:**	751,433.5000 usft	**Longitude:**	-103.521418
Position Uncertainty:	0.00 ft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.43 °

Well Dominator 25 Fed Com 604H

Well Position	**+N/-S**	0.00 ft	**Northing:**	399,196.7000 usft	**Latitude:**	32.094905
	+E/-W	0.00 ft	**Easting:**	751,463.7000 usft	**Longitude:**	-103.521321
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	0.00 ft	**Ground Level:**	3,336.90 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	11/13/2017	6.78	59.78	47,922

Design Plan #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	356.24

Survey Tool Program **Date** 11/15/2017

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	12,119.58	Plan #1 (Wellbore #1)	Keeper	Standard Wireline Keeper ver 1.0.2
12,119.58	17,448.09	Plan #1 (Wellbore #1)	MWD	MWD - Standard

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00

Survey Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Well:	Dominator 25 Fed Com 604H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 5000.1

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00

Survey Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Well:	Dominator 25 Fed Com 604H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 5000.1

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
7,100.00	2.00	226.48	7,099.98	-1.20	-1.27	-1.12	2.00	2.00	0.00
7,197.95	3.96	226.48	7,197.79	-4.71	-4.96	-4.37	2.00	2.00	0.00
Start 4921.63 hold at 7197.95 MD									
7,200.00	3.96	226.48	7,199.84	-4.81	-5.06	-4.46	0.00	0.00	0.00
7,300.00	3.96	226.48	7,299.60	-9.56	-10.07	-8.88	0.00	0.00	0.00
7,400.00	3.96	226.48	7,399.36	-14.31	-15.07	-13.30	0.00	0.00	0.00
7,500.00	3.96	226.48	7,499.12	-19.07	-20.08	-17.71	0.00	0.00	0.00
7,600.00	3.96	226.48	7,598.88	-23.82	-25.08	-22.13	0.00	0.00	0.00
7,700.00	3.96	226.48	7,698.64	-28.58	-30.09	-26.54	0.00	0.00	0.00
7,800.00	3.96	226.48	7,798.41	-33.33	-35.10	-30.96	0.00	0.00	0.00
7,900.00	3.96	226.48	7,898.17	-38.09	-40.10	-35.38	0.00	0.00	0.00
8,000.00	3.96	226.48	7,997.93	-42.84	-45.11	-39.79	0.00	0.00	0.00
8,100.00	3.96	226.48	8,097.69	-47.60	-50.12	-44.21	0.00	0.00	0.00
8,200.00	3.96	226.48	8,197.45	-52.35	-55.12	-48.62	0.00	0.00	0.00
8,300.00	3.96	226.48	8,297.21	-57.10	-60.13	-53.04	0.00	0.00	0.00
8,400.00	3.96	226.48	8,396.97	-61.86	-65.14	-57.46	0.00	0.00	0.00
8,500.00	3.96	226.48	8,496.74	-66.61	-70.14	-61.87	0.00	0.00	0.00
8,600.00	3.96	226.48	8,596.50	-71.37	-75.15	-66.29	0.00	0.00	0.00
8,700.00	3.96	226.48	8,696.26	-76.12	-80.15	-70.70	0.00	0.00	0.00
8,800.00	3.96	226.48	8,796.02	-80.88	-85.16	-75.12	0.00	0.00	0.00
8,900.00	3.96	226.48	8,895.78	-85.63	-90.17	-79.54	0.00	0.00	0.00
9,000.00	3.96	226.48	8,995.54	-90.39	-95.17	-83.95	0.00	0.00	0.00
9,100.00	3.96	226.48	9,095.30	-95.14	-100.18	-88.37	0.00	0.00	0.00
9,200.00	3.96	226.48	9,195.07	-99.90	-105.19	-92.78	0.00	0.00	0.00
9,300.00	3.96	226.48	9,294.83	-104.65	-110.19	-97.20	0.00	0.00	0.00

Survey Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Well:	Dominator 25 Fed Com 604H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 5000.1

