

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Matador Production Company
LEASE NO.:	NMNM-113418
WELL NAME & NO.:	Carl Mottek Federal 211H
SURFACE HOLE FOOTAGE:	0326' FNL & 0380' FWL
BOTTOM HOLE FOOTAGE:	0240' FSL & 0330' FWL
LOCATION:	Section 17, T. 24 S., R 34 E., NMPM
COUNTY:	County, New Mexico

A. DRILLING OPERATIONS 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)

Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 3933612

1. A Hydrogen Sulfide (H₂S) Drilling Plan shall be activated 500 feet prior to drilling into the Delaware formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**
2. 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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. 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 is located, this does not include the dog house or stairway area.
4. **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.

B. CASING

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.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

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.

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.

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

Possibility of water and brine flows in the Salado and Castile.

Possibility of lost circulation in the Rustler, Red Beds, and Delaware.

Abnormal pressures may be encountered when penetrating the 3rd Bone Spring Sandstone and all subsequent formations.

- 1. The 13-3/8 inch surface casing shall be set at approximately 1300 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. If salt is encountered, set casing at least 25 feet above the salt.**
 - 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 is to include the lead cement slurry.**
- 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 shall be kept fluid filled while running into hole to meet minimum collapse requirements.

2. The minimum required fill of cement behind the 9-5/8 inch 1st intermediate casing is:

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

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

3. The minimum required fill of cement behind the 7-5/8 X 7 inch 2nd intermediate casing is:

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

Formation below the 7" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

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

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

5. **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.**

C. 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 53.
2. Variance approved to use flex line from BOP to choke manifold. 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.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be psi (**Installing 5M BOP, testing to 2,000 psi**).
4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8 intermediate casing shoe shall be psi. **5M 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.**
5. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 7-5/8 X 7 intermediate casing shoe shall be psi. **10M 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.**

Variance approved to use a 5M annular. The annular must be tested to full working pressure (5000 psi.)

If multibowl option is utilized:

6. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be psi.**
 - 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 9-5/8" and 7-5/8 X 7" casing integrity tests 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.**

10M 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.

Variance approved to use a 5M annular. The annular must be tested to full working pressure (5000 psi.)

7. **The appropriate BLM office shall be notified a minimum of 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).**
 - a. **The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer.**

- b. 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.
- c. The results of the test shall be reported to the appropriate BLM office.
- d. 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.**
- e. 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.
- f. 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.

D. 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.

E. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

F. 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.

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SURFACE USE
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- General Provisions**
- Permit Expiration**
- Archaeology, Paleontology, and Historical Sites**
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- Interim Reclamation**
- Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural 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)

- The entirety of the well pad would be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pads. Topsoil should not be used to construct the berm. No water flow from the uphill side(s) of the pad should be allowed to enter the well pad. The berm should be maintained through the life of the wells and after interim reclamation has been completed.
- Any water erosion that may occur due to the construction of the well pad or facilities during the life of the project would be quickly corrected and proper measures would be taken to prevent future erosion.
- Stockpiling of topsoil is required. The topsoil would be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and would not be used for berming or erosion control.

VI. CONSTRUCTION

A. NOTIFICATION

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

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

B. TOPSOIL

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

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

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing

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

G. ON LEASE ACCESS ROADS**Road Width**

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

Surfacing

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

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

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

Crowning

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

Ditching

Ditching shall be required on both sides of the road.

Turnouts

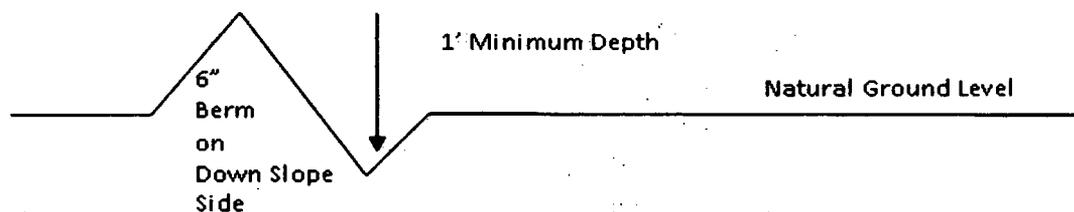
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement

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

Public Access

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

Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

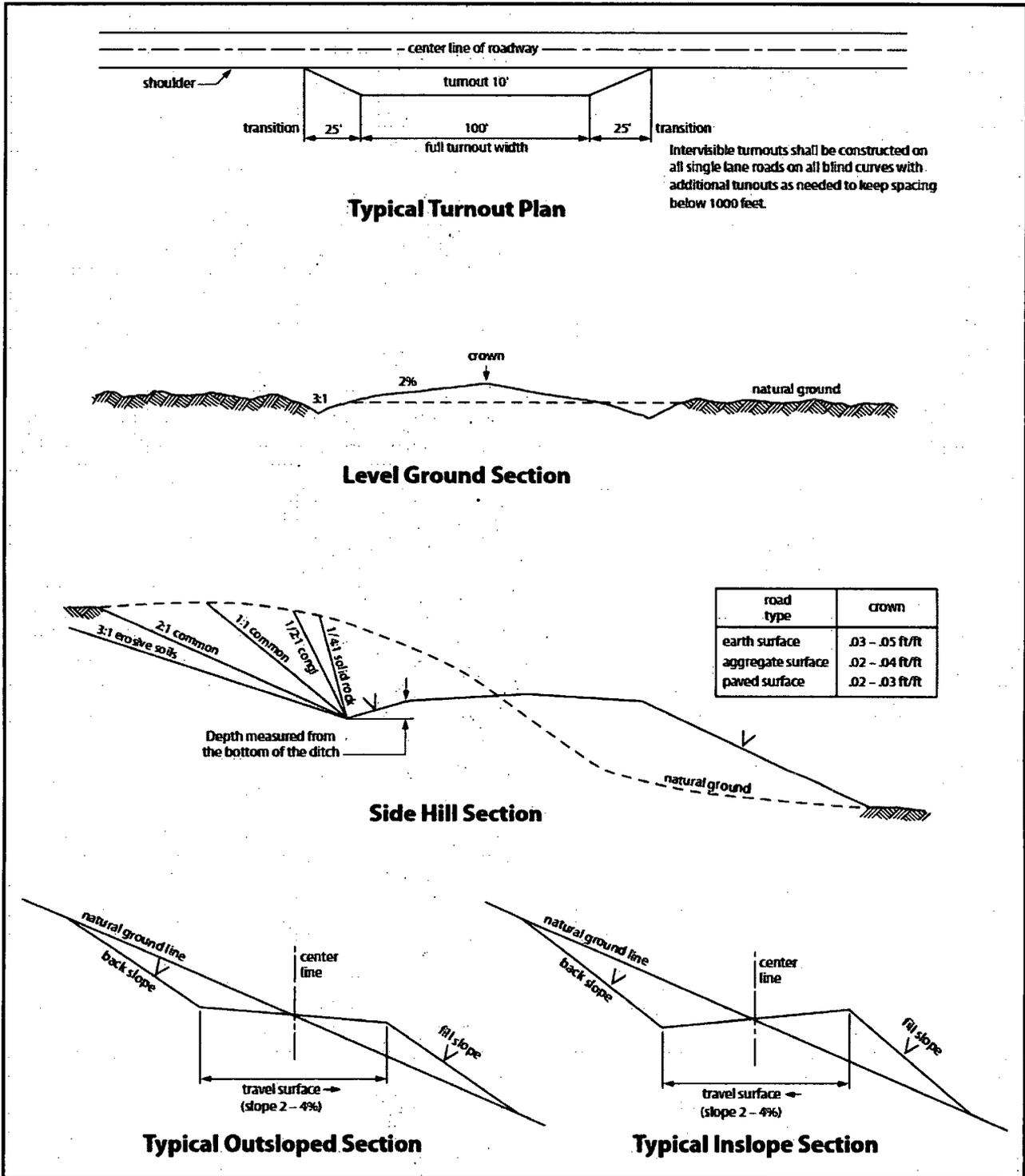


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

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

Exclosure Netting (Open-top Tanks)

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening

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

Open-Vent Exhaust Stack Exclosures

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

Containment Structures

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

Painting Requirement

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

VIII. INTERIM RECLAMATION

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

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

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

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

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

IX. FINAL ABANDONMENT & RECLAMATION

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

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory

revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

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

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

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

Seed Mixture 1 for Loamy Sites

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

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

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

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

*Pounds of pure live seed:

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

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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)

- The entirety of the well pad would be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pads. Topsoil should not be used to construct the berm. No water flow from the uphill side(s) of the pad should be allowed to enter the well pad. The berm should be maintained through the life of the wells and after interim reclamation has been completed.
- Any water erosion that may occur due to the construction of the well pad or facilities during the life of the project would be quickly corrected and proper measures would be taken to prevent future erosion.
- Stockpiling of topsoil is required. The topsoil would be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and would not be used for berming or erosion control.

VI. CONSTRUCTION

A. NOTIFICATION

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

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

B. TOPSOIL

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

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

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing

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

G. ON LEASE ACCESS ROADS**Road Width**

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

Surfacing

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

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

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

Crowning

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

Ditching

Ditching shall be required on both sides of the road.

Turnouts

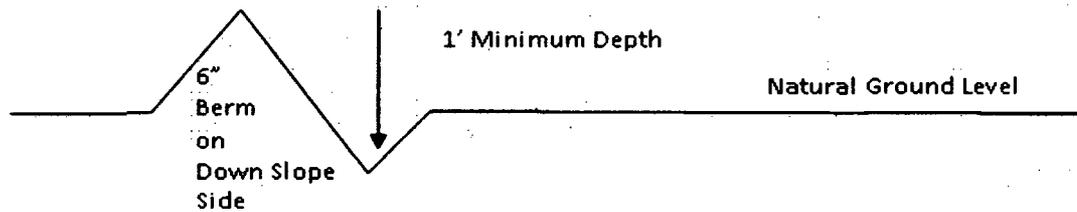
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement

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

Public Access

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

Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

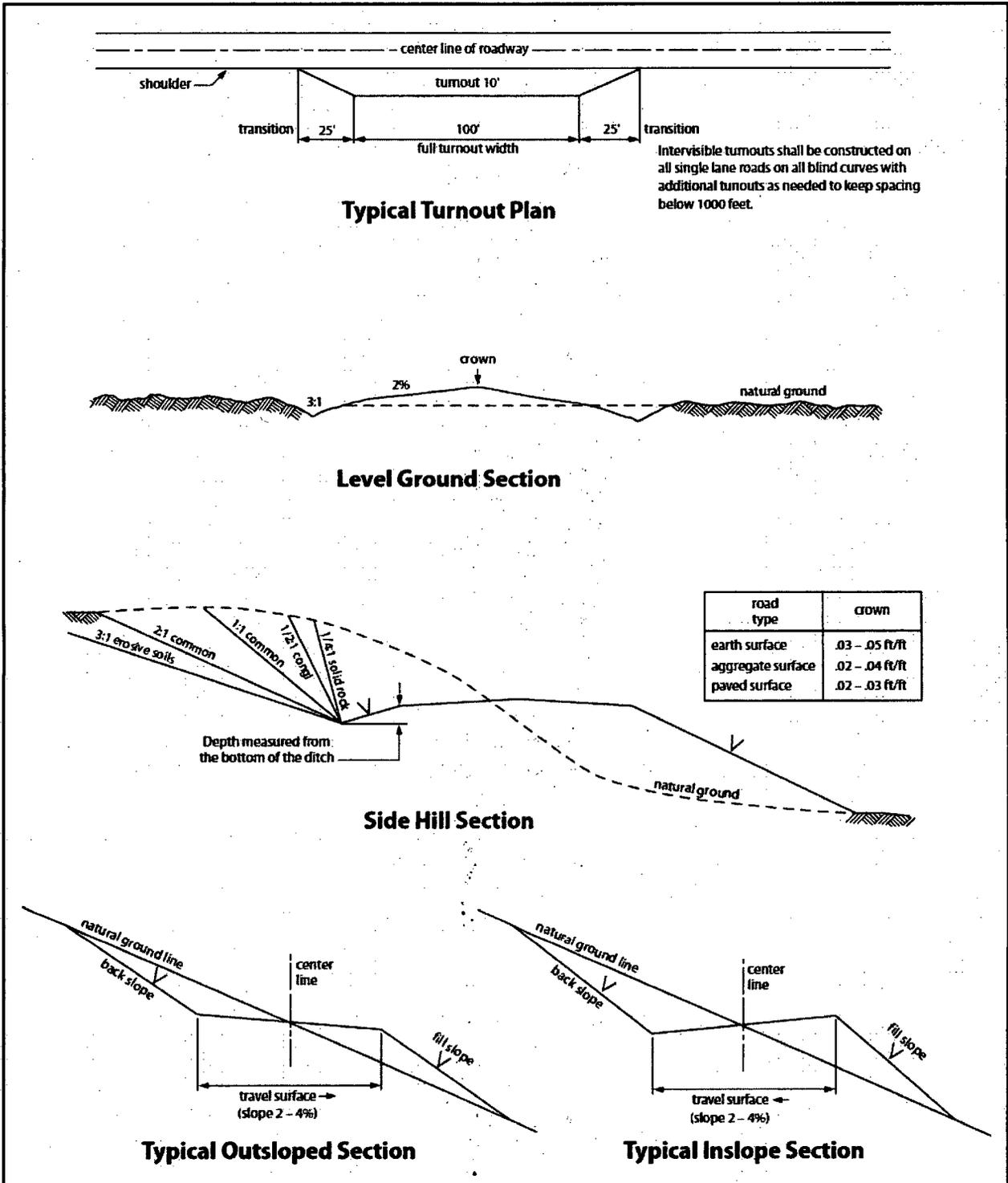


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

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

Exclosure Netting (Open-top Tanks)

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening

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

Open-Vent Exhaust Stack Exclosures

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

Containment Structures

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

Painting Requirement

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

VIII. INTERIM RECLAMATION

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

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

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

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

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

IX. FINAL ABANDONMENT & RECLAMATION

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

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory

revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

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

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

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

Seed Mixture 1 for Loamy Sites

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

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

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

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

*Pounds of pure live seed:

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



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

Operator Certification Data Report

06/19/2018

Operator Certification

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

NAME: Brian Wood

Signed on: 03/13/2018

Title: President

Street Address: 37 Verano Loop

City: Santa Fe

State: NM

Zip: 87508

Phone: (505)466-8120

Email address: afmss@permitswest.com

Field Representative

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:



Hydrogen Sulfide Drilling

Operations Plan

1 H2S safety instructions to the following:

- Characteristics of H2S
- Physical effects and hazards
- Principal and operation of H2S detectors, warning system, and briefing areas
- Evacuation procedures, routes, and first aid
- Proper use of safety equipment & life support systems
- Essential personnel meeting medical evaluation criteria will receive additional training on the proper use of 30-minute pressure demand air packs

2 H2S Detection and Alarm Systems:

- H2S sensor/detectors to be located on the drilling rig floor, in the base of the sub structure / cellar area, and on the mud pits in the shale shaker area. Additional H2S detectors may be placed as deemed necessary.
- An audio alarm system will be installed on the derrick floor and in the doghouse.

3 Windsocks and / Wind Streamers:

- Windsocks at mud pit area will be high enough to be visible.
- Windssock on the rig floor and / top of doghouse will be high enough to be visible.

4 Condition Flags and Signs:

- Warning sign on access road to location
- Flags to be displayed on sign at entrance to location
 - Green Flag – Normal Safe Operation Condition
 - Yellow Flag – Potential Pressure and Danger
 - Red Flag – Danger (H2S present in dangerous concentrations) Only H2S trained personnel admitted on location

5 Well Control Equipment:

- See attached diagram

6 Communication:

- While working under masks, chalkboards will be used for communications.
- Hand signals will be used where chalk board is inappropriate.
- Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.



7 Drilling Stem Testing:

- No DST cores are planned at this time.

8 Drilling contractor supervisor will be required to be familiar with the effects H₂S has on tubulars good and other mechanical equipment.