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,400.00	3.96	226.48	9,394.59	-109.40	-115.20	-101.62	0.00	0.00	0.00
9,500.00	3.96	226.48	9,494.35	-114.16	-120.20	-106.03	0.00	0.00	0.00
9,600.00	3.96	226.48	9,594.11	-118.91	-125.21	-110.45	0.00	0.00	0.00
9,700.00	3.96	226.48	9,693.87	-123.67	-130.22	-114.86	0.00	0.00	0.00
9,800.00	3.96	226.48	9,793.63	-128.42	-135.22	-119.28	0.00	0.00	0.00
9,900.00	3.96	226.48	9,893.39	-133.18	-140.23	-123.70	0.00	0.00	0.00
10,000.00	3.96	226.48	9,993.16	-137.93	-145.24	-128.11	0.00	0.00	0.00
10,100.00	3.96	226.48	10,092.92	-142.69	-150.24	-132.53	0.00	0.00	0.00
10,200.00	3.96	226.48	10,192.68	-147.44	-155.25	-136.94	0.00	0.00	0.00
10,300.00	3.96	226.48	10,292.44	-152.20	-160.25	-141.36	0.00	0.00	0.00
10,400.00	3.96	226.48	10,392.20	-156.95	-165.26	-145.78	0.00	0.00	0.00
10,500.00	3.96	226.48	10,491.96	-161.70	-170.27	-150.19	0.00	0.00	0.00
10,600.00	3.96	226.48	10,591.72	-166.46	-175.27	-154.61	0.00	0.00	0.00
10,700.00	3.96	226.48	10,691.49	-171.21	-180.28	-159.02	0.00	0.00	0.00
10,800.00	3.96	226.48	10,791.25	-175.97	-185.29	-163.44	0.00	0.00	0.00
10,900.00	3.96	226.48	10,891.01	-180.72	-190.29	-167.86	0.00	0.00	0.00
11,000.00	3.96	226.48	10,990.77	-185.48	-195.30	-172.27	0.00	0.00	0.00
11,100.00	3.96	226.48	11,090.53	-190.23	-200.31	-176.69	0.00	0.00	0.00
11,200.00	3.96	226.48	11,190.29	-194.99	-205.31	-181.10	0.00	0.00	0.00
11,300.00	3.96	226.48	11,290.05	-199.74	-210.32	-185.52	0.00	0.00	0.00
11,400.00	3.96	226.48	11,389.82	-204.50	-215.32	-189.94	0.00	0.00	0.00
11,500.00	3.96	226.48	11,489.58	-209.25	-220.33	-194.35	0.00	0.00	0.00
11,600.00	3.96	226.48	11,589.34	-214.00	-225.34	-198.77	0.00	0.00	0.00
11,700.00	3.96	226.48	11,689.10	-218.76	-230.34	-203.18	0.00	0.00	0.00
11,800.00	3.96	226.48	11,788.86	-223.51	-235.35	-207.60	0.00	0.00	0.00
11,900.00	3.96	226.48	11,888.62	-228.27	-240.36	-212.02	0.00	0.00	0.00
12,000.00	3.96	226.48	11,988.38	-233.02	-245.36	-216.43	0.00	0.00	0.00
12,100.00	3.96	226.48	12,088.15	-237.78	-250.37	-220.85	0.00	0.00	0.00
12,119.58	3.96	226.48	12,107.68	-238.71	-251.35	-221.71	0.00	0.00	0.00
Start DLS 12.00 TFO 133.00									
12,200.00	7.52	337.03	12,187.85	-235.77	-255.43	-218.51	12.00	4.43	137.48
12,300.00	19.16	351.17	12,285.00	-213.44	-260.52	-195.90	12.00	11.64	14.14
12,400.00	31.07	354.73	12,375.39	-171.37	-265.42	-153.60	12.00	11.91	3.55
12,500.00	43.03	356.44	12,455.06	-111.41	-269.93	-93.47	12.00	11.96	1.71
12,600.00	55.00	357.51	12,520.53	-36.16	-273.85	-18.13	12.00	11.97	1.08
12,700.00	66.98	358.31	12,568.94	51.07	-276.99	69.12	12.00	11.98	0.80
12,800.00	78.96	358.98	12,598.17	146.49	-279.24	164.48	12.00	11.98	0.67
12,896.09	90.48	359.57	12,607.00	242.00	-280.45	259.87	12.00	11.98	0.61
Start 4552.00 hold at 12896.09 MD									
12,900.00	90.48	359.57	12,606.97	245.91	-280.48	263.77	0.00	0.00	0.00
13,000.00	90.48	359.57	12,606.13	345.90	-281.24	363.60	0.00	0.00	0.00
13,100.00	90.48	359.57	12,605.30	445.90	-282.00	463.43	0.00	0.00	0.00
13,200.00	90.48	359.57	12,604.46	545.89	-282.76	563.25	0.00	0.00	0.00

Survey Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Well:	Dominator 25 Fed Com 604H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 5000.1

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,300.00	90.48	359.57	12,603.63	645.88	-283.51	663.08	0.00	0.00	0.00
13,400.00	90.48	359.57	12,602.79	745.88	-284.27	762.91	0.00	0.00	0.00
13,500.00	90.48	359.57	12,601.96	845.87	-285.03	862.74	0.00	0.00	0.00
13,600.00	90.48	359.57	12,601.12	945.86	-285.79	962.57	0.00	0.00	0.00
13,700.00	90.48	359.57	12,600.29	1,045.86	-286.55	1,062.40	0.00	0.00	0.00
13,800.00	90.48	359.57	12,599.45	1,145.85	-287.31	1,162.22	0.00	0.00	0.00
13,900.00	90.48	359.57	12,598.62	1,245.84	-288.07	1,262.05	0.00	0.00	0.00
14,000.00	90.48	359.57	12,597.78	1,345.84	-288.83	1,361.88	0.00	0.00	0.00
14,100.00	90.48	359.57	12,596.95	1,445.83	-289.59	1,461.71	0.00	0.00	0.00
14,200.00	90.48	359.57	12,596.12	1,545.83	-290.35	1,561.54	0.00	0.00	0.00
14,300.00	90.48	359.57	12,595.28	1,645.82	-291.10	1,661.36	0.00	0.00	0.00
14,400.00	90.48	359.57	12,594.45	1,745.81	-291.86	1,761.19	0.00	0.00	0.00
14,500.00	90.48	359.57	12,593.61	1,845.81	-292.62	1,861.02	0.00	0.00	0.00
14,600.00	90.48	359.57	12,592.78	1,945.80	-293.38	1,960.85	0.00	0.00	0.00
14,700.00	90.48	359.57	12,591.94	2,045.79	-294.14	2,060.68	0.00	0.00	0.00
14,800.00	90.48	359.57	12,591.11	2,145.79	-294.90	2,160.51	0.00	0.00	0.00
14,900.00	90.48	359.57	12,590.27	2,245.78	-295.66	2,260.33	0.00	0.00	0.00
15,000.00	90.48	359.57	12,589.44	2,345.77	-296.42	2,360.16	0.00	0.00	0.00
15,100.00	90.48	359.57	12,588.60	2,445.77	-297.18	2,459.99	0.00	0.00	0.00
15,200.00	90.48	359.57	12,587.77	2,545.76	-297.94	2,559.82	0.00	0.00	0.00
15,300.00	90.48	359.57	12,586.93	2,645.76	-298.70	2,659.65	0.00	0.00	0.00
15,400.00	90.48	359.57	12,586.10	2,745.75	-299.45	2,759.48	0.00	0.00	0.00
15,500.00	90.48	359.57	12,585.26	2,845.74	-300.21	2,859.30	0.00	0.00	0.00
15,600.00	90.48	359.57	12,584.43	2,945.74	-300.97	2,959.13	0.00	0.00	0.00
15,700.00	90.48	359.57	12,583.59	3,045.73	-301.73	3,058.96	0.00	0.00	0.00
15,800.00	90.48	359.57	12,582.76	3,145.72	-302.49	3,158.79	0.00	0.00	0.00
15,900.00	90.48	359.57	12,581.92	3,245.72	-303.25	3,258.62	0.00	0.00	0.00
16,000.00	90.48	359.57	12,581.09	3,345.71	-304.01	3,358.44	0.00	0.00	0.00
16,100.00	90.48	359.57	12,580.25	3,445.70	-304.77	3,458.27	0.00	0.00	0.00
16,200.00	90.48	359.57	12,579.42	3,545.70	-305.53	3,558.10	0.00	0.00	0.00
16,300.00	90.48	359.57	12,578.58	3,645.69	-306.29	3,657.93	0.00	0.00	0.00
16,400.00	90.48	359.57	12,577.75	3,745.69	-307.05	3,757.76	0.00	0.00	0.00
16,500.00	90.48	359.57	12,576.91	3,845.68	-307.80	3,857.59	0.00	0.00	0.00
16,600.00	90.48	359.57	12,576.08	3,945.67	-308.56	3,957.41	0.00	0.00	0.00
16,700.00	90.48	359.57	12,575.25	4,045.67	-309.32	4,057.24	0.00	0.00	0.00
16,800.00	90.48	359.57	12,574.41	4,145.66	-310.08	4,157.07	0.00	0.00	0.00
16,900.00	90.48	359.57	12,573.58	4,245.65	-310.84	4,256.90	0.00	0.00	0.00
17,000.00	90.48	359.57	12,572.74	4,345.65	-311.60	4,356.73	0.00	0.00	0.00
17,100.00	90.48	359.57	12,571.91	4,445.64	-312.36	4,456.56	0.00	0.00	0.00
17,200.00	90.48	359.57	12,571.07	4,545.63	-313.12	4,556.38	0.00	0.00	0.00
17,300.00	90.48	359.57	12,570.24	4,645.63	-313.88	4,656.21	0.00	0.00	0.00
17,400.00	90.48	359.57	12,569.40	4,745.62	-314.64	4,756.04	0.00	0.00	0.00
17,448.09	90.48	359.57	12,569.00	4,793.71	-315.00	4,804.05	0.00	0.00	0.00
TD at 17448.09									