9 If H₂S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H₂S scavengers if necessary.

11 Emergency Contacts

- Attached

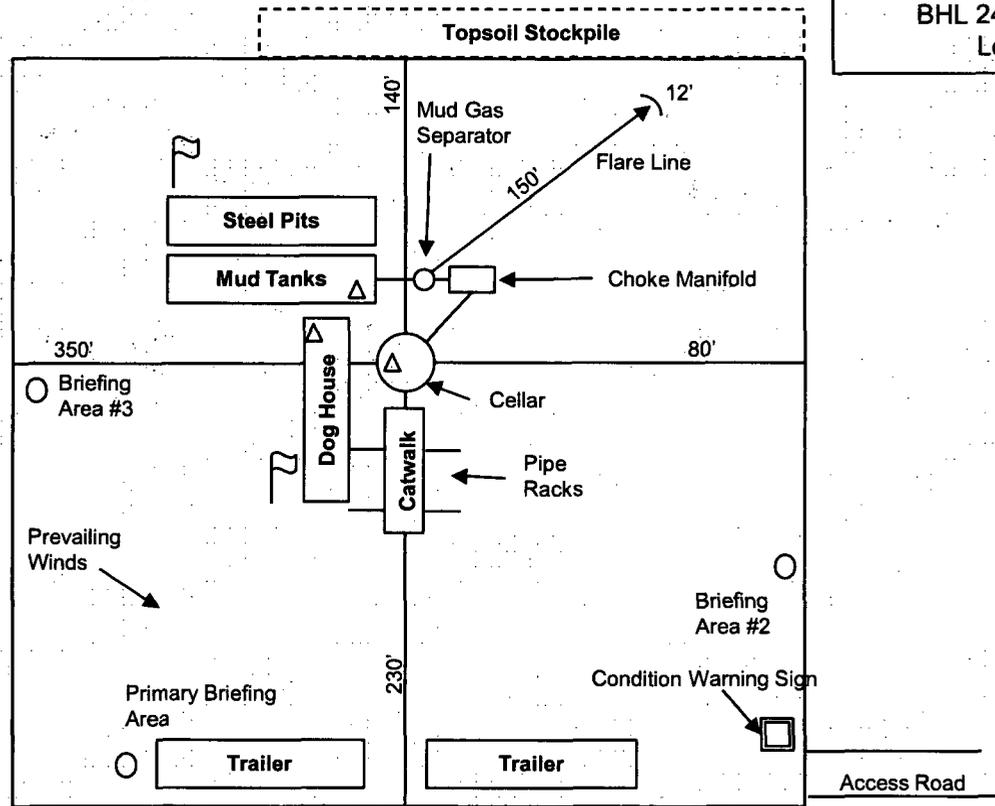
H2S Contingency Plan Emergency Contacts
 Carl Mottek wells
 Matador Production Company
 Sec. 17, T24S, R34E Lea County, NM

<u>Company Office</u>			
Matador Production Company	(972)-371-5200		
<u>Key Personnel</u>			
Name	Title	Office	Mobile
Billy Goodwin	Vice President Drilling	972-371-5210	817-522-2928
Gary Martin	Drilling Superintendent		601-669-1774
Dee Smith	Drilling Superintendent	972-371-5447	972-822-1010
Adam Lange	Drilling Engineer	972-371-5247	214-458-0788
<u>Lea County</u>			
Ambulance			911
Nor Lea General Hospital (Hobbs)		575-397-0560	
State Police (Hobbs)		575-392-5580	
City Police (Hobbs)		575-397-9625	
Sheriff's Office (Lovington)		575-396-3611	
Fire Marshall (Lovington)		575-391-2983	
Volunteer Fire Dept. (Jal)		575-395-2221	
Emergency Management (Lovington)		575-391-2983	
New Mexico Oil Conservation Division (Hobbs)		575-393-6161	575-390-3186
BLM (Hobbs)		575-393-3612	
Hobbs Animal Clinic		575-392-5563	
Dal Paso Animal Hospital (Hobbs)		575-397-2286	
Mountain States Equine (Hobbs)		575-392-7488	
<u>Carlsbad</u>			
BLM		575-234-5972	
<u>Santa Fe</u>			
New Mexico Emergency Response Commission (Santa Fe)		505-476-9600	
New Mexico Emergency Response Commission (Santa Fe) 24 hrs		505-827-9126	
New Mexico State Emergency Operations Center		505-476-9635	
<u>National</u>			
National Emergency Response Center (Washington, D.C.)		800-424-8802	
<u>Medical</u>			
Flight for Life- 4000 24th St.; Lubbock, TX		806-743-9911	
Aerocare- R3, Box 49F; Lubbock, TX		806-747-8923	
Med Flight Air Amb- 2301 Yale Blvd SE, D3; Albuquerque, NM		505-842-4433	
SB Air Med Service- 2505 Clark Carr Loop SE; Albuquerque, NM		505-842-4949	
<u>Other</u>			
Boots & Coots IWC		800-256-9688	or 281-931-8884
Cudd Pressure Control		432-699-0139	or 432-563-3356
Halliburton		575-746-2757	
B.J. Services		575-746-3569	
NM Dept. of Transportation (Roswell)		575-637-7200	

Rig Diagram

Exhibit E-3: Rig Diagram
 Carl Mottek Federal #211H
 Matador Resources Company
 17-24S-34E
 SHL 326' FNL & 380' FWL
 BHL 240' FSL & 330' FWL
 Lea County, NM

-  Wind Direction Indicator
-  H2S Monitors
-  Briefing Areas





Matador Resources
 Lea County, NM
 Carl Mottek 17-24S-34E AR
 211H
 Prelim Plan A
 GL:3578' + KB:29'



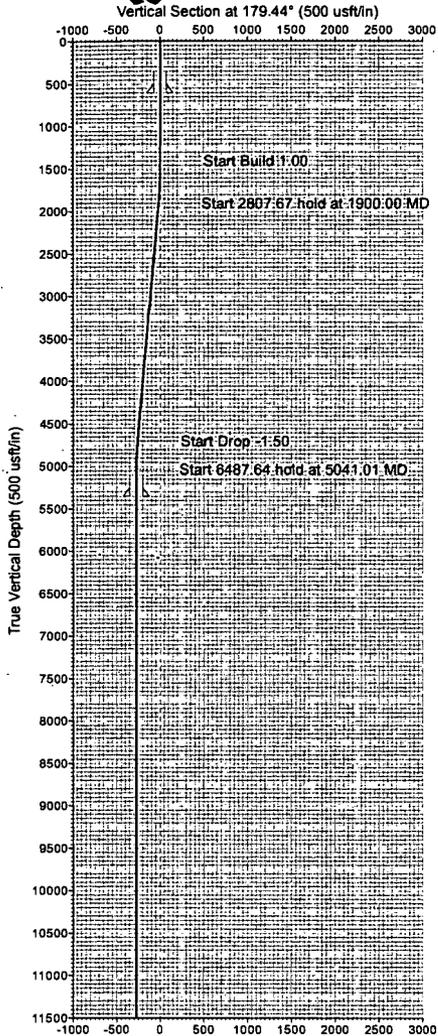
US State Plane 1927 (Exact solution)
 NAD 1927 (NADCON CONUS)
 Clarke 1866
 New Mexico East 3001
 Mean Sea Level

RKB Elevation: Rig @ 3607.00usft (GL:3578' + KB:29')

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	446143.00	758078.00	32.2238090	-103.4987887	

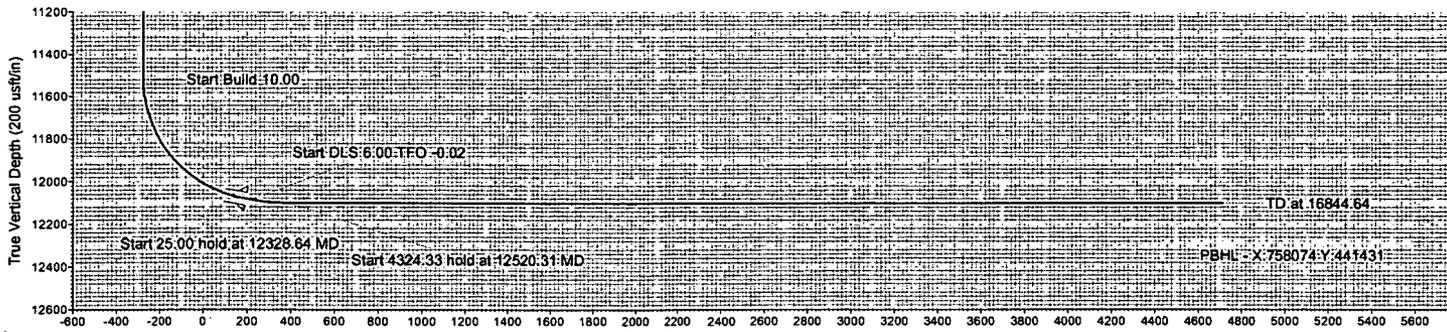
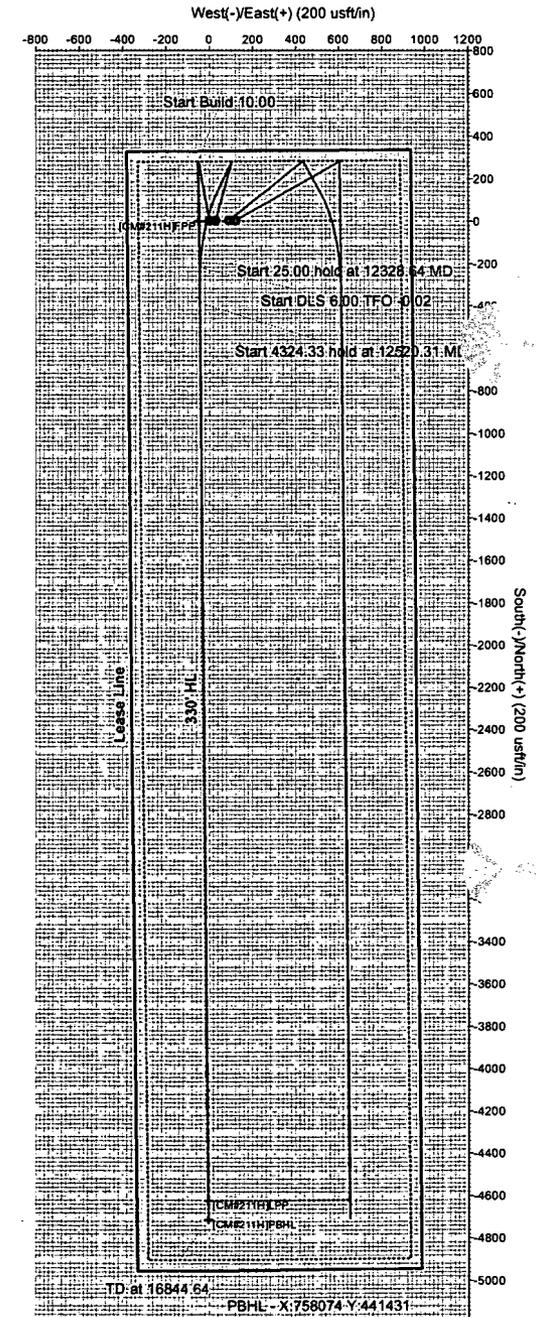
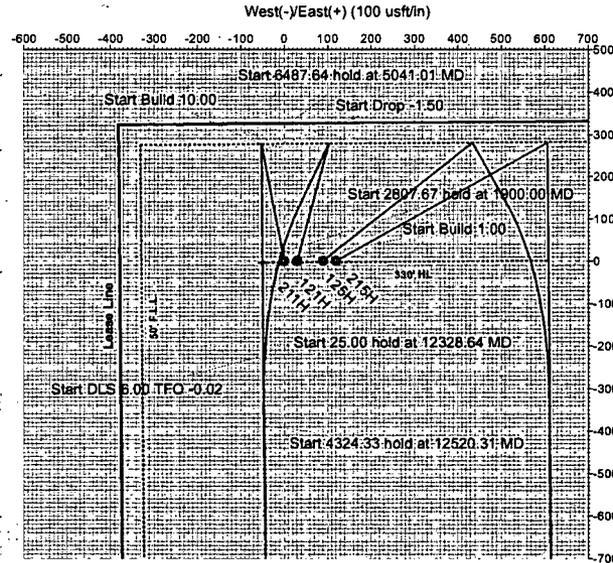
SECTION DETAILS- Lateral

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	0.00
3	1900.00	5.00	349.13	1899.37	21.41	-4.11	1.00	-21.45
4	4707.67	5.00	349.13	4696.35	261.73	-50.26	0.00	-262.20
5	5041.01	0.00	0.00	5029.26	276.00	-53.00	1.50	-276.50
6	11528.64	0.00	0.00	11516.90	276.00	-53.00	0.00	-276.50
7	12328.64	80.00	179.44	12081.15	-197.44	-48.37	10.00	196.98
8	12353.64	80.00	179.44	12085.49	-222.08	-48.13	0.00	221.58
9	12520.31	90.00	179.44	12100.00	-387.88	-46.51	6.00	387.40
10	16844.64	90.00	179.44	12100.00	-4712.00	-4.00	0.00	4711.74



Azimuths to Grid North
 True North: -0.44°
 Magnetic North: 6.35°
 Magnetic Field
 Strength: 48087.8nT
 Dip Angle: 60.00°
 Date: 10/31/2017
 Model: HDGM

Azimuth Corrections
 Total Magnetic Corr. (M to G): 6.35°
 Declination (M to T): 6.80° East

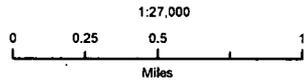


Matador Production Company

Carl Mottek Federal #211H
H₂S Contingency Plan:
2 Mile Radius Map

Section 17, Township 24S, Range 34E
Lea County, New Mexico

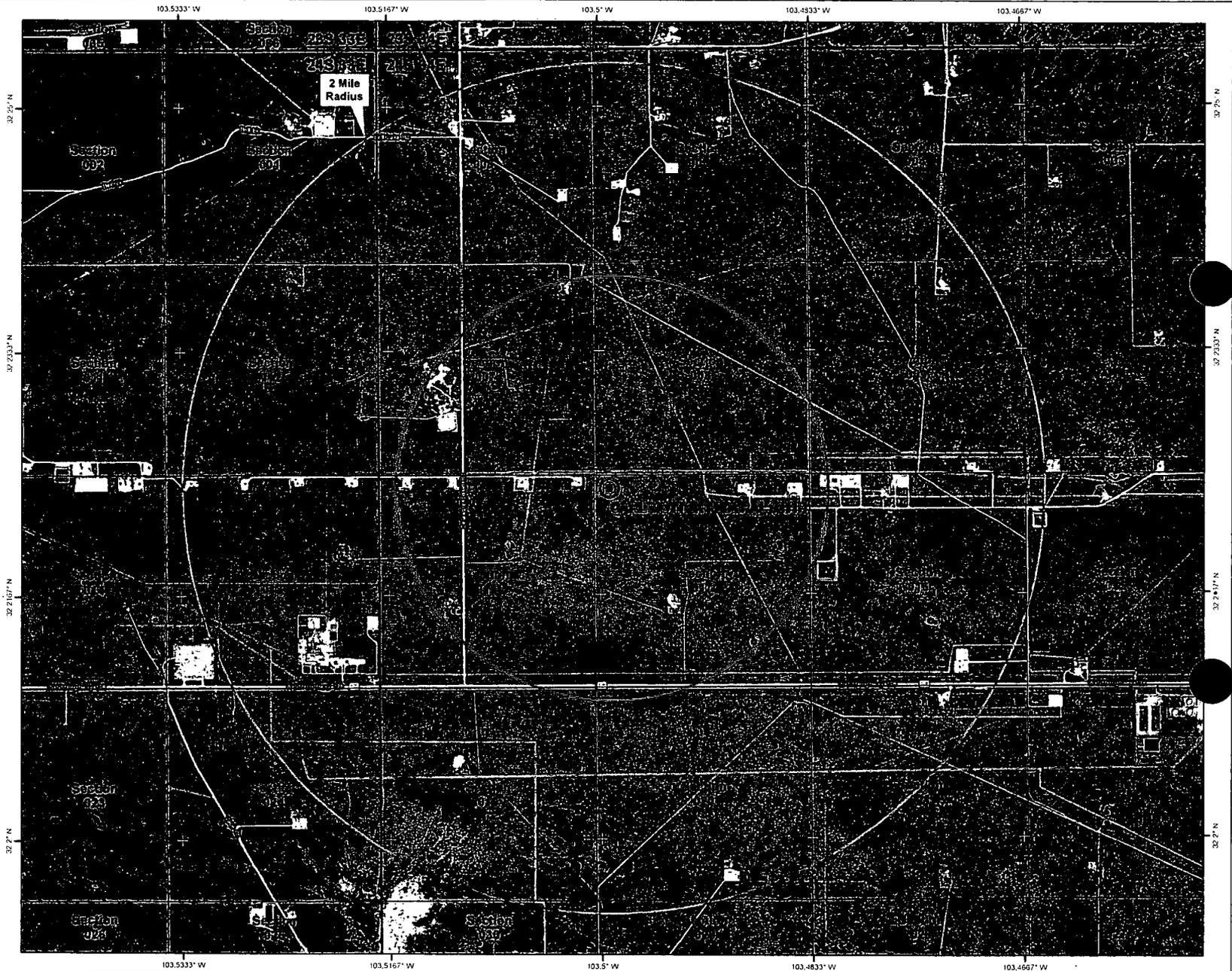
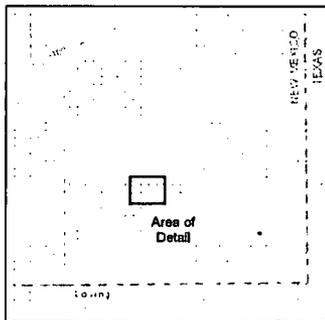
⊙ Surface Hole Location



NAD 1983 New Mexico State Plane East
FIPS 3001 Feet



Prepared by Permits West, Inc., February 14, 2017
for Matador Production Company



Pro Directional Survey Report

Company: Matador Resources	Local Co-ordinate Reference: Well 211H
Project: Lea County, NM	TVD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
Site: Carl Mottek 17-24S-34E AR	MD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
Well: 211H	North Reference: Grid
Wellbore: OH	Survey Calculation Method: Minimum Curvature
Design: Prelim Plan A	Database: WellPlanner1

Project	Lea County, NM		
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	Carl Mottek 17-24S-34E AR				
Site Position:		Northing:	446,143.00 usft	Latitude:	32.2238084
From:	Map	Easting:	758,108.00 usft	Longitude:	-103.4986917
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.45 °

Well	211H					
Well Position	+N/-S	0.00 usft	Northing:	446,143.00 usft	Latitude:	32.2238090
	+E/-W	0.00 usft	Easting:	758,078.00 usft	Longitude:	-103.4987887
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,578.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/31/2017	6.80	60.00	48,087.80