Survey Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Well:	Dominator 25 Fed Com 604H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 5000.1

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Dominator 25 604H F	0.00	0.00	12,567.36	47.39	-280.45	399,244.0939	751,183.2521	32.095041	-103.522225
- plan misses target center by 3.56ft at 12696.12ft MD (12567.41 TVD, 47.51 N, -276.89 E)									
- Point									
Dominator 25 604H B	0.00	0.01	12,569.00	4,793.71	-315.00	403,990.4000	751,148.7000	32.108088	-103.522222
- plan hits target center									
- Point									
Dominator 25 604H L	0.00	0.00	12,570.08	4,663.76	-313.94	403,860.4474	751,149.7594	32.107731	-103.522221
- plan misses target center by 0.07ft at 17318.13ft MD (12570.08 TVD, 4663.76 N, -314.01 E)									
- Point									

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,064.90	1,064.90	Rustler		0.00	
1,409.90	1,409.90	TOS		0.00	
4,925.90	4,925.90	BOS (Fletcher)			
5,184.90	5,184.90	LMAR (Top Delaware)			
5,209.90	5,209.90	BLCN			
6,210.90	6,210.90	CYCN			
7,852.62	7,850.90	BYCN			
9,326.14	9,320.90	Bone Sprg (BSGL)			
9,543.66	9,537.90	U Avalon Sh			
9,741.13	9,734.90	L Avalon Sh			
9,996.74	9,989.90	Basal Avalon			
10,307.48	10,299.90	FBSG_sand			
10,849.77	10,840.90	SBSG_sand			
11,354.98	11,344.90	SBSG_sand base			
11,939.37	11,927.90	TBSG_sand			
12,411.18	12,384.90	WFMP			

Survey Report

Company:	COG Operating L L C	**Local Co-ordinate Reference:**	Well Dominator 25 Fed Com 604H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Site:	Sec. 25, T 25 S. , R 33 E	**MD Reference:**	KB=26' @ 3362.90ft (Rig#3)
Well:	Dominator 25 Fed Com 604H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 5000.1

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
7000	7000	0	0	Start Build 2.00
7198	7198	-5	-5	Start 4921.63 hold at 7197.95 MD
12,120	12,108	-239	-251	Start DLS 12.00 TFO 133.00
12,896	12,607	242	-280	Start 4552.00 hold at 12896.09 MD
17,448	12,569	4794	-315	TD at 17448.09

Checked By: _____ Approved By: _____ Date: _____

CONCHO

COG Operating L L C
Project: Lea County, NM (NAD27 NME)
Site: Sec. 25, T 25 S. , R 33 E
Well: Dominator 25 Fed Com 604H
Wellbore: Wellbore #1
Plan: Plan #1 (Dominator 25 Fed Com 604H/Wellbore #1)

WELL DETAILS: Dominator 25 Fed Com 604H

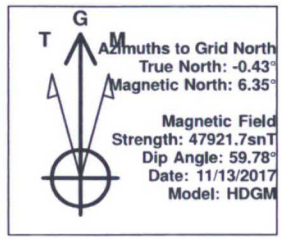
Ground Elevation:: 3336.90
RKB Elevation: KB=26' @ 3362.90ft (Rig#3)
Rig Name: Rig#3