Design	Prelim Plan A				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	179.44	

Survey Tool Program	Date	11/1/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	1,200.00	Prelim Plan A (OH)	MWD+HDGM	OWSG MWD + HRGM	
1,200.00	10,000.00	Prelim Plan A (OH)	MWD+HDGM	OWSG MWD + HRGM	
10,000.00	16,844.64	Prelim Plan A (OH)	MWD+HDGM	OWSG MWD + HRGM	

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	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	0.00
200.00	0.00	0.00	200.00	0.00	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	0.00
400.00	0.00	0.00	400.00	0.00	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	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 3/8"										
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Pro Directional Survey Report

Company: Matador Resources
Project: Lea County, NM
Site: Carl Mottek 17-24S-34E AR
Well: 211H
Wellbore: OH
Design: Prelim Plan A

Local Co-ordinate Reference: Well 211H
TVD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
MD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
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
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	1.00	349.13	1,499.99	0.86	-0.16	-0.86	1.00	1.00	0.00
1,600.00	2.00	349.13	1,599.96	3.43	-0.66	-3.43	1.00	1.00	0.00
1,700.00	3.00	349.13	1,699.86	7.71	-1.48	-7.73	1.00	1.00	0.00
1,800.00	4.00	349.13	1,799.68	13.71	-2.63	-13.73	1.00	1.00	0.00
1,900.00	5.00	349.13	1,899.37	21.41	-4.11	-21.45	1.00	1.00	0.00
2,000.00	5.00	349.13	1,998.99	29.97	-5.76	-30.03	0.00	0.00	0.00
2,100.00	5.00	349.13	2,098.60	38.53	-7.40	-38.60	0.00	0.00	0.00
2,200.00	5.00	349.13	2,198.22	47.09	-9.04	-47.18	0.00	0.00	0.00
2,300.00	5.00	349.13	2,297.84	55.65	-10.69	-55.75	0.00	0.00	0.00
2,400.00	5.00	349.13	2,397.46	64.21	-12.33	-64.32	0.00	0.00	0.00
2,500.00	5.00	349.13	2,497.08	72.77	-13.97	-72.90	0.00	0.00	0.00
2,600.00	5.00	349.13	2,596.70	81.33	-15.62	-81.47	0.00	0.00	0.00
2,700.00	5.00	349.13	2,696.32	89.89	-17.26	-90.05	0.00	0.00	0.00
2,800.00	5.00	349.13	2,795.94	98.44	-18.90	-98.62	0.00	0.00	0.00
2,900.00	5.00	349.13	2,895.56	107.00	-20.55	-107.20	0.00	0.00	0.00
3,000.00	5.00	349.13	2,995.18	115.56	-22.19	-115.77	0.00	0.00	0.00
3,100.00	5.00	349.13	3,094.80	124.12	-23.83	-124.35	0.00	0.00	0.00
3,200.00	5.00	349.13	3,194.42	132.68	-25.48	-132.92	0.00	0.00	0.00
3,300.00	5.00	349.13	3,294.04	141.24	-27.12	-141.50	0.00	0.00	0.00
3,400.00	5.00	349.13	3,393.66	149.80	-28.77	-150.07	0.00	0.00	0.00
3,500.00	5.00	349.13	3,493.28	158.36	-30.41	-158.65	0.00	0.00	0.00
3,600.00	5.00	349.13	3,592.90	166.92	-32.05	-167.22	0.00	0.00	0.00
3,700.00	5.00	349.13	3,692.52	175.48	-33.70	-175.80	0.00	0.00	0.00
3,800.00	5.00	349.13	3,792.14	184.04	-35.34	-184.37	0.00	0.00	0.00
3,900.00	5.00	349.13	3,891.76	192.60	-36.98	-192.95	0.00	0.00	0.00
4,000.00	5.00	349.13	3,991.37	201.15	-38.63	-201.52	0.00	0.00	0.00
4,100.00	5.00	349.13	4,090.99	209.71	-40.27	-210.10	0.00	0.00	0.00
4,200.00	5.00	349.13	4,190.61	218.27	-41.91	-218.67	0.00	0.00	0.00
4,300.00	5.00	349.13	4,290.23	226.83	-43.56	-227.25	0.00	0.00	0.00
4,400.00	5.00	349.13	4,389.85	235.39	-45.20	-235.82	0.00	0.00	0.00
4,500.00	5.00	349.13	4,489.47	243.95	-46.85	-244.40	0.00	0.00	0.00
4,600.00	5.00	349.13	4,589.09	252.51	-48.49	-252.97	0.00	0.00	0.00
4,707.67	5.00	349.13	4,696.35	261.73	-50.26	-262.20	0.00	0.00	0.00
4,800.00	3.62	349.13	4,788.42	268.54	-51.57	-269.03	1.50	-1.50	0.00
4,900.00	2.12	349.13	4,888.29	273.44	-52.51	-273.94	1.50	-1.50	0.00
5,000.00	0.62	349.13	4,988.26	275.78	-52.96	-276.29	1.50	-1.50	0.00

Pro Directional Survey Report

Company: Matador Resources
Project: Lea County, NM
Site: Carl Mottek 17-24S-34E AR
Well: 211H
Wellbore: OH
Design: Prelim Plan A

Local Co-ordinate Reference: Well 211H
TVD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
MD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,041.01	0.00	0.00	5,029.26	276.00	-53.00	-276.50	1.50	-1.50	0.00
5,100.00	0.00	0.00	5,088.26	276.00	-53.00	-276.50	0.00	0.00	0.00
5,200.00	0.00	0.00	5,188.26	276.00	-53.00	-276.50	0.00	0.00	0.00
5,300.00	0.00	0.00	5,288.26	276.00	-53.00	-276.50	0.00	0.00	0.00
5,360.00	0.00	0.00	5,348.26	276.00	-53.00	-276.50	0.00	0.00	0.00
9 5/8"									
5,400.00	0.00	0.00	5,388.26	276.00	-53.00	-276.50	0.00	0.00	0.00
5,500.00	0.00	0.00	5,488.26	276.00	-53.00	-276.50	0.00	0.00	0.00
5,600.00	0.00	0.00	5,588.26	276.00	-53.00	-276.50	0.00	0.00	0.00
5,700.00	0.00	0.00	5,688.26	276.00	-53.00	-276.50	0.00	0.00	0.00
5,800.00	0.00	0.00	5,788.26	276.00	-53.00	-276.50	0.00	0.00	0.00
5,900.00	0.00	0.00	5,888.26	276.00	-53.00	-276.50	0.00	0.00	0.00
6,000.00	0.00	0.00	5,988.26	276.00	-53.00	-276.50	0.00	0.00	0.00
6,100.00	0.00	0.00	6,088.26	276.00	-53.00	-276.50	0.00	0.00	0.00
6,200.00	0.00	0.00	6,188.26	276.00	-53.00	-276.50	0.00	0.00	0.00
6,300.00	0.00	0.00	6,288.26	276.00	-53.00	-276.50	0.00	0.00	0.00
6,400.00	0.00	0.00	6,388.26	276.00	-53.00	-276.50	0.00	0.00	0.00
6,500.00	0.00	0.00	6,488.26	276.00	-53.00	-276.50	0.00	0.00	0.00
6,600.00	0.00	0.00	6,588.26	276.00	-53.00	-276.50	0.00	0.00	0.00
6,700.00	0.00	0.00	6,688.26	276.00	-53.00	-276.50	0.00	0.00	0.00
6,800.00	0.00	0.00	6,788.26	276.00	-53.00	-276.50	0.00	0.00	0.00
6,900.00	0.00	0.00	6,888.26	276.00	-53.00	-276.50	0.00	0.00	0.00
7,000.00	0.00	0.00	6,988.26	276.00	-53.00	-276.50	0.00	0.00	0.00
7,100.00	0.00	0.00	7,088.26	276.00	-53.00	-276.50	0.00	0.00	0.00
7,200.00	0.00	0.00	7,188.26	276.00	-53.00	-276.50	0.00	0.00	0.00
7,300.00	0.00	0.00	7,288.26	276.00	-53.00	-276.50	0.00	0.00	0.00
7,400.00	0.00	0.00	7,388.26	276.00	-53.00	-276.50	0.00	0.00	0.00
7,500.00	0.00	0.00	7,488.26	276.00	-53.00	-276.50	0.00	0.00	0.00
7,600.00	0.00	0.00	7,588.26	276.00	-53.00	-276.50	0.00	0.00	0.00
7,700.00	0.00	0.00	7,688.26	276.00	-53.00	-276.50	0.00	0.00	0.00
7,800.00	0.00	0.00	7,788.26	276.00	-53.00	-276.50	0.00	0.00	0.00
7,900.00	0.00	0.00	7,888.26	276.00	-53.00	-276.50	0.00	0.00	0.00
8,000.00	0.00	0.00	7,988.26	276.00	-53.00	-276.50	0.00	0.00	0.00
8,100.00	0.00	0.00	8,088.26	276.00	-53.00	-276.50	0.00	0.00	0.00
8,200.00	0.00	0.00	8,188.26	276.00	-53.00	-276.50	0.00	0.00	0.00
8,300.00	0.00	0.00	8,288.26	276.00	-53.00	-276.50	0.00	0.00	0.00
8,400.00	0.00	0.00	8,388.26	276.00	-53.00	-276.50	0.00	0.00	0.00
8,500.00	0.00	0.00	8,488.26	276.00	-53.00	-276.50	0.00	0.00	0.00
8,600.00	0.00	0.00	8,588.26	276.00	-53.00	-276.50	0.00	0.00	0.00
8,700.00	0.00	0.00	8,688.26	276.00	-53.00	-276.50	0.00	0.00	0.00
8,800.00	0.00	0.00	8,788.26	276.00	-53.00	-276.50	0.00	0.00	0.00
8,900.00	0.00	0.00	8,888.26	276.00	-53.00	-276.50	0.00	0.00	0.00
9,000.00	0.00	0.00	8,988.26	276.00	-53.00	-276.50	0.00	0.00	0.00
9,100.00	0.00	0.00	9,088.26	276.00	-53.00	-276.50	0.00	0.00	0.00

Pro Directional Survey Report

Company: Matador Resources
Project: Lea County, NM
Site: Carl Mottek 17-24S-34E AR
Well: 211H
Wellbore: OH
Design: Prelim Plan A

Local Co-ordinate Reference: Well 211H
TVD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
MD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,200.00	0.00	0.00	9,188.26	276.00	-53.00	-276.50	0.00	0.00	0.00
9,300.00	0.00	0.00	9,288.26	276.00	-53.00	-276.50	0.00	0.00	0.00
9,400.00	0.00	0.00	9,388.26	276.00	-53.00	-276.50	0.00	0.00	0.00
9,500.00	0.00	0.00	9,488.26	276.00	-53.00	-276.50	0.00	0.00	0.00
9,600.00	0.00	0.00	9,588.26	276.00	-53.00	-276.50	0.00	0.00	0.00
9,700.00	0.00	0.00	9,688.26	276.00	-53.00	-276.50	0.00	0.00	0.00
9,800.00	0.00	0.00	9,788.26	276.00	-53.00	-276.50	0.00	0.00	0.00
9,900.00	0.00	0.00	9,888.26	276.00	-53.00	-276.50	0.00	0.00	0.00
10,000.00	0.00	0.00	9,988.26	276.00	-53.00	-276.50	0.00	0.00	0.00
10,100.00	0.00	0.00	10,088.26	276.00	-53.00	-276.50	0.00	0.00	0.00
10,200.00	0.00	0.00	10,188.26	276.00	-53.00	-276.50	0.00	0.00	0.00
10,300.00	0.00	0.00	10,288.26	276.00	-53.00	-276.50	0.00	0.00	0.00
10,400.00	0.00	0.00	10,388.26	276.00	-53.00	-276.50	0.00	0.00	0.00
10,500.00	0.00	0.00	10,488.26	276.00	-53.00	-276.50	0.00	0.00	0.00
10,600.00	0.00	0.00	10,588.26	276.00	-53.00	-276.50	0.00	0.00	0.00
10,700.00	0.00	0.00	10,688.26	276.00	-53.00	-276.50	0.00	0.00	0.00
10,800.00	0.00	0.00	10,788.26	276.00	-53.00	-276.50	0.00	0.00	0.00
10,900.00	0.00	0.00	10,888.26	276.00	-53.00	-276.50	0.00	0.00	0.00
11,000.00	0.00	0.00	10,988.26	276.00	-53.00	-276.50	0.00	0.00	0.00
11,100.00	0.00	0.00	11,088.26	276.00	-53.00	-276.50	0.00	0.00	0.00
11,200.00	0.00	0.00	11,188.26	276.00	-53.00	-276.50	0.00	0.00	0.00
11,300.00	0.00	0.00	11,288.26	276.00	-53.00	-276.50	0.00	0.00	0.00
11,400.00	0.00	0.00	11,388.26	276.00	-53.00	-276.50	0.00	0.00	0.00
11,500.00	0.00	0.00	11,488.26	276.00	-53.00	-276.50	0.00	0.00	0.00
11,528.64	0.00	0.00	11,516.90	276.00	-53.00	-276.50	0.00	0.00	0.00
11,550.00	2.14	179.44	11,538.25	275.60	-53.00	-276.11	10.00	10.00	0.00
11,600.00	7.14	179.44	11,588.07	271.56	-52.96	-272.07	10.00	10.00	0.00
11,650.00	12.14	179.44	11,637.35	263.20	-52.87	-263.70	10.00	10.00	0.00
11,700.00	17.14	179.44	11,685.72	250.57	-52.75	-251.07	10.00	10.00	0.00
11,750.00	22.14	179.44	11,732.79	233.77	-52.59	-234.27	10.00	10.00	0.00
11,800.00	27.14	179.44	11,778.23	212.94	-52.38	-213.44	10.00	10.00	0.00
11,850.00	32.14	179.44	11,821.67	188.22	-52.14	-188.72	10.00	10.00	0.00
11,900.00	37.14	179.44	11,862.80	159.81	-51.86	-160.31	10.00	10.00	0.00
11,950.00	42.14	179.44	11,901.29	127.93	-51.55	-128.43	10.00	10.00	0.00
12,000.00	47.14	179.44	11,936.86	92.81	-51.21	-93.31	10.00	10.00	0.00
12,050.00	52.14	179.44	11,969.23	54.73	-50.84	-55.22	10.00	10.00	0.00
12,100.00	57.14	179.44	11,998.16	13.97	-50.44	-14.46	10.00	10.00	0.00
12,150.00	62.14	179.44	12,023.43	-29.16	-50.02	28.67	10.00	10.00	0.00
12,200.00	67.14	179.44	12,044.84	-74.32	-49.58	73.83	10.00	10.00	0.00
12,250.00	72.14	179.44	12,062.23	-121.18	-49.12	120.69	10.00	10.00	0.00
12,300.00	77.14	179.44	12,075.48	-169.37	-48.65	168.89	10.00	10.00	0.00
12,328.00	79.94	179.44	12,081.04	-196.81	-48.38	196.33	10.00	10.00	0.00

7"

Pro Directional Survey Report

Company: Matador Resources
Project: Lea County, NM
Site: Carl Mottek 17-24S-34E AR
Well: 211H
Wellbore: OH
Design: Prelim Plan A

Local Co-ordinate Reference: Well 211H
TVD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
MD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,328.64	80.00	179.44	12,081.15	-197.44	-48.37	196.96	10.00	10.00	0.00
12,353.64	80.00	179.44	12,085.49	-222.06	-48.13	221.58	0.00	0.00	0.00
12,400.00	82.78	179.44	12,092.43	-267.89	-47.68	267.41	6.00	6.00	0.00
12,450.00	85.78	179.44	12,097.42	-317.63	-47.20	317.16	6.00	6.00	0.00
12,500.00	88.78	179.44	12,099.79	-367.57	-46.71	367.10	6.00	6.00	0.00
12,520.31	90.00	179.44	12,100.00	-387.88	-46.51	387.40	6.00	6.00	0.00
12,600.00	90.00	179.44	12,100.00	-467.56	-45.72	467.09	0.00	0.00	0.00
12,700.00	90.00	179.44	12,100.00	-567.56	-44.74	567.09	0.00	0.00	0.00
12,800.00	90.00	179.44	12,100.00	-667.55	-43.76	667.09	0.00	0.00	0.00
12,900.00	90.00	179.44	12,100.00	-767.55	-42.77	767.09	0.00	0.00	0.00
13,000.00	90.00	179.44	12,100.00	-867.54	-41.79	867.09	0.00	0.00	0.00
13,100.00	90.00	179.44	12,100.00	-967.54	-40.81	967.09	0.00	0.00	0.00
13,200.00	90.00	179.44	12,100.00	-1,067.53	-39.83	1,067.09	0.00	0.00	0.00
13,300.00	90.00	179.44	12,100.00	-1,167.53	-38.84	1,167.09	0.00	0.00	0.00
13,400.00	90.00	179.44	12,100.00	-1,267.52	-37.86	1,267.09	0.00	0.00	0.00
13,500.00	90.00	179.44	12,100.00	-1,367.52	-36.88	1,367.09	0.00	0.00	0.00
13,600.00	90.00	179.44	12,100.00	-1,467.51	-35.89	1,467.09	0.00	0.00	0.00
13,700.00	90.00	179.44	12,100.00	-1,567.51	-34.91	1,567.09	0.00	0.00	0.00
13,800.00	90.00	179.44	12,100.00	-1,667.51	-33.93	1,667.09	0.00	0.00	0.00
13,900.00	90.00	179.44	12,100.00	-1,767.50	-32.94	1,767.09	0.00	0.00	0.00
14,000.00	90.00	179.44	12,100.00	-1,867.50	-31.96	1,867.09	0.00	0.00	0.00
14,100.00	90.00	179.44	12,100.00	-1,967.49	-30.98	1,967.09	0.00	0.00	0.00
14,200.00	90.00	179.44	12,100.00	-2,067.49	-30.00	2,067.09	0.00	0.00	0.00
14,300.00	90.00	179.44	12,100.00	-2,167.48	-29.01	2,167.09	0.00	0.00	0.00
14,400.00	90.00	179.44	12,100.00	-2,267.48	-28.03	2,267.09	0.00	0.00	0.00
14,500.00	90.00	179.44	12,100.00	-2,367.47	-27.05	2,367.09	0.00	0.00	0.00
14,600.00	90.00	179.44	12,100.00	-2,467.47	-26.06	2,467.09	0.00	0.00	0.00
14,700.00	90.00	179.44	12,100.00	-2,567.46	-25.08	2,567.09	0.00	0.00	0.00
14,800.00	90.00	179.44	12,100.00	-2,667.46	-24.10	2,667.09	0.00	0.00	0.00
14,900.00	90.00	179.44	12,100.00	-2,767.45	-23.12	2,767.09	0.00	0.00	0.00
15,000.00	90.00	179.44	12,100.00	-2,867.45	-22.13	2,867.09	0.00	0.00	0.00
15,100.00	90.00	179.44	12,100.00	-2,967.44	-21.15	2,967.09	0.00	0.00	0.00
15,200.00	90.00	179.44	12,100.00	-3,067.44	-20.17	3,067.09	0.00	0.00	0.00
15,300.00	90.00	179.44	12,100.00	-3,167.43	-19.18	3,167.09	0.00	0.00	0.00
15,400.00	90.00	179.44	12,100.00	-3,267.43	-18.20	3,267.09	0.00	0.00	0.00
15,500.00	90.00	179.44	12,100.00	-3,367.42	-17.22	3,367.09	0.00	0.00	0.00
15,600.00	90.00	179.44	12,100.00	-3,467.42	-16.23	3,467.09	0.00	0.00	0.00
15,700.00	90.00	179.44	12,100.00	-3,567.41	-15.25	3,567.09	0.00	0.00	0.00
15,800.00	90.00	179.44	12,100.00	-3,667.41	-14.27	3,667.09	0.00	0.00	0.00
15,900.00	90.00	179.44	12,100.00	-3,767.40	-13.29	3,767.09	0.00	0.00	0.00
16,000.00	90.00	179.44	12,100.00	-3,867.40	-12.30	3,867.09	0.00	0.00	0.00
16,100.00	90.00	179.44	12,100.00	-3,967.39	-11.32	3,967.09	0.00	0.00	0.00
16,200.00	90.00	179.44	12,100.00	-4,067.39	-10.34	4,067.09	0.00	0.00	0.00
16,300.00	90.00	179.44	12,100.00	-4,167.38	-9.35	4,167.09	0.00	0.00	0.00

Pro Directional Survey Report

Company: Matador Resources	Local Co-ordinate Reference: Well 211H	
Project: Lea County, NM	TVD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')	
Site: Carl Mottek 17-24S-34E AR	MD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')	
Well: 211H	North Reference: Grid	
Wellbore: OH	Survey Calculation Method: Minimum Curvature	
Design: Prelim Plan A	Database: WellPlanner1	

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,400.00	90.00	179.44	12,100.00	-4,267.38	-8.37	4,267.09	0.00	0.00	0.00
16,500.00	90.00	179.44	12,100.00	-4,367.37	-7.39	4,367.09	0.00	0.00	0.00
16,600.00	90.00	179.44	12,100.00	-4,467.37	-6.40	4,467.09	0.00	0.00	0.00
16,700.00	90.00	179.44	12,100.00	-4,567.37	-5.42	4,567.09	0.00	0.00	0.00
16,800.00	90.00	179.44	12,100.00	-4,667.36	-4.44	4,667.09	0.00	0.00	0.00
16,844.64	90.00	179.44	12,100.00	-4,712.00	-4.00	4,711.74	0.00	0.00	0.00

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
[CM#211H]FPP - hit/miss target - Shape - Point	0.00	0.00	0.00	-4.00	-50.00	446,139.00	758,028.00	32.2237991	-103.4989505
- plan misses target center by 50.16usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
[CM#211H]LPP - plan misses target center by 4622.00usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	-4,622.00	-5.00	441,521.00	758,073.00	32.2111046	-103.4989209
[CM#211H]PBHL - plan hits target center - Point	0.00	0.00	12,100.00	-4,712.00	-4.00	441,431.00	758,074.00	32.2108572	-103.4989199

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
600.00	600.00	13 3/8"	13-3/8	17-1/2
5,360.00	5,348.26	9 5/8"	9-5/8	12-1/4
12,328.00	12,081.04	7"	7	7-1/2

Checked By: _____ Approved By: _____ Date: _____

Pro Directional Anticollision Report

Company: Matador Resources	Local Co-ordinate Reference: Well 211H
Project: Lea County, NM	TVD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
Reference Site: Carl Mottek 17-24S-34E AR	MD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
Site Error: 0.00 usft	North Reference: Grid
Reference Well: 211H	Survey Calculation Method: Minimum Curvature
Well Error: 0.00 usft	Output errors are at: 2.00 sigma
Reference Wellbore: OH	Database: WellPlanner1
Reference Design: Prelim Plan A	Offset TVD Reference: Offset Datum

Reference: Prelim Plan A	
Filter type: NO GLOBAL FILTER: Using user defined selection & filtering criteria	
Interpolation Method: MD Interval 100.00usft	Error Model: ISCWSA
Depth Range: Unlimited	Scan Method: Closest Approach 3D
Results Limited by: Maximum center-center distance of 1,750.59 usft	Error Surface: Pedal Curve
Warning Levels Evaluated at: 2.00 Sigma	Casing Method: Not applied

Survey Tool Program	Date 11/1/2017
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From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	1,200.00	Prelim Plan A (OH)	MWD+HDGM	OWSG MWD + HRGM
1,200.00	10,000.00	Prelim Plan A (OH)	MWD+HDGM	OWSG MWD + HRGM
10,000.00	16,844.64	Prelim Plan A (OH)	MWD+HDGM	OWSG MWD + HRGM

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Carl Mottek 17-24S-34E AR						
121H - OH - Prelim Plan A	1,400.00	1,400.00	30.00	21.43	3.502	CC, ES
121H - OH - Prelim Plan A	10,432.43	10,443.27	141.54	78.40	2.242	SF
125H - OH - Prelim Plan A	1,400.00	1,400.00	90.01	81.44	10.506	CC, ES
125H - OH - Prelim Plan A	10,105.61	10,112.68	487.02	423.91	7.717	SF
215H - OH - Prelim Plan A	1,400.00	1,400.00	120.00	111.44	14.008	CC, ES
215H - OH - Prelim Plan A	16,844.64	16,854.76	656.02	502.40	4.270	SF

Offset Design Carl Mottek 17-24S-34E AR - 121H - OH - Prelim Plan A													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDGM, 1200-MWD+HDGM, 10000-MWD+HDGM													Offset Well Error: 0.00 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N-/S (usft)	+E-/W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	30.00	30.00				
100.00	100.00	100.00	100.00	0.13	0.13	90.00	0.00	30.00	30.00	29.75	0.25	117.871	
200.00	200.00	200.00	200.00	0.49	0.49	90.00	0.00	30.00	30.00	29.03	0.97	30.881	
300.00	300.00	300.00	300.00	0.84	0.84	90.00	0.00	30.00	30.00	28.31	1.69	17.768	
400.00	400.00	400.00	400.00	1.20	1.20	90.00	0.00	30.00	30.00	27.59	2.41	12.472	
500.00	500.00	500.00	500.00	1.56	1.56	90.00	0.00	30.00	30.00	26.88	3.12	9.608	
600.00	600.00	600.00	600.00	1.92	1.92	90.00	0.00	30.00	30.00	26.16	3.84	7.814	
700.00	700.00	700.00	700.00	2.28	2.28	90.00	0.00	30.00	30.00	25.44	4.56	6.584	
800.00	800.00	800.00	800.00	2.64	2.64	90.00	0.00	30.00	30.00	24.73	5.27	5.689	
900.00	900.00	900.00	900.00	3.00	3.00	90.00	0.00	30.00	30.00	24.01	5.99	5.008	
1,000.00	1,000.00	1,000.00	1,000.00	3.35	3.35	90.00	0.00	30.00	30.00	23.29	6.71	4.473	
1,100.00	1,100.00	1,100.00	1,100.00	3.71	3.71	90.00	0.00	30.00	30.00	22.58	7.42	4.041	
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	90.00	0.00	30.00	30.00	21.86	8.14	3.685	
1,300.00	1,300.00	1,300.00	1,300.00	4.25	4.25	90.00	0.00	30.00	30.00	21.49	8.51	3.527	
1,400.00	1,400.00	1,400.00	1,400.00	4.28	4.28	90.00	0.00	30.00	30.00	21.43	8.57	3.502	CC, ES
1,500.00	1,499.99	1,500.01	1,499.99	4.34	4.34	102.50	0.00	30.00	30.18	21.49	8.69	3.474	
1,600.00	1,599.96	1,599.96	1,599.96	4.43	4.43	107.24	0.00	30.00	30.85	21.99	8.86	3.481	
1,700.00	1,699.86	1,699.84	1,699.84	4.55	4.55	113.07	0.84	30.22	32.44	23.35	9.09	3.568	
1,800.00	1,799.68	1,799.77	1,799.72	4.69	4.68	117.96	3.37	30.89	35.08	25.71	9.37	3.744	

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

Pro Directional Anticollision Report

Company: Matador Resources
Project: Lea County, NM
Reference Site: Carl Mottek 17-24S-34E AR
Site Error: 0.00 usft
Reference Well: 211H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 211H
TVD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
MD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design Carl Mottek 17-24S-34E AR - 121H - OH - Prelim Plan A													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM, 1200-MWD+HDGM, 10000-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
1,900.00	1,899.37	1,899.72	1,899.58	4.85	4.85	121.76	7.58	32.00	38.68	28.98	9.70	3.989		
2,000.00	1,998.99	1,999.72	1,999.40	5.04	5.03	123.57	13.47	33.56	42.64	32.58	10.07	4.236		
2,100.00	2,098.60	2,099.75	2,099.12	5.25	5.23	122.95	21.06	35.57	46.39	35.91	10.48	4.428		
2,200.00	2,198.22	2,200.32	2,198.67	5.47	5.45	121.42	29.48	37.80	50.04	39.12	10.42	4.582		
2,300.00	2,297.84	2,300.40	2,298.21	5.72	5.69	120.10	37.90	40.02	53.73	42.33	11.40	4.713		
2,400.00	2,397.46	2,400.47	2,397.76	5.97	5.94	118.95	46.32	42.25	57.44	45.53	11.91	4.824		
2,500.00	2,497.08	2,500.55	2,497.30	6.24	6.21	117.94	54.74	44.48	61.17	48.73	12.44	4.919		
2,600.00	2,596.70	2,600.62	2,596.84	6.52	6.48	117.05	63.15	46.70	64.92	51.93	12.99	4.998		
2,700.00	2,696.32	2,700.70	2,696.39	6.81	6.77	116.25	71.57	48.93	68.68	55.12	13.56	5.065		
2,800.00	2,795.94	2,800.77	2,795.93	7.10	7.06	115.54	79.99	51.16	72.45	58.30	14.15	5.122		
2,900.00	2,895.56	2,900.85	2,895.48	7.40	7.36	114.90	88.41	53.38	76.23	61.49	14.75	5.169		
3,000.00	2,995.18	3,000.92	2,995.02	7.71	7.67	114.31	96.83	55.61	80.03	64.66	15.36	5.209		
3,100.00	3,094.80	3,101.00	3,094.57	8.03	7.98	113.79	105.25	57.84	83.83	67.84	15.99	5.243		
3,200.00	3,194.42	3,201.07	3,194.11	8.35	8.30	113.30	113.67	60.07	87.63	71.01	16.62	5.271		
3,300.00	3,294.04	3,301.15	3,293.66	8.67	8.63	112.86	122.09	62.29	91.44	74.17	17.27	5.295		
3,400.00	3,393.66	3,401.22	3,393.20	9.00	8.95	112.45	130.51	64.52	95.26	77.34	17.92	5.315		
3,500.00	3,493.28	3,501.30	3,492.75	9.33	9.28	112.08	138.93	66.75	99.08	80.50	18.58	5.332		
3,600.00	3,592.90	3,601.37	3,592.29	9.67	9.62	111.73	147.35	68.97	102.91	83.65	19.25	5.346		
3,700.00	3,692.52	3,701.45	3,691.84	10.00	9.95	111.41	155.77	71.20	106.73	86.81	19.92	5.357		
3,800.00	3,792.14	3,801.52	3,791.38	10.34	10.29	111.11	164.19	73.43	110.57	89.96	20.60	5.367		
3,900.00	3,891.76	3,901.60	3,890.93	10.69	10.63	110.83	172.61	75.65	114.40	93.12	21.28	5.375		
4,000.00	3,991.37	4,001.67	3,990.47	11.03	10.98	110.56	181.03	77.88	118.24	96.27	21.97	5.382		
4,100.00	4,090.99	4,101.75	4,090.02	11.38	11.32	110.32	189.45	80.11	122.08	99.41	22.66	5.387		
4,200.00	4,190.61	4,201.82	4,189.56	11.72	11.67	110.09	197.87	82.33	125.92	102.56	23.36	5.391		
4,300.00	4,290.23	4,301.90	4,289.10	12.07	12.02	109.87	206.29	84.56	129.76	105.71	24.05	5.395		
4,400.00	4,389.85	4,401.97	4,388.65	12.43	12.37	109.67	214.71	86.79	133.61	108.85	24.75	5.397		
4,500.00	4,489.47	4,502.05	4,488.19	12.78	12.72	109.47	223.13	89.02	137.45	112.00	25.46	5.399		
4,600.00	4,589.09	4,602.12	4,587.74	13.13	13.08	109.29	231.55	91.24	141.30	115.14	26.16	5.401		
4,700.00	4,688.71	4,702.20	4,687.28	13.49	13.43	109.12	239.96	93.47	145.15	118.28	26.87	5.402		
4,800.00	4,788.42	4,802.27	4,786.83	13.84	13.79	108.95	248.38	95.70	148.64	121.06	27.58	5.399		
4,900.00	4,888.29	4,902.39	4,886.33	14.18	14.15	107.15	256.80	97.92	151.36	123.08	28.28	5.352		
5,000.00	4,988.26	4,997.68	4,986.04	14.52	14.49	104.88	265.04	100.10	153.45	124.49	28.96	5.299		
5,100.00	5,088.26	5,098.34	5,086.48	14.85	14.84	91.76	271.25	101.74	154.83	125.18	29.65	5.222		
5,200.00	5,188.26	5,199.24	5,187.32	15.18	15.18	90.40	274.91	102.71	155.72	125.39	30.33	5.135		
5,300.00	5,288.26	5,300.19	5,286.26	15.51	15.52	90.00	276.00	103.00	156.00	125.00	31.00	5.033		
5,400.00	5,388.26	5,400.19	5,386.26	15.85	15.86	90.00	276.00	103.00	156.00	124.34	31.66	4.927		
5,500.00	5,488.26	5,500.19	5,486.26	16.18	16.19	90.00	276.00	103.00	156.00	123.67	32.33	4.825		
5,600.00	5,588.26	5,600.19	5,586.26	16.52	16.52	90.00	276.00	103.00	156.00	123.00	33.00	4.727		
5,700.00	5,688.26	5,700.19	5,686.26	16.85	16.86	90.00	276.00	103.00	156.00	122.33	33.67	4.633		
5,800.00	5,788.26	5,800.19	5,786.26	17.19	17.20	90.00	276.00	103.00	156.00	121.65	34.35	4.542		
5,900.00	5,888.26	5,900.19	5,886.26	17.53	17.53	90.00	276.00	103.00	156.00	120.98	35.02	4.454		
6,000.00	5,988.26	6,000.19	5,986.26	17.86	17.87	90.00	276.00	103.00	156.00	120.30	35.70	4.370		
6,100.00	6,088.26	6,100.19	6,086.26	18.20	18.21	90.00	276.00	103.00	156.00	119.62	36.38	4.288		
6,200.00	6,188.26	6,200.19	6,186.26	18.54	18.55	90.00	276.00	103.00	156.00	118.94	37.06	4.210		
6,300.00	6,288.26	6,300.19	6,286.26	18.89	18.89	90.00	276.00	103.00	156.00	118.26	37.74	4.134		
6,400.00	6,388.26	6,400.19	6,386.26	19.23	19.23	90.00	276.00	103.00	156.00	117.58	38.42	4.060		
6,500.00	6,488.26	6,500.19	6,486.26	19.57	19.57	90.00	276.00	103.00	156.00	116.89	39.11	3.989		
6,600.00	6,588.26	6,600.19	6,586.26	19.91	19.92	90.00	276.00	103.00	156.00	116.21	39.79	3.920		
6,700.00	6,688.26	6,700.19	6,686.26	20.25	20.26	90.00	276.00	103.00	156.00	115.52	40.48	3.854		
6,800.00	6,788.26	6,800.19	6,786.26	20.60	20.60	90.00	276.00	103.00	156.00	114.83	41.17	3.790		
6,900.00	6,888.26	6,900.19	6,886.26	20.94	20.95	90.00	276.00	103.00	156.00	114.15	41.85	3.727		
7,000.00	6,988.26	7,000.19	6,986.26	21.29	21.29	90.00	276.00	103.00	156.00	113.46	42.54	3.667		