Northing	Easting	Latitude	Longitude
399196.7000	751463.7000	32.094905	-103.521321

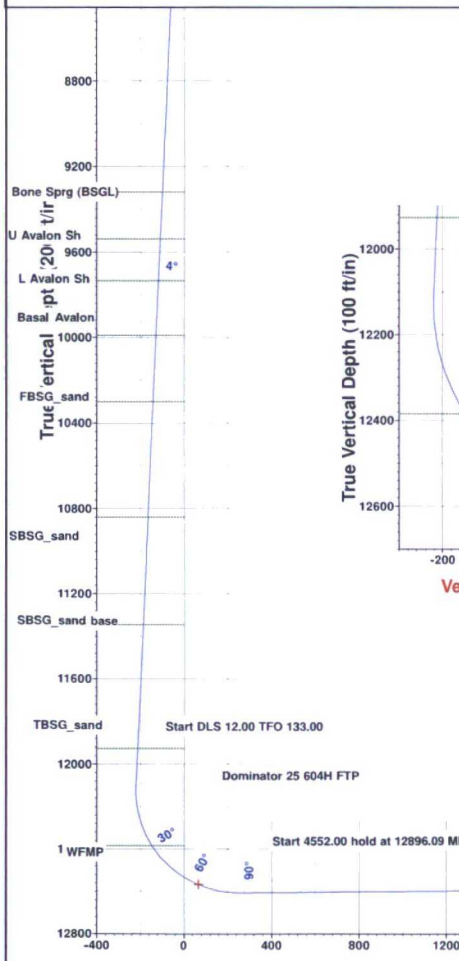
INTEGRITY Directional Services

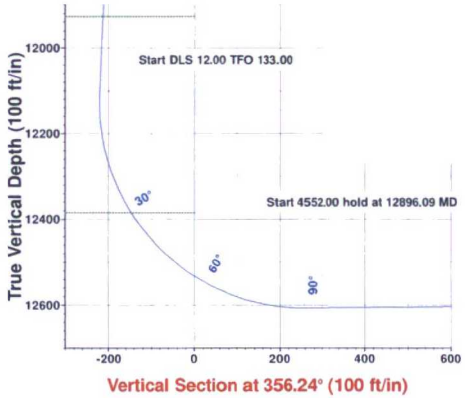
Section Details

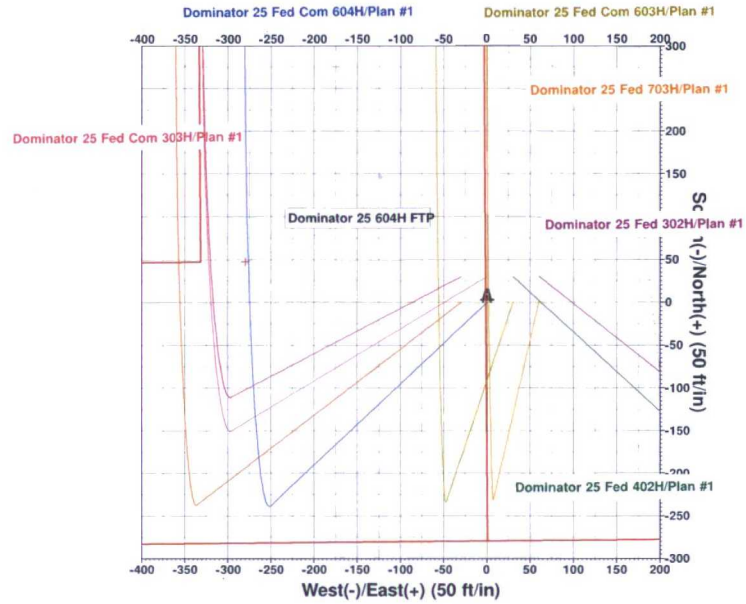
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	7000.00	0.00	0.00	7000.00	0.00	0.00	0.00	0.00	0.00	
3	7197.95	3.96	226.48	7197.79	-4.71	-4.96	2.00	226.48	-4.37	
4	12119.58	3.96	226.48	12107.68	-238.71	-251.35	0.00	0.00	-221.71	
5	12896.09	90.48	359.57	12607.00	242.00	-280.45	12.00	133.00	259.87	
6	17448.09	90.48	359.57	12569.00	4793.71	-315.00	0.00	0.00	4804.05	Dominator 25 604H BHL