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

Pro Directional Anticollision Report

Company: Matador Resources
Project: Lea County, NM
Reference Site: Carl Mottek 17-24S-34E AR
Site Error: 0.00 usft
Reference Well: 211H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 211H
TVD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
MD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Carl Mottek 17-24S-34E AR - 121H - OH - Prelim Plan A													Offset Well Error:	0.00 usft
Survey Program: 0-MWD+HDGM, 1200-MWD+HDGM, 10000-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooffset (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
7,100.00	7,088.26	7,100.19	7,088.26	21.63	21.63	90.00	276.00	103.00	156.00	112.77	43.23	3.608		
7,200.00	7,188.26	7,200.19	7,188.26	21.98	21.98	90.00	276.00	103.00	156.00	112.08	43.92	3.552		
7,300.00	7,288.26	7,300.19	7,288.26	22.32	22.33	90.00	276.00	103.00	156.00	111.38	44.62	3.497		
7,400.00	7,388.26	7,400.19	7,388.26	22.67	22.67	90.00	276.00	103.00	156.00	110.69	45.31	3.443		
7,500.00	7,488.26	7,500.19	7,488.26	23.02	23.02	90.00	276.00	103.00	156.00	110.00	46.00	3.391		
7,600.00	7,588.26	7,600.19	7,588.26	23.36	23.36	90.00	276.00	103.00	156.00	109.30	46.70	3.341		
7,700.00	7,688.26	7,700.19	7,688.26	23.71	23.71	90.00	276.00	103.00	156.00	108.61	47.39	3.292		
7,800.00	7,788.26	7,800.19	7,788.26	24.06	24.06	90.00	276.00	103.00	156.00	107.91	48.09	3.244		
7,900.00	7,888.26	7,900.19	7,888.26	24.41	24.41	90.00	276.00	103.00	156.00	107.22	48.78	3.198		
8,000.00	7,988.26	8,000.19	7,988.26	24.76	24.76	90.00	276.00	103.00	156.00	106.52	49.48	3.153		
8,100.00	8,088.26	8,100.19	8,088.26	25.10	25.10	90.00	276.00	103.00	156.00	105.82	50.18	3.109		
8,200.00	8,188.26	8,200.19	8,188.26	25.45	25.45	90.00	276.00	103.00	156.00	105.13	50.87	3.066		
8,300.00	8,288.26	8,300.19	8,288.26	25.80	25.80	90.00	276.00	103.00	156.00	104.43	51.57	3.025		
8,400.00	8,388.26	8,400.19	8,388.26	26.15	26.15	90.00	276.00	103.00	156.00	103.73	52.27	2.984		
8,500.00	8,488.26	8,500.19	8,488.26	26.50	26.50	90.00	276.00	103.00	156.00	103.03	52.97	2.945		
8,600.00	8,588.26	8,600.19	8,588.26	26.85	26.85	90.00	276.00	103.00	156.00	102.33	53.67	2.907		
8,700.00	8,688.26	8,700.19	8,688.26	27.20	27.20	90.00	276.00	103.00	156.00	101.63	54.37	2.869		
8,800.00	8,788.26	8,800.19	8,788.26	27.55	27.55	90.00	276.00	103.00	156.00	100.93	55.07	2.833		
8,900.00	8,888.26	8,900.19	8,888.26	27.90	27.90	90.00	276.00	103.00	156.00	100.23	55.77	2.797		
9,000.00	8,988.26	9,000.19	8,988.26	28.25	28.25	90.00	276.00	103.00	156.00	99.53	56.47	2.762		
9,100.00	9,088.26	9,100.19	9,088.26	28.60	28.60	90.00	276.00	103.00	156.00	98.82	57.18	2.728		
9,200.00	9,188.26	9,200.19	9,188.26	28.96	28.96	90.00	276.00	103.00	156.00	98.12	57.88	2.695		
9,300.00	9,288.26	9,300.19	9,288.26	29.31	29.30	90.00	276.00	103.00	156.00	97.42	58.58	2.663		
9,400.00	9,388.26	9,400.19	9,388.26	29.66	29.65	90.00	276.00	103.00	156.00	96.72	59.28	2.631		
9,500.00	9,488.26	9,500.19	9,488.26	30.01	30.01	90.00	276.00	103.00	156.00	96.01	59.99	2.601		
9,600.00	9,588.26	9,600.19	9,588.26	30.36	30.36	90.00	276.00	103.00	156.00	95.31	60.69	2.570		
9,700.00	9,688.26	9,700.19	9,688.26	30.71	30.71	90.00	276.00	103.00	156.00	94.61	61.39	2.541		
9,800.00	9,788.26	9,800.19	9,788.26	31.07	31.06	90.00	276.00	103.00	156.00	93.90	62.10	2.512		
9,900.00	9,888.26	9,900.19	9,888.26	31.42	31.41	90.00	276.00	103.00	156.00	93.20	62.80	2.484		
10,000.00	9,988.26	10,000.19	9,988.26	31.78	31.78	90.00	276.00	103.00	156.00	92.50	63.51	2.470		
10,100.00	10,088.26	10,100.19	10,088.26	31.60	31.59	90.00	276.00	103.00	156.00	92.84	63.16	2.470		
10,200.00	10,188.26	10,204.50	10,192.54	31.61	31.60	90.42	274.85	102.47	155.53	92.37	63.16	2.462		
10,300.00	10,288.26	10,314.13	10,300.56	31.62	31.59	96.62	258.82	95.04	149.54	86.48	63.06	2.371		
10,400.00	10,388.26	10,413.80	10,394.25	31.64	31.57	109.61	228.30	80.89	142.27	79.12	63.14	2.253		
10,432.43	10,420.69	10,443.27	10,420.69	31.64	31.56	114.86	216.49	75.42	141.54	78.40	63.14	2.242 SF		
10,500.00	10,488.26	10,499.81	10,469.38	31.66	31.55	126.32	190.45	63.36	145.65	82.96	62.69	2.323		
10,600.00	10,588.26	10,571.71	10,526.81	31.68	31.57	141.78	151.28	45.21	170.22	109.96	60.26	2.825		
10,700.00	10,688.26	10,630.46	10,569.44	31.71	31.60	153.28	114.62	28.25	216.24	159.49	56.76	3.810		
10,800.00	10,788.26	10,677.06	10,600.48	31.74	31.62	160.66	82.53	14.91	278.03	224.35	53.68	5.179		
10,900.00	10,888.26	10,717.03	10,625.13	31.78	31.64	165.58	52.90	4.36	349.71	298.15	51.56	6.783		
11,000.00	10,988.26	10,750.00	10,644.00	31.82	31.65	168.79	27.11	-3.69	427.66	377.59	50.07	8.541		
11,100.00	11,088.26	10,781.00	10,660.48	31.86	31.67	171.23	1.81	-10.70	509.86	460.70	49.16	10.372		
11,200.00	11,188.26	10,800.00	10,669.96	31.91	31.68	172.48	-14.16	-14.71	595.22	546.90	48.32	12.318		
11,300.00	11,288.26	10,829.08	10,683.52	31.96	31.70	174.10	-39.24	-20.43	682.75	634.67	48.08	14.199		
11,400.00	11,388.26	10,850.00	10,692.54	32.02	31.71	175.07	-57.73	-24.22	772.16	724.31	47.85	16.137		
11,500.00	11,488.26	10,866.06	10,699.05	32.08	31.72	175.72	-72.15	-26.94	862.99	815.29	47.69	18.094		
11,600.00	11,588.07	10,883.00	10,705.50	32.13	31.74	-2.43	-87.58	-29.63	953.13	905.52	47.61	20.018		
11,700.00	11,685.72	10,900.00	10,711.57	32.17	31.75	-1.57	-103.27	-32.14	1,036.62	989.18	47.45	21.847		
11,800.00	11,778.23	10,927.24	10,720.38	32.20	31.78	-0.97	-128.78	-35.77	1,111.79	1,064.44	47.35	23.479		
11,900.00	11,862.80	10,950.00	10,726.89	32.24	31.81	-0.64	-150.43	-38.42	1,177.59	1,130.38	47.21	24.946		
12,000.00	11,936.86	10,981.43	10,734.58	32.30	31.86	-0.38	-180.74	-41.51	1,233.05	1,185.90	47.15	26.152		
12,100.00	11,998.16	11,000.00	10,738.40	32.36	31.89	-0.26	-198.85	-43.01	1,277.63	1,230.54	47.09	27.132		

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

Pro Directional Anticollision Report

Company: Matador Resources
Project: Lea County, NM
Reference Site: Carl Mottek 17-24S-34E AR
Site Error: 0.00 usft
Reference Well: 211H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 211H
TVD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
MD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design Carl Mottek 17-24S-34E AR - 121H - OH - Prelim Plan A													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM, 1200-MWD+HDGM, 10000-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/S (usft)	+E/W (usft)	Between Centres (usft)	Between Ellipses (usft)				
12,200.00	12,044.84	11,050.00	10,746.01	32.41	31.99	-0.09	-248.17	-45.88	1,310.42	1,263.20	47.21	27.756		
12,300.00	12,075.48	11,072.92	10,748.18	32.53	32.04	-0.05	-270.97	-46.61	1,331.18	1,283.83	47.35	28.113		
12,400.00	12,092.43	11,100.00	10,749.66	32.73	32.10	-0.02	-298.01	-46.99	1,343.11	1,295.49	47.62	28.203		
12,500.00	12,099.79	11,169.57	10,750.00	32.98	32.28	-0.01	-367.57	-46.46	1,349.79	1,301.85	47.84	28.157		
12,600.00	12,100.00	11,269.57	10,750.00	33.30	32.58	-0.01	-467.56	-45.49	1,350.00	1,301.76	48.24	27.985		
12,700.00	12,100.00	11,369.57	10,750.00	33.67	32.95	-0.01	-567.56	-44.51	1,350.00	1,301.41	48.59	27.784		
12,800.00	12,100.00	11,469.57	10,750.00	34.09	33.37	-0.01	-667.55	-43.53	1,350.00	1,301.01	48.99	27.558		
12,900.00	12,100.00	11,569.57	10,750.00	34.57	33.85	-0.01	-767.55	-42.55	1,350.00	1,300.57	49.43	27.310		
13,000.00	12,100.00	11,669.57	10,750.00	35.11	34.39	-0.01	-867.54	-41.58	1,350.00	1,300.08	49.92	27.041		
13,100.00	12,100.00	11,769.57	10,750.00	35.69	34.97	-0.01	-967.54	-40.60	1,350.00	1,299.54	50.46	26.755		
13,200.00	12,100.00	11,869.57	10,750.00	36.32	35.60	-0.01	-1,067.53	-39.62	1,350.00	1,298.97	51.04	26.452		
13,300.00	12,100.00	11,969.57	10,750.00	37.00	36.28	-0.01	-1,167.53	-38.64	1,350.00	1,298.35	51.66	26.135		
13,400.00	12,100.00	12,069.57	10,750.00	37.72	37.01	-0.01	-1,267.52	-37.67	1,350.00	1,297.69	52.31	25.805		
13,500.00	12,100.00	12,169.57	10,750.00	38.48	37.77	-0.01	-1,367.52	-36.69	1,350.00	1,296.99	53.01	25.466		
13,600.00	12,100.00	12,269.57	10,750.00	39.28	38.57	-0.01	-1,467.51	-35.71	1,350.00	1,296.26	53.75	25.118		
13,700.00	12,100.00	12,369.57	10,750.00	40.11	39.41	-0.01	-1,567.51	-34.73	1,350.00	1,295.49	54.52	24.764		
13,800.00	12,100.00	12,469.57	10,750.00	40.98	40.29	-0.01	-1,667.50	-33.76	1,350.00	1,294.68	55.32	24.404		
13,900.00	12,100.00	12,569.57	10,750.00	41.88	41.19	-0.01	-1,767.50	-32.78	1,350.00	1,293.85	56.15	24.041		
14,000.00	12,100.00	12,669.57	10,750.00	42.80	42.12	-0.01	-1,867.49	-31.80	1,350.00	1,292.98	57.02	23.675		
14,100.00	12,100.00	12,769.57	10,750.00	43.76	43.09	-0.01	-1,967.49	-30.83	1,350.00	1,292.08	57.92	23.309		
14,200.00	12,100.00	12,869.57	10,750.00	44.74	44.07	-0.01	-2,067.48	-29.85	1,350.00	1,291.16	58.84	22.943		
14,300.00	12,100.00	12,969.57	10,750.00	45.75	45.09	-0.01	-2,167.48	-28.87	1,350.00	1,290.21	59.79	22.578		
14,400.00	12,100.00	13,069.57	10,750.00	46.78	46.12	-0.01	-2,267.47	-27.89	1,350.00	1,289.23	60.77	22.215		
14,500.00	12,100.00	13,169.57	10,750.00	47.82	47.18	-0.01	-2,367.47	-26.92	1,350.00	1,288.23	61.77	21.855		
14,600.00	12,100.00	13,269.57	10,750.00	48.89	48.25	-0.01	-2,467.47	-25.94	1,350.00	1,287.21	62.79	21.499		
14,700.00	12,100.00	13,369.57	10,750.00	49.98	49.35	-0.01	-2,567.46	-24.96	1,350.00	1,286.16	63.84	21.146		
14,800.00	12,100.00	13,469.57	10,750.00	51.09	50.46	0.00	-2,667.46	-23.98	1,350.00	1,285.09	64.91	20.799		
14,900.00	12,100.00	13,569.57	10,750.00	52.21	51.59	0.00	-2,767.45	-23.01	1,350.00	1,284.01	66.00	20.456		
15,000.00	12,100.00	13,669.57	10,750.00	53.34	52.73	0.00	-2,867.45	-22.03	1,350.00	1,282.90	67.10	20.119		
15,100.00	12,100.00	13,769.57	10,750.00	54.50	53.89	0.00	-2,967.44	-21.05	1,350.00	1,281.77	68.23	19.787		
15,200.00	12,100.00	13,869.57	10,750.00	55.66	55.06	0.00	-3,067.44	-20.07	1,350.00	1,280.63	69.37	19.462		
15,300.00	12,100.00	13,969.57	10,750.00	56.84	56.24	0.00	-3,167.43	-19.10	1,350.00	1,279.48	70.53	19.142		
15,400.00	12,100.00	14,069.57	10,750.00	58.03	57.44	0.00	-3,267.43	-18.12	1,350.00	1,278.30	71.70	18.829		
15,500.00	12,100.00	14,169.57	10,750.00	59.22	58.64	0.00	-3,367.42	-17.14	1,350.00	1,277.11	72.89	18.522		
15,600.00	12,100.00	14,269.57	10,750.00	60.43	59.86	0.00	-3,467.42	-16.16	1,350.00	1,275.91	74.09	18.221		
15,700.00	12,100.00	14,369.57	10,750.00	61.65	61.08	0.00	-3,567.41	-15.19	1,350.00	1,274.70	75.31	17.927		
15,800.00	12,100.00	14,469.57	10,750.00	62.88	62.32	0.00	-3,667.41	-14.21	1,350.00	1,273.47	76.53	17.639		
15,900.00	12,100.00	14,569.57	10,750.00	64.12	63.56	0.00	-3,767.40	-13.23	1,350.00	1,272.23	77.77	17.358		
16,000.00	12,100.00	14,669.57	10,750.00	65.37	64.81	0.00	-3,867.40	-12.26	1,350.00	1,270.97	79.03	17.083		
16,100.00	12,100.00	14,769.57	10,750.00	66.62	66.07	0.00	-3,967.39	-11.28	1,350.00	1,269.71	80.29	16.814		
16,200.00	12,100.00	14,869.57	10,750.00	67.88	67.34	0.00	-4,067.39	-10.30	1,350.00	1,268.44	81.56	16.551		
16,300.00	12,100.00	14,969.57	10,750.00	69.15	68.61	0.00	-4,167.38	-9.32	1,350.00	1,267.15	82.85	16.295		
16,400.00	12,100.00	15,069.57	10,750.00	70.43	69.89	0.00	-4,267.38	-8.35	1,350.00	1,265.86	84.14	16.044		
16,500.00	12,100.00	15,169.57	10,750.00	71.71	71.17	0.00	-4,367.37	-7.37	1,350.00	1,264.55	85.45	15.799		
16,600.00	12,100.00	15,269.57	10,750.00	72.99	72.46	0.00	-4,467.37	-6.39	1,350.00	1,263.24	86.76	15.561		
16,700.00	12,100.00	15,369.57	10,750.00	74.28	73.76	0.00	-4,567.37	-5.41	1,350.00	1,261.92	88.08	15.327		
16,800.00	12,100.00	15,469.57	10,750.00	75.58	75.06	0.00	-4,667.36	-4.44	1,350.00	1,260.59	89.41	15.100		
16,844.64	12,100.00	15,514.21	10,750.00	76.16	75.64	0.00	-4,712.00	-4.00	1,350.00	1,260.00	90.00	15.000		