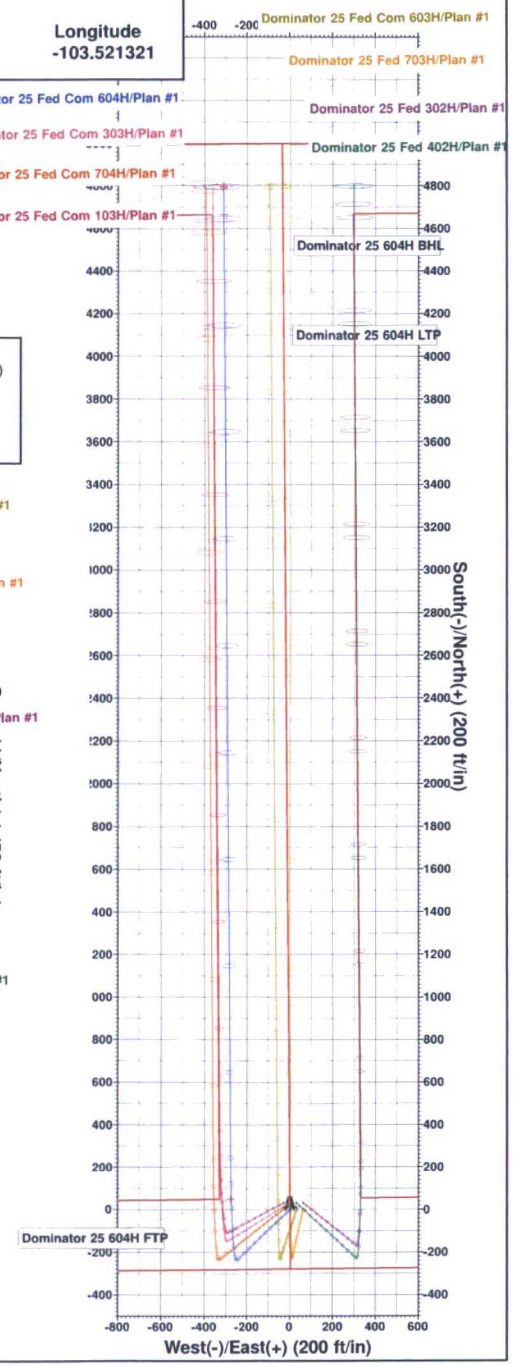


PROJECT DETAILS: Lea County, NM (NAD27 NME)
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid









COG Operating, LLC - Dominator 25 Federal #604H

1. Geologic Formations

TVD of target	12,607' EOL	Pilot hole depth	NA
MD at TD:	17,448'	Deepest expected fresh water:	142'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	1063	Water	
Top of Salt	1408	Salt	
Base of Salt	4924	Salt	
Lamar	5183	Salt Water	
Bell Canyon	5208	Salt Water	
Cherry Canyon	6209	Oil/Gas	
Brushy Canyon	7849	Oil/Gas	
Bone Spring Lime	9319	Oil/Gas	
U. Avalon Shale	9536	Oil/Gas	
L. Avalon Shale	9733	Oil/Gas	
1st Bone Spring Sand	10298	Oil/Gas	
2nd Bone Spring Sand	10839	Oil/Gas	
3rd Bone Spring Sand	11343	Oil/Gas	
Wolfcamp	12383	Target Oil/Gas	
Strawn	14332	Not Penetrated	

2. Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body
13.5"	0	1090	10.75"	45.5	N80	BTC	4.95	1.25	20.97
9.875"	0	11370	7.875"	29.7	P110	BTC	1.33	1.04	3.22
6.75"	0	10870	5.5"	23	P110	BTC	1.85	1.91	3.21
6.75"	10870	17,448	5"	18	P110	BTC	1.85	1.91	3.21
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet

Intermediate casing will be kept at least 1/3 full while running casing.to mitigate collapse. Surface burst based on 0.7 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface and
All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

The 5" casing will be run back 500' into the intermediate casing to ensure the coupling OD clearance is greater than .422" for the cement bond tie in.