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

Pro Directional Anticollision Report

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Well Error: 0.00 usft
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Reference		Offset		Semi Major Axis		Highside Toofface (")	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
0.00	0.00	0.00	0.00	0.00	0.00	89.36	1.00	90.00	90.01					
100.00	100.00	100.00	100.00	0.13	0.13	89.36	1.00	90.00	90.01	89.75	0.25	353.635		
200.00	200.00	200.00	200.00	0.49	0.49	89.36	1.00	90.00	90.01	89.03	0.97	92.650		
300.00	300.00	300.00	300.00	0.84	0.84	89.36	1.00	90.00	90.01	88.32	1.69	53.308		
400.00	400.00	400.00	400.00	1.20	1.20	89.36	1.00	90.00	90.01	87.60	2.41	37.419		
500.00	500.00	500.00	500.00	1.56	1.56	89.36	1.00	90.00	90.01	86.88	3.12	28.827		
600.00	600.00	600.00	600.00	1.92	1.92	89.36	1.00	90.00	90.01	86.17	3.84	23.444		
700.00	700.00	700.00	700.00	2.28	2.28	89.36	1.00	90.00	90.01	85.45	4.56	19.755		
800.00	800.00	800.00	800.00	2.64	2.64	89.36	1.00	90.00	90.01	84.73	5.27	17.069		
900.00	900.00	900.00	900.00	3.00	3.00	89.36	1.00	90.00	90.01	84.02	5.99	15.026		
1,000.00	1,000.00	1,000.00	1,000.00	3.35	3.35	89.36	1.00	90.00	90.01	83.30	6.71	13.420		
1,100.00	1,100.00	1,100.00	1,100.00	3.71	3.71	89.36	1.00	90.00	90.01	82.58	7.42	12.124		
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	89.36	1.00	90.00	90.01	81.86	8.14	11.056		
1,300.00	1,300.00	1,300.00	1,300.00	4.25	4.25	89.36	1.00	90.00	90.01	81.50	8.51	10.580		
1,400.00	1,400.00	1,400.00	1,400.00	4.28	4.28	89.36	1.00	90.00	90.01	81.44	8.57	10.506 CC, ES		
1,500.00	1,499.99	1,500.01	1,499.99	4.34	4.34	100.78	1.00	90.00	90.16	81.48	8.69	10.380		
1,600.00	1,599.96	1,600.04	1,599.96	4.43	4.43	102.40	1.00	90.00	90.69	81.83	8.86	10.234		
1,700.00	1,699.86	1,700.14	1,699.86	4.55	4.55	105.05	1.00	90.00	91.73	82.64	9.09	10.089		
1,800.00	1,799.68	1,799.68	1,799.68	4.69	4.68	108.64	1.00	90.00	93.50	84.13	9.37	9.978		
1,900.00	1,899.37	1,898.32	1,898.32	4.85	4.84	112.59	1.53	90.66	96.84	87.14	9.69	9.990		
2,000.00	1,998.99	1,996.98	1,996.94	5.04	5.02	115.95	3.13	92.63	102.00	91.94	10.06	10.143		
2,100.00	2,098.80	2,095.66	2,095.52	5.25	5.22	118.23	5.80	95.92	108.42	97.97	10.46	10.370		
2,200.00	2,198.22	2,194.30	2,193.99	5.47	5.43	119.53	9.54	100.53	115.91	105.02	10.89	10.645		
2,300.00	2,297.84	2,307.23	2,292.16	5.72	5.69	120.00	14.34	106.44	124.33	112.95	11.39	10.920		
2,400.00	2,397.46	2,407.63	2,391.38	5.97	5.94	120.06	19.80	113.19	133.28	121.39	11.88	11.214		
2,500.00	2,497.08	2,508.03	2,490.60	6.24	6.20	120.11	25.27	119.93	142.22	129.81	12.41	11.462		
2,600.00	2,596.70	2,591.57	2,589.82	6.52	6.43	120.15	30.74	126.67	151.17	138.26	12.91	11.712		
2,700.00	2,696.32	2,708.84	2,689.04	6.81	6.76	120.19	36.21	133.41	160.11	146.60	13.52	11.845		
2,800.00	2,795.94	2,809.24	2,788.26	7.10	7.05	120.22	41.68	140.15	169.06	154.96	14.10	11.991		
2,900.00	2,895.56	2,909.64	2,887.48	7.40	7.35	120.25	47.15	146.90	178.00	163.31	14.69	12.114		
3,000.00	2,995.18	2,989.96	2,986.70	7.71	7.60	120.28	52.61	153.64	186.95	171.71	15.24	12.266		
3,100.00	3,094.80	3,089.56	3,085.92	8.03	7.91	120.30	58.08	160.38	195.90	180.04	15.86	12.354		
3,200.00	3,194.42	3,189.16	3,185.14	8.35	8.22	120.32	63.55	167.12	204.84	188.36	16.48	12.427		
3,300.00	3,294.04	3,288.76	3,284.36	8.67	8.54	120.34	69.02	173.86	213.79	196.67	17.12	12.488		
3,400.00	3,393.66	3,388.36	3,383.58	9.00	8.86	120.36	74.49	180.61	222.73	204.97	17.76	12.539		
3,500.00	3,493.28	3,487.96	3,482.80	9.33	9.19	120.38	79.95	187.35	231.68	213.26	18.41	12.581		
3,600.00	3,592.90	3,587.56	3,582.02	9.67	9.52	120.40	85.42	194.09	240.62	221.55	19.07	12.617		
3,700.00	3,692.52	3,687.15	3,681.24	10.00	9.86	120.41	90.89	200.83	249.57	229.84	19.74	12.646		
3,800.00	3,792.14	3,786.75	3,780.46	10.34	10.19	120.43	96.36	207.57	258.52	238.11	20.40	12.670		
3,900.00	3,891.76	3,886.35	3,879.68	10.69	10.53	120.44	101.83	214.32	267.46	246.38	21.08	12.689		
4,000.00	3,991.37	3,985.95	3,978.90	11.03	10.87	120.45	107.29	221.06	276.41	254.65	21.76	12.705		
4,100.00	4,090.99	4,085.55	4,078.12	11.38	11.22	120.46	112.76	227.80	285.35	262.92	22.44	12.718		
4,200.00	4,190.61	4,185.15	4,177.34	11.72	11.56	120.47	118.23	234.54	294.30	271.18	23.12	12.727		
4,300.00	4,290.23	4,284.75	4,276.56	12.07	11.91	120.48	123.70	241.28	303.25	279.43	23.81	12.735		
4,400.00	4,389.85	4,384.35	4,375.78	12.43	12.26	120.49	129.17	248.02	312.19	287.69	24.50	12.740		
4,500.00	4,489.47	4,483.95	4,475.00	12.78	12.61	120.50	134.63	254.77	321.14	295.94	25.20	12.744		
4,600.00	4,589.09	4,583.55	4,574.22	13.13	12.96	120.51	140.10	261.51	330.08	304.19	25.90	12.747		
4,700.00	4,688.71	4,683.15	4,673.44	13.49	13.32	120.52	145.57	268.25	339.03	312.43	26.60	12.748		
4,800.00	4,788.42	4,782.79	4,772.70	13.84	13.67	120.47	151.04	275.00	347.41	320.12	27.29	12.728		
4,900.00	4,888.29	4,882.48	4,872.02	14.18	14.03	120.05	156.51	281.74	354.49	326.50	27.99	12.666		
5,000.00	4,988.26	4,982.17	4,971.33	14.52	14.38	119.28	161.99	288.49	360.31	331.64	28.68	12.565		
5,100.00	5,088.26	5,081.80	5,070.58	14.85	14.74	107.31	167.46	295.24	365.19	335.83	29.36	12.439		

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

Pro Directional Anticollision Report

Company: Matador Resources
Project: Lea County, NM
Reference Site: Carl Mottek 17-24S-34E AR
Site Error: 0.00 usft
Reference Well: 211H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 211H
TVD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
MD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design													Offset Site Error:	0.00 usft		
Survey Program: 0-MWD+HDGM, 1200-MWD+HDGM, 10000-MWD+HDGM													Offset Well Error:	0.00 usft		
Reference													Distance		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
		Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)								
5,200.00	5,188.26	5,181.42	5,169.82	15.18	15.10	106.19	172.93	301.98	370.10	340.06	30.04	12.319				
5,300.00	5,288.26	5,281.04	5,269.06	15.51	15.46	105.10	178.39	308.72	375.15	344.42	30.73	12.209				
5,400.00	5,388.26	5,380.66	5,368.30	15.85	15.82	104.04	183.86	315.47	380.33	348.92	31.41	12.107				
5,500.00	5,488.26	5,480.28	5,467.54	16.18	16.18	103.01	189.33	322.21	385.65	353.54	32.10	12.013				
5,600.00	5,588.26	5,579.90	5,566.78	16.52	16.54	102.00	194.80	328.95	391.08	358.29	32.79	11.927				
5,700.00	5,688.26	5,679.52	5,666.02	16.85	16.90	101.02	200.27	335.70	396.63	363.15	33.48	11.847				
5,800.00	5,788.26	5,779.13	5,765.26	17.19	17.26	100.07	205.74	342.44	402.29	368.12	34.17	11.774				
5,900.00	5,888.26	5,878.75	5,864.50	17.53	17.62	99.15	211.21	349.18	408.06	373.20	34.86	11.706				
6,000.00	5,988.26	5,978.37	5,963.74	17.86	17.98	98.25	216.68	355.93	413.93	378.38	35.55	11.643				
6,100.00	6,088.26	6,077.99	6,062.98	18.20	18.35	97.38	222.15	362.67	419.90	383.66	36.24	11.586				
6,200.00	6,188.26	6,177.61	6,162.22	18.54	18.71	96.53	227.62	369.41	425.97	389.03	36.94	11.532				
6,300.00	6,288.26	6,277.23	6,261.46	18.89	19.08	95.71	233.09	376.16	432.13	394.50	37.63	11.483				
6,400.00	6,388.26	6,376.85	6,360.70	19.23	19.44	94.91	238.55	382.90	438.37	400.05	38.33	11.438				
6,500.00	6,488.26	6,476.47	6,459.94	19.57	19.80	94.13	244.02	389.64	444.70	405.68	39.02	11.396				
6,600.00	6,588.26	6,576.09	6,559.18	19.91	20.17	93.38	249.49	396.39	451.10	411.39	39.72	11.358				
6,700.00	6,688.26	6,675.71	6,658.42	20.25	20.54	92.64	254.96	403.13	457.59	417.17	40.41	11.323				
6,800.00	6,788.26	6,775.33	6,757.66	20.60	20.90	91.93	260.43	409.87	464.14	423.03	41.11	11.290				
6,900.00	6,888.26	6,874.95	6,856.91	20.94	21.27	91.23	265.90	416.62	470.77	428.96	41.81	11.260				
7,000.00	6,988.26	6,975.59	6,957.17	21.29	21.64	90.55	271.42	423.42	477.45	434.94	42.51	11.231				
7,100.00	7,088.26	7,086.11	7,067.41	21.63	22.04	89.97	276.29	429.42	482.87	439.60	43.27	11.160				
7,200.00	7,188.26	7,196.99	7,178.19	21.98	22.43	89.63	279.15	432.96	486.07	442.06	44.01	11.045				
7,300.00	7,288.26	7,307.07	7,288.26	22.32	22.80	89.53	280.00	434.00	487.02	442.29	44.72	10.890				
7,400.00	7,388.26	7,407.07	7,388.26	22.67	23.14	89.53	280.00	434.00	487.02	441.61	45.41	10.725				
7,500.00	7,488.26	7,507.07	7,488.26	23.02	23.47	89.53	280.00	434.00	487.02	440.92	46.10	10.565				
7,600.00	7,588.26	7,607.07	7,588.26	23.36	23.81	89.53	280.00	434.00	487.02	440.23	46.78	10.410				
7,700.00	7,688.26	7,707.07	7,688.26	23.71	24.15	89.53	280.00	434.00	487.02	439.55	47.47	10.259				
7,800.00	7,788.26	7,807.07	7,788.26	24.06	24.49	89.53	280.00	434.00	487.02	438.86	48.16	10.113				
7,900.00	7,888.26	7,907.07	7,888.26	24.41	24.82	89.53	280.00	434.00	487.02	438.17	48.85	9.970				
8,000.00	7,988.26	8,007.07	7,988.26	24.76	25.16	89.53	280.00	434.00	487.02	437.48	49.54	9.831				
8,100.00	8,088.26	8,107.07	8,088.26	25.10	25.50	89.53	280.00	434.00	487.02	436.79	50.23	9.696				
8,200.00	8,188.26	8,207.07	8,188.26	25.45	25.84	89.53	280.00	434.00	487.02	436.09	50.92	9.564				
8,300.00	8,288.26	8,307.07	8,288.26	25.80	26.18	89.53	280.00	434.00	487.02	435.40	51.62	9.435				
8,400.00	8,388.26	8,407.07	8,388.26	26.15	26.52	89.53	280.00	434.00	487.02	434.71	52.31	9.310				
8,500.00	8,488.26	8,507.07	8,488.26	26.50	26.87	89.53	280.00	434.00	487.02	434.01	53.00	9.189				
8,600.00	8,588.26	8,607.07	8,588.26	26.85	27.21	89.53	280.00	434.00	487.02	433.32	53.70	9.070				
8,700.00	8,688.26	8,707.07	8,688.26	27.20	27.55	89.53	280.00	434.00	487.02	432.62	54.39	8.954				
8,800.00	8,788.26	8,807.07	8,788.26	27.55	27.89	89.53	280.00	434.00	487.02	431.93	55.09	8.841				
8,900.00	8,888.26	8,907.07	8,888.26	27.90	28.24	89.53	280.00	434.00	487.02	431.23	55.78	8.730				
9,000.00	8,988.26	9,007.07	8,988.26	28.25	28.58	89.53	280.00	434.00	487.02	430.54	56.48	8.623				
9,100.00	9,088.26	9,107.07	9,088.26	28.60	28.92	89.53	280.00	434.00	487.02	429.84	57.18	8.518				
9,200.00	9,188.26	9,207.07	9,188.26	28.96	29.27	89.53	280.00	434.00	487.02	429.14	57.88	8.415				
9,300.00	9,288.26	9,307.07	9,288.26	29.31	29.61	89.53	280.00	434.00	487.02	428.44	58.57	8.315				
9,400.00	9,388.26	9,407.07	9,388.26	29.66	29.96	89.53	280.00	434.00	487.02	427.74	59.27	8.217				
9,500.00	9,488.26	9,507.07	9,488.26	30.01	30.30	89.53	280.00	434.00	487.02	427.04	59.97	8.121				
9,600.00	9,588.26	9,607.07	9,588.26	30.36	30.65	89.53	280.00	434.00	487.02	426.35	60.67	8.027				
9,700.00	9,688.26	9,707.07	9,688.26	30.71	30.99	89.53	280.00	434.00	487.02	425.65	61.37	7.936				
9,800.00	9,788.26	9,807.07	9,788.26	31.07	31.34	89.53	280.00	434.00	487.02	424.95	62.07	7.846				
9,900.00	9,888.26	9,907.07	9,888.26	31.42	31.67	89.53	280.00	434.00	487.02	424.26	62.76	7.760				
10,000.00	9,988.26	10,007.07	9,988.26	31.79	31.83	89.53	280.00	434.00	487.02	423.56	63.10	7.718				
10,100.00	10,088.26	10,107.07	10,088.26	31.60	31.84	89.53	280.00	434.00	487.02	423.91	63.11	7.717				
10,105.61	10,093.87	10,112.68	10,093.87	31.60	31.84	89.53	280.00	434.00	487.02	423.91	63.11	7.717 SF				
10,200.00	10,188.26	10,195.93	10,177.11	31.61	31.85	89.60	279.42	434.32	487.46	424.33	63.13	7.721				

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

Pro Directional Anticollision Report

Company: Matador Resources
Project: Lea County, NM
Reference Site: Carl Mottek 17-24S-34E AR
Site Error: 0.00 usft
Reference Well: .211H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 211H
TVD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
MD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design - Carl Mottek 17-24S-34E AR - 125H - OH - Prelim Plan A													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM, 1200-MWD+HDGM, 10000-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,300.00	10,288.26	10,266.32	10,247.03	31.62	31.86	90.39	272.67	438.01	492.75	429.68	63.07	7.813		
10,400.00	10,388.26	10,333.85	10,312.75	31.64	31.87	91.93	259.18	445.40	504.37	441.53	62.84	8.026		
10,500.00	10,488.26	10,400.00	10,374.93	31.66	31.89	94.10	239.48	456.19	522.92	460.48	62.44	8.375		
10,600.00	10,588.26	10,450.00	10,419.99	31.68	31.90	96.10	220.49	466.58	548.97	487.33	61.64	8.906		
10,700.00	10,688.26	10,500.00	10,462.98	31.71	31.93	98.33	198.14	478.83	582.80	522.12	60.68	9.605		
10,800.00	10,788.26	10,550.00	10,503.59	31.74	31.96	100.73	172.58	492.82	624.22	564.57	59.65	10.464		
10,900.00	10,888.26	10,600.00	10,541.51	31.78	31.99	103.23	144.01	508.46	672.97	614.32	58.65	11.474		
11,000.00	10,988.26	10,636.06	10,567.06	31.82	32.02	105.06	121.63	520.56	728.15	670.70	57.45	12.675		
11,100.00	11,088.26	10,682.93	10,598.20	31.86	32.06	107.53	90.03	535.62	788.17	731.60	56.57	13.932		
11,200.00	11,188.26	10,723.22	10,623.03	31.91	32.10	109.72	60.68	547.67	852.44	796.75	55.69	15.306		
11,300.00	11,288.26	10,757.91	10,642.86	31.96	32.14	111.64	33.92	557.32	920.67	865.81	54.86	16.781		
11,400.00	11,388.26	10,787.88	10,658.78	32.02	32.17	113.30	9.75	565.10	992.51	938.39	54.12	18.340		
11,500.00	11,488.26	10,813.89	10,671.66	32.08	32.20	114.76	-11.95	571.41	1,067.54	1,014.08	53.46	19.969		
11,600.00	11,588.07	10,838.40	10,682.97	32.13	32.23	-56.14	-32.97	576.97	1,144.01	1,091.11	52.90	21.626		
11,700.00	11,685.72	10,866.21	10,694.80	32.17	32.27	-46.88	-57.45	582.80	1,216.85	1,164.42	52.43	23.210		
11,800.00	11,778.23	10,900.00	10,707.70	32.20	32.32	-39.98	-88.01	589.21	1,283.84	1,231.77	52.06	24.660		
11,900.00	11,862.80	10,929.76	10,717.70	32.24	32.37	-35.09	-115.59	594.21	1,343.32	1,291.58	51.73	25.966		
12,000.00	11,936.86	10,964.42	10,727.69	32.30	32.42	-31.57	-148.39	599.25	1,394.04	1,342.52	51.52	27.056		
12,100.00	11,998.16	11,000.00	10,736.07	32.36	32.49	-29.12	-182.69	603.54	1,435.01	1,383.59	51.42	27.909		
12,200.00	12,044.84	11,050.00	10,744.55	32.41	32.59	-27.47	-231.75	608.01	1,465.60	1,414.14	51.46	28.481		
12,300.00	12,075.48	11,075.16	10,747.34	32.53	32.65	-26.55	-256.70	609.57	1,484.86	1,433.30	51.56	28.798		
12,400.00	12,092.43	11,113.11	10,749.68	32.73	32.74	-26.23	-294.54	611.03	1,495.86	1,444.05	51.81	28.870		
12,500.00	12,099.79	11,180.05	10,750.00	32.98	32.91	-26.01	-361.48	611.80	1,501.86	1,449.72	52.14	28.802		
12,600.00	12,100.00	11,280.05	10,750.00	33.30	33.21	-26.00	-461.47	612.73	1,502.03	1,449.50	52.53	28.592		
12,700.00	12,100.00	11,380.05	10,750.00	33.67	33.58	-26.00	-561.47	613.65	1,502.01	1,449.02	52.99	28.346		
12,800.00	12,100.00	11,480.05	10,750.00	34.09	34.02	-26.00	-661.46	614.58	1,501.98	1,448.48	53.51	28.071		
12,900.00	12,100.00	11,580.05	10,750.00	34.57	34.50	-26.00	-761.46	615.50	1,501.96	1,447.87	54.08	27.771		
13,000.00	12,100.00	11,680.05	10,750.00	35.11	35.05	-25.99	-861.45	616.43	1,501.93	1,447.21	54.72	27.446		
13,100.00	12,100.00	11,780.05	10,750.00	35.69	35.64	-25.99	-961.45	617.35	1,501.90	1,446.49	55.42	27.101		
13,200.00	12,100.00	11,880.05	10,750.00	36.32	36.28	-25.99	-1,061.45	618.28	1,501.88	1,445.71	56.17	26.738		
13,300.00	12,100.00	11,980.05	10,750.00	37.00	36.97	-25.99	-1,161.44	619.20	1,501.85	1,444.88	56.97	26.361		
13,400.00	12,100.00	12,080.05	10,750.00	37.72	37.70	-25.99	-1,261.44	620.13	1,501.83	1,444.00	57.83	25.971		
13,500.00	12,100.00	12,180.05	10,750.00	38.48	38.47	-25.98	-1,361.43	621.05	1,501.80	1,443.07	58.73	25.571		
13,600.00	12,100.00	12,280.05	10,750.00	39.28	39.27	-25.98	-1,461.43	621.98	1,501.78	1,442.10	59.68	25.164		
13,700.00	12,100.00	12,380.05	10,750.00	40.11	40.12	-25.98	-1,561.42	622.90	1,501.75	1,441.08	60.67	24.751		
13,800.00	12,100.00	12,480.05	10,750.00	40.98	40.99	-25.98	-1,661.42	623.83	1,501.73	1,440.02	61.71	24.336		
13,900.00	12,100.00	12,580.05	10,750.00	41.88	41.90	-25.98	-1,761.42	624.75	1,501.70	1,438.92	62.78	23.919		
14,000.00	12,100.00	12,680.05	10,750.00	42.80	42.83	-25.97	-1,861.41	625.68	1,501.68	1,437.78	63.90	23.501		
14,100.00	12,100.00	12,780.05	10,750.00	43.76	43.80	-25.97	-1,961.41	626.60	1,501.65	1,436.60	65.05	23.086		
14,200.00	12,100.00	12,880.05	10,750.00	44.74	44.79	-25.97	-2,061.40	627.53	1,501.62	1,435.40	66.23	22.673		
14,300.00	12,100.00	12,980.05	10,750.00	45.75	45.80	-25.97	-2,161.40	628.45	1,501.60	1,434.16	67.44	22.264		
14,400.00	12,100.00	13,080.05	10,750.00	46.78	46.83	-25.97	-2,261.39	629.38	1,501.57	1,432.88	68.69	21.860		
14,500.00	12,100.00	13,180.05	10,750.00	47.82	47.89	-25.96	-2,361.39	630.30	1,501.55	1,431.58	69.96	21.462		
14,600.00	12,100.00	13,280.05	10,750.00	48.89	48.96	-25.96	-2,461.39	631.23	1,501.52	1,430.26	71.27	21.069		
14,700.00	12,100.00	13,380.05	10,750.00	49.98	50.06	-25.96	-2,561.38	632.15	1,501.50	1,428.90	72.59	20.684		
14,800.00	12,100.00	13,480.05	10,750.00	51.09	51.17	-25.96	-2,661.38	633.08	1,501.47	1,427.53	73.95	20.305		
14,900.00	12,100.00	13,580.05	10,750.00	52.21	52.30	-25.96	-2,761.37	634.00	1,501.45	1,426.13	75.32	19.934		
15,000.00	12,100.00	13,680.05	10,750.00	53.34	53.44	-25.95	-2,861.37	634.93	1,501.42	1,424.70	76.72	19.571		
15,100.00	12,100.00	13,780.05	10,750.00	54.50	54.59	-25.95	-2,961.36	635.85	1,501.40	1,423.26	78.14	19.215		
15,200.00	12,100.00	13,880.05	10,750.00	55.66	55.76	-25.95	-3,061.36	636.78	1,501.37	1,421.80	79.57	18.868		
15,300.00	12,100.00	13,980.05	10,750.00	56.84	56.94	-25.95	-3,161.36	637.70	1,501.35	1,420.32	81.03	18.529		
15,400.00	12,100.00	14,080.05	10,750.00	58.03	58.13	-25.95	-3,261.35	638.63	1,501.32	1,418.82	82.50	18.198		

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

Pro Directional Anticollision Report

Company: Matador Resources
Project: Lea County, NM
Reference Site: Carl Mottek 17-24S-34E AR
Site Error: 0.00 usft
Reference Well: 211H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 211H
TVD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
MD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design														Offset Site Error:	0.00 usft
Carl Mottek 17-24S-34E AR - 125H - OH - Prelim Plan A														Offset Well Error:	0.00 usft
Survey Program: 0-MWD+HDGM, 1200-MWD+HDGM, 10000-MWD+HDGM															
Reference		Offset		Semi Major Axis			Distance				Separation		Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N-S (usft)	Centre +E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
15,500.00	12,100.00	14,180.05	10,750.00	59.22	59.34	-25.94	-3,361.35	639.55	1,501.29	1,417.30	83.99	17.874			
15,600.00	12,100.00	14,280.05	10,750.00	60.43	60.55	-25.94	-3,461.34	640.48	1,501.27	1,415.77	85.50	17.559			
15,700.00	12,100.00	14,380.05	10,750.00	61.65	61.77	-25.94	-3,561.34	641.40	1,501.24	1,414.23	87.02	17.252			
15,800.00	12,100.00	14,480.05	10,750.00	62.88	63.01	-25.94	-3,661.33	642.33	1,501.22	1,412.67	88.55	16.953			
15,900.00	12,100.00	14,580.05	10,750.00	64.12	64.25	-25.94	-3,761.33	643.25	1,501.19	1,411.09	90.10	16.661			
16,000.00	12,100.00	14,680.05	10,750.00	65.37	65.50	-25.93	-3,861.33	644.18	1,501.17	1,409.51	91.66	16.377			
16,100.00	12,100.00	14,780.05	10,750.00	66.62	66.75	-25.93	-3,961.32	645.10	1,501.14	1,407.91	93.23	16.101			
16,200.00	12,100.00	14,880.05	10,750.00	67.88	68.02	-25.93	-4,061.32	646.03	1,501.12	1,406.30	94.82	15.831			
16,300.00	12,100.00	14,980.05	10,750.00	69.15	69.29	-25.93	-4,161.31	646.95	1,501.09	1,404.68	96.41	15.569			
16,400.00	12,100.00	15,080.05	10,750.00	70.43	70.57	-25.93	-4,261.31	647.88	1,501.07	1,403.05	98.02	15.314			
16,500.00	12,100.00	15,180.05	10,750.00	71.71	71.85	-25.92	-4,361.30	648.80	1,501.04	1,401.40	99.64	15.065			
16,600.00	12,100.00	15,280.05	10,750.00	72.99	73.14	-25.92	-4,461.30	649.73	1,501.02	1,399.75	101.26	14.823			
16,700.00	12,100.00	15,380.05	10,750.00	74.28	74.43	-25.92	-4,561.30	650.65	1,500.99	1,398.09	102.90	14.588			
16,800.00	12,100.00	15,480.05	10,750.00	75.58	75.73	-25.92	-4,661.29	651.58	1,500.96	1,396.43	104.54	14.358			
16,844.64	12,100.00	15,524.69	10,750.00	76.16	76.29	-25.92	-4,705.93	651.99	1,500.95	1,395.75	105.20	14.267			

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

Pro Directional Anticollision Report

Company: Matador Resources
Project: Lea County, NM
Reference Site: Carl Mottek 17-24S-34E AR
Site Error: 0.00 usft
Reference Well: 211H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 211H
TVD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
MD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design Carl Mottek 17-24S-34E AR - 215H - OH - Prelim Plan A

Survey Program: 0-MWD+HDGM, 1200-MWD+HDGM, 11000-MWD+HDGM

Offset Site Error: 0.00 usft
Offset Well Error: 0.00 usft

Reference		Offset		Semi Major Axis			Distance				Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)		Minimum Separation (usft)	Separation Factor
0.00	0.00	0.00	0.00	0.00	0.00	89.52	1.00	120.00	120.00				
100.00	100.00	100.00	100.00	0.13	0.13	89.52	1.00	120.00	120.00	119.75	0.25	471.501	
200.00	200.00	200.00	200.00	0.49	0.49	89.52	1.00	120.00	120.00	119.03	0.97	123.530	
300.00	300.00	300.00	300.00	0.84	0.84	89.52	1.00	120.00	120.00	118.32	1.69	71.076	
400.00	400.00	400.00	400.00	1.20	1.20	89.52	1.00	120.00	120.00	117.60	2.41	49.891	
500.00	500.00	500.00	500.00	1.56	1.56	89.52	1.00	120.00	120.00	116.88	3.12	38.435	
600.00	600.00	600.00	600.00	1.92	1.92	89.52	1.00	120.00	120.00	116.16	3.84	31.257	
700.00	700.00	700.00	700.00	2.28	2.28	89.52	1.00	120.00	120.00	115.45	4.56	26.339	
800.00	800.00	800.00	800.00	2.64	2.64	89.52	1.00	120.00	120.00	114.73	5.27	22.758	
900.00	900.00	900.00	900.00	3.00	3.00	89.52	1.00	120.00	120.00	114.01	5.99	20.034	
1,000.00	1,000.00	1,000.00	1,000.00	3.35	3.35	89.52	1.00	120.00	120.00	113.30	6.71	17.892	
1,100.00	1,100.00	1,100.00	1,100.00	3.71	3.71	89.52	1.00	120.00	120.00	112.58	7.42	16.164	
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	89.52	1.00	120.00	120.00	111.86	8.14	14.741	
1,300.00	1,300.00	1,300.00	1,300.00	4.25	4.25	89.52	1.00	120.00	120.00	111.50	8.51	14.107	
1,400.00	1,400.00	1,400.00	1,400.00	4.28	4.28	89.52	1.00	120.00	120.00	111.44	8.57	14.008 CC, ES	
1,500.00	1,499.99	1,498.20	1,498.19	4.34	4.34	100.59	1.42	120.73	120.91	112.23	8.68	13.924	
1,600.00	1,599.96	1,596.34	1,596.30	4.43	4.43	101.15	2.67	122.92	123.63	114.78	8.85	13.963	
1,700.00	1,699.86	1,694.36	1,694.23	4.55	4.54	102.04	4.76	126.56	128.19	119.12	9.08	14.124	
1,800.00	1,799.68	1,792.20	1,791.90	4.69	4.67	103.18	7.68	131.64	134.63	125.28	9.35	14.403	
1,900.00	1,899.37	1,889.82	1,889.22	4.85	4.83	104.49	11.42	138.15	142.97	133.31	9.66	14.794	
2,000.00	1,998.99	1,989.09	1,988.12	5.04	5.02	105.85	15.72	145.64	152.45	142.42	10.03	15.198	
2,100.00	2,098.60	2,088.58	2,087.23	5.25	5.22	107.04	20.04	153.16	162.02	151.58	10.44	15.521	
2,200.00	2,198.22	2,188.07	2,186.34	5.47	5.45	108.10	24.35	160.68	171.65	160.77	10.88	15.775	
2,300.00	2,297.84	2,287.55	2,285.45	5.72	5.68	109.05	28.67	168.20	181.34	169.98	11.35	15.970	
2,400.00	2,397.46	2,387.04	2,384.55	5.97	5.94	109.91	32.99	175.72	191.06	179.21	11.85	16.117	
2,500.00	2,497.08	2,486.53	2,483.66	6.24	6.20	110.68	37.31	183.24	200.83	188.45	12.38	16.224	
2,600.00	2,596.70	2,586.02	2,582.77	6.52	6.48	111.38	41.62	190.76	210.62	197.70	12.92	16.298	
2,700.00	2,696.32	2,685.50	2,681.88	6.81	6.76	112.01	45.94	198.28	220.45	206.96	13.49	16.346	
2,800.00	2,795.94	2,784.99	2,780.99	7.10	7.06	112.60	50.26	205.80	230.30	216.23	14.07	16.373	
2,900.00	2,895.56	2,884.48	2,880.10	7.40	7.36	113.13	54.57	213.32	240.17	225.51	14.66	16.383	
3,000.00	2,995.18	2,983.97	2,979.21	7.71	7.67	113.62	58.89	220.84	250.06	234.80	15.27	16.380	
3,100.00	3,094.80	3,083.46	3,078.32	8.03	7.98	114.08	63.21	228.36	259.97	244.09	15.88	16.367	
3,200.00	3,194.42	3,182.94	3,177.43	8.35	8.30	114.50	67.52	235.88	269.89	253.38	16.51	16.346	
3,300.00	3,294.04	3,282.43	3,276.54	8.67	8.62	114.89	71.84	243.40	279.83	262.68	17.15	16.320	
3,400.00	3,393.66	3,381.92	3,375.64	9.00	8.95	115.25	76.16	250.92	289.78	271.99	17.79	16.288	
3,500.00	3,493.28	3,481.41	3,474.75	9.33	9.28	115.60	80.48	258.44	299.74	281.30	18.44	16.253	
3,600.00	3,592.90	3,580.89	3,573.86	9.67	9.61	115.91	84.79	265.96	309.71	290.61	19.10	16.215	
3,700.00	3,692.52	3,680.38	3,672.97	10.00	9.95	116.21	89.11	273.48	319.69	299.92	19.76	16.176	
3,800.00	3,792.14	3,779.87	3,772.08	10.34	10.29	116.49	93.43	281.00	329.67	309.24	20.43	16.138	
3,900.00	3,891.76	3,879.36	3,871.19	10.69	10.63	116.76	97.74	288.52	339.67	318.56	21.10	16.095	
4,000.00	3,991.37	3,978.84	3,970.30	11.03	10.97	117.01	102.06	296.04	349.67	327.88	21.78	16.054	
4,100.00	4,090.99	4,078.33	4,069.41	11.38	11.32	117.24	106.38	303.56	359.67	337.21	22.46	16.012	
4,200.00	4,190.61	4,177.82	4,168.52	11.72	11.67	117.46	110.69	311.08	369.68	346.54	23.15	15.971	
4,300.00	4,290.23	4,277.31	4,267.62	12.07	12.01	117.67	115.01	318.60	379.70	355.87	23.83	15.931	
4,400.00	4,389.85	4,376.79	4,366.73	12.43	12.36	117.87	119.33	326.12	389.72	365.20	24.53	15.891	
4,500.00	4,489.47	4,476.28	4,465.84	12.78	12.72	118.06	123.64	333.64	399.75	374.53	25.22	15.851	
4,600.00	4,589.09	4,575.77	4,564.95	13.13	13.07	118.24	127.96	341.16	409.78	383.87	25.91	15.813	
4,700.00	4,688.71	4,675.26	4,664.06	13.49	13.42	118.42	132.28	348.68	419.82	393.20	26.61	15.775	
4,800.00	4,788.42	4,774.80	4,763.23	13.84	13.78	118.56	136.60	356.20	429.32	402.01	27.31	15.720	
4,900.00	4,888.29	4,874.43	4,862.48	14.18	14.14	118.40	140.92	363.73	437.59	409.59	28.00	15.627	
5,000.00	4,988.26	4,974.09	4,961.76	14.52	14.49	117.94	145.25	371.27	444.65	415.96	28.69	15.500	
5,100.00	5,088.26	5,073.71	5,061.00	14.85	14.85	106.32	149.57	378.80	450.75	421.38	29.37	15.348	

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

Pro Directional Anticollision Report

Company: Matador Resources
Project: Lea County, NM
Reference Site: Carl Mottek 17-24S-34E AR
Site Error: 0.00 usft
Reference Well: 211H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 211H
TVD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
MD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design Carl Mottek 17-24S-34E AR - 215H - OH - Prelim Plan A

Survey Program: 0-MWD+HDGM, 1200-MWD+HDGM, 11000-MWD+HDGM

Offset Site Error: 0.00 usft

Offset Well Error: 0.00 usft

Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance		Minimum Separation	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,200.00	5,188.26	5,173.33	5,160.24	15.18	15.21	105.53	153.89	386.33	456.84	426.79	30.05	15.203	
5,300.00	5,288.26	5,272.95	5,259.48	15.51	15.57	104.77	158.21	393.86	463.01	432.28	30.73	15.066	
5,400.00	5,388.26	5,372.57	5,358.72	15.85	15.93	104.02	162.54	401.39	469.27	437.85	31.42	14.937	
5,500.00	5,488.26	5,472.19	5,457.96	16.18	16.29	103.29	166.86	408.92	475.60	443.50	32.10	14.815	
5,600.00	5,588.26	5,571.81	5,557.21	16.52	16.65	102.59	171.18	416.45	482.01	449.22	32.79	14.700	
5,700.00	5,688.26	5,671.43	5,656.45	16.85	17.02	101.90	175.50	423.98	488.49	455.01	33.48	14.591	
5,800.00	5,788.26	5,771.05	5,755.69	17.19	17.38	101.23	179.83	431.51	495.03	460.87	34.17	14.489	
5,900.00	5,888.26	5,870.67	5,854.93	17.53	17.74	100.57	184.15	439.04	501.64	466.79	34.86	14.392	
6,000.00	5,988.26	5,970.29	5,954.17	17.86	18.11	99.94	188.47	446.57	508.32	472.77	35.55	14.300	
6,100.00	6,088.26	6,069.91	6,053.41	18.20	18.47	99.32	192.80	454.10	515.06	478.82	36.24	14.212	
6,200.00	6,188.26	6,169.53	6,152.65	18.54	18.84	98.71	197.12	461.63	521.85	484.92	36.93	14.130	
6,300.00	6,288.26	6,269.15	6,251.89	18.89	19.20	98.13	201.44	469.16	528.70	491.08	37.63	14.051	
6,400.00	6,388.26	6,368.77	6,351.13	19.23	19.57	97.55	205.76	476.69	535.61	497.29	38.32	13.977	
6,500.00	6,488.26	6,468.39	6,450.37	19.57	19.93	96.99	210.09	484.22	542.57	503.55	39.02	13.906	
6,600.00	6,588.26	6,568.01	6,549.61	19.91	20.30	96.45	214.41	491.74	549.58	509.86	39.71	13.839	
6,700.00	6,688.26	6,667.63	6,648.85	20.25	20.66	95.92	218.73	499.27	556.63	516.22	40.41	13.775	
6,800.00	6,788.26	6,767.25	6,748.09	20.60	21.03	95.40	223.05	506.80	563.74	522.63	41.11	13.714	
6,900.00	6,888.26	6,866.87	6,847.33	20.94	21.40	94.90	227.38	514.33	570.88	529.08	41.80	13.656	
7,000.00	6,988.26	6,966.48	6,946.57	21.29	21.77	94.41	231.70	521.86	578.07	535.57	42.50	13.601	
7,100.00	7,088.26	7,066.10	7,045.81	21.63	22.13	93.93	236.02	529.39	585.31	542.10	43.20	13.548	
7,200.00	7,188.26	7,165.72	7,145.05	21.98	22.50	93.46	240.35	536.92	592.58	548.68	43.90	13.498	
7,300.00	7,288.26	7,265.34	7,244.29	22.32	22.87	93.00	244.67	544.45	599.89	555.28	44.60	13.449	
7,400.00	7,388.26	7,364.96	7,343.53	22.67	23.24	92.56	248.99	551.98	607.24	561.93	45.30	13.404	
7,500.00	7,488.26	7,464.58	7,442.77	23.02	23.61	92.12	253.31	559.51	614.62	568.61	46.01	13.360	
7,600.00	7,588.26	7,564.20	7,542.01	23.36	23.97	91.70	257.64	567.04	622.04	575.37	46.71	13.318	
7,700.00	7,688.26	7,663.82	7,641.25	23.71	24.34	91.28	261.96	574.57	629.49	582.08	47.41	13.277	
7,800.00	7,788.26	7,763.44	7,740.49	24.06	24.71	90.88	266.28	582.10	636.97	588.86	48.11	13.239	
7,900.00	7,888.26	7,863.06	7,839.73	24.41	25.08	90.46	270.60	589.63	644.48	595.67	48.82	13.202	
8,000.00	7,988.26	7,971.34	7,947.64	24.76	25.48	90.08	275.08	597.43	651.70	602.13	49.57	13.148	
8,100.00	8,088.26	8,088.62	8,064.73	25.10	25.90	89.79	278.38	603.18	656.61	606.26	50.35	13.041	
8,200.00	8,188.26	8,206.20	8,182.26	25.45	26.31	89.66	279.90	605.82	658.86	607.76	51.10	12.894	
8,300.00	8,288.26	8,312.20	8,288.26	25.80	26.66	89.65	280.00	606.00	659.01	607.21	51.80	12.723	
8,400.00	8,388.26	8,412.20	8,388.26	26.15	26.99	89.65	280.00	606.00	659.01	606.53	52.49	12.556	
8,500.00	8,488.26	8,512.20	8,488.26	26.50	27.33	89.65	280.00	606.00	659.01	605.84	53.17	12.394	
8,600.00	8,588.26	8,612.20	8,588.26	26.85	27.66	89.65	280.00	606.00	659.01	605.15	53.86	12.235	
8,700.00	8,688.26	8,712.20	8,688.26	27.20	28.00	89.65	280.00	606.00	659.01	604.46	54.55	12.080	
8,800.00	8,788.26	8,812.20	8,788.26	27.55	28.33	89.65	280.00	606.00	659.01	603.77	55.24	11.929	
8,900.00	8,888.26	8,912.20	8,888.26	27.90	28.67	89.65	280.00	606.00	659.01	603.08	55.93	11.782	
9,000.00	8,988.26	9,012.20	8,988.26	28.25	29.00	89.65	280.00	606.00	659.01	602.39	56.62	11.638	
9,100.00	9,088.26	9,112.20	9,088.26	28.60	29.34	89.65	280.00	606.00	659.01	601.70	57.32	11.498	
9,200.00	9,188.26	9,212.20	9,188.26	28.96	29.67	89.65	280.00	606.00	659.01	601.00	58.01	11.360	
9,300.00	9,288.26	9,312.20	9,288.26	29.31	30.01	89.65	280.00	606.00	659.01	600.31	58.70	11.226	
9,400.00	9,388.26	9,412.20	9,388.26	29.66	30.35	89.65	280.00	606.00	659.01	599.62	59.40	11.095	
9,500.00	9,488.26	9,512.20	9,488.26	30.01	30.69	89.65	280.00	606.00	659.01	598.92	60.09	10.967	
9,600.00	9,588.26	9,612.20	9,588.26	30.36	31.03	89.65	280.00	606.00	659.01	598.23	60.79	10.842	
9,700.00	9,688.26	9,712.20	9,688.26	30.71	31.37	89.65	280.00	606.00	659.01	597.53	61.48	10.719	
9,800.00	9,788.26	9,812.20	9,788.26	31.07	31.71	89.65	280.00	606.00	659.01	596.83	62.18	10.599	
9,900.00	9,888.26	9,912.20	9,888.26	31.42	32.05	89.65	280.00	606.00	659.01	596.14	62.87	10.482	
10,000.00	9,988.26	10,012.20	9,988.26	31.79	32.39	89.65	280.00	606.00	659.01	595.45	63.59	10.395	
10,100.00	10,088.26	10,112.20	10,088.26	32.16	32.73	89.65	280.00	606.00	659.01	594.76	64.34	10.338	
10,200.00	10,188.26	10,212.20	10,188.26	32.51	33.07	89.65	280.00	606.00	659.01	594.07	65.10	10.282	
10,300.00	10,288.26	10,312.20	10,288.26	32.86	33.41	89.65	280.00	606.00	659.01	593.38	65.85	10.224	

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

Pro Directional Anticollision Report

Company: Matador Resources
Project: Lea County, NM
Reference Site: Carl Mottek 17-24S-34E AR
Site Error: 0.00 usft
Reference Well: 211H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 211H
TVD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
MD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design													Offset Site Error:
Survey Program: 0-MWD+HDGM, 1200-MWD+HDGM, 11000-MWD+HDGM													Offset Well Error:
Carl Mottek 17-24S-34E AR - 215H - OH - Prelim Plan A													0.00 usft
Reference		Offset		Semi Major Axis		Highside Toofface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,400.00	10,388.26	10,412.20	10,388.26	31.64	33.75	89.65	280.00	606.00	659.01	594.20	64.82	10.167	
10,500.00	10,488.26	10,512.20	10,488.26	31.66	34.10	89.65	280.00	606.00	659.01	593.83	65.18	10.110	
10,600.00	10,588.26	10,612.20	10,588.26	31.68	34.44	89.65	280.00	606.00	659.01	593.46	65.55	10.053	
10,700.00	10,688.26	10,712.20	10,688.26	31.71	34.78	89.65	280.00	606.00	659.01	593.08	65.93	9.996	
10,800.00	10,788.26	10,812.20	10,788.26	31.74	35.12	89.65	280.00	606.00	659.01	592.71	66.31	9.939	
10,900.00	10,888.26	10,912.20	10,888.26	31.78	35.45	89.65	280.00	606.00	659.01	592.34	66.67	9.885	
11,000.00	10,988.26	11,012.20	10,988.26	31.82	35.60	89.65	280.00	606.00	659.01	592.15	66.86	9.856	
11,100.00	11,088.26	11,112.20	11,088.26	31.86	35.60	89.65	280.00	606.00	659.01	592.10	66.91	9.849	
11,200.00	11,188.26	11,212.20	11,188.26	31.91	35.81	89.65	280.00	606.00	659.01	592.04	66.97	9.841	
11,300.00	11,288.26	11,312.20	11,288.26	31.96	35.82	89.65	280.00	606.00	659.01	591.98	67.03	9.831	
11,400.00	11,388.26	11,412.20	11,388.26	32.02	35.64	89.65	280.00	606.00	659.01	591.91	67.10	9.821	
11,500.00	11,488.26	11,512.20	11,488.26	32.08	35.65	89.65	280.00	606.00	659.01	591.83	67.18	9.809	
11,600.00	11,588.07	11,611.94	11,587.82	32.13	35.67	-89.79	275.59	606.04	659.01	591.76	67.25	9.799	
11,700.00	11,685.72	11,711.58	11,685.13	32.17	35.68	-89.80	254.75	606.23	659.00	591.71	67.29	9.794	
11,800.00	11,778.23	11,811.24	11,777.38	32.20	35.69	-89.81	217.37	606.58	658.98	591.68	67.30	9.791	
11,900.00	11,862.80	11,910.94	11,861.79	32.24	35.70	-89.83	164.57	607.07	658.95	591.64	67.32	9.789	
12,000.00	11,936.86	12,010.66	11,935.82	32.30	35.73	-89.86	97.93	607.68	658.91	591.56	67.35	9.783	
12,100.00	11,998.16	12,110.44	11,997.21	32.36	35.77	-89.88	19.44	608.41	658.87	591.43	67.45	9.769	
12,200.00	12,044.84	12,210.27	12,044.09	32.41	35.83	-89.92	-68.55	609.22	658.83	591.21	67.62	9.743	
12,300.00	12,075.48	12,310.16	12,075.02	32.53	35.91	-89.95	-163.39	610.10	658.78	590.88	67.89	9.703	
12,400.00	12,092.43	12,410.12	12,092.17	32.73	36.04	-89.97	-261.84	611.01	658.72	590.45	68.27	9.649	
12,500.00	12,099.79	12,510.12	12,099.74	32.98	36.22	-90.00	-361.49	611.93	658.67	589.91	68.76	9.579	
12,600.00	12,100.00	12,610.12	12,100.00	33.30	36.47	-90.00	-461.49	612.85	658.61	589.24	69.36	9.495	
12,700.00	12,100.00	12,710.12	12,100.00	33.67	36.79	-90.00	-561.49	613.78	658.54	588.47	70.08	9.398	
12,800.00	12,100.00	12,810.12	12,100.00	34.09	37.17	-90.00	-661.48	614.70	658.48	587.58	70.90	9.287	
12,900.00	12,100.00	12,910.12	12,100.00	34.57	37.60	-90.00	-761.48	615.62	658.42	586.59	71.83	9.166	
13,000.00	12,100.00	13,010.12	12,100.00	35.11	38.09	-90.00	-861.47	616.54	658.36	585.50	72.86	9.036	
13,100.00	12,100.00	13,110.12	12,100.00	35.69	38.62	-90.00	-961.47	617.46	658.30	584.31	73.99	8.897	
13,200.00	12,100.00	13,210.12	12,100.00	36.32	39.21	-90.00	-1,061.47	618.39	658.24	583.02	75.22	8.751	
13,300.00	12,100.00	13,310.12	12,100.00	37.00	39.84	-90.00	-1,161.46	619.31	658.18	581.65	76.53	8.601	
13,400.00	12,100.00	13,410.12	12,100.00	37.72	40.51	-90.00	-1,261.46	620.23	658.12	580.19	77.92	8.446	
13,500.00	12,100.00	13,510.12	12,100.00	38.48	41.21	-90.00	-1,361.45	621.15	658.06	578.66	79.40	8.288	
13,600.00	12,100.00	13,610.12	12,100.00	39.28	41.96	-90.00	-1,461.45	622.07	658.00	577.05	80.95	8.128	
13,700.00	12,100.00	13,710.12	12,100.00	40.11	42.74	-90.00	-1,561.44	623.00	657.94	575.36	82.57	7.968	
13,800.00	12,100.00	13,810.12	12,100.00	40.98	43.56	-90.00	-1,661.44	623.92	657.87	573.61	84.26	7.808	
13,900.00	12,100.00	13,910.12	12,100.00	41.88	44.41	-90.00	-1,761.44	624.84	657.81	571.80	86.01	7.648	
14,000.00	12,100.00	14,010.12	12,100.00	42.80	45.29	-90.00	-1,861.43	625.76	657.75	569.93	87.82	7.489	
14,100.00	12,100.00	14,110.12	12,100.00	43.76	46.19	-90.00	-1,961.43	626.68	657.69	568.00	89.69	7.333	
14,200.00	12,100.00	14,210.12	12,100.00	44.74	47.12	-90.00	-2,061.42	627.61	657.63	566.02	91.61	7.178	
14,300.00	12,100.00	14,310.12	12,100.00	45.75	48.08	-90.00	-2,161.42	628.53	657.57	563.99	93.58	7.027	
14,400.00	12,100.00	14,410.12	12,100.00	46.78	49.06	-90.00	-2,261.41	629.45	657.51	561.91	95.59	6.878	
14,500.00	12,100.00	14,510.12	12,100.00	47.82	50.07	-90.00	-2,361.41	630.37	657.45	559.80	97.65	6.733	
14,600.00	12,100.00	14,610.12	12,100.00	48.89	51.09	-90.00	-2,461.41	631.29	657.39	557.64	99.75	6.590	
14,700.00	12,100.00	14,710.12	12,100.00	49.98	52.13	-90.00	-2,561.40	632.22	657.33	555.44	101.89	6.452	
14,800.00	12,100.00	14,810.12	12,100.00	51.09	53.20	-90.00	-2,661.40	633.14	657.26	553.21	104.06	6.316	
14,900.00	12,100.00	14,910.12	12,100.00	52.21	54.27	-90.00	-2,761.39	634.06	657.20	550.94	106.26	6.185	
15,000.00	12,100.00	15,010.12	12,100.00	53.34	55.37	-90.00	-2,861.39	634.98	657.14	548.64	108.50	6.057	
15,100.00	12,100.00	15,110.12	12,100.00	54.50	56.48	-90.00	-2,961.38	635.90	657.08	546.32	110.77	5.932	
15,200.00	12,100.00	15,210.12	12,100.00	55.66	57.61	-90.00	-3,061.38	636.83	657.02	543.96	113.06	5.811	
15,300.00	12,100.00	15,310.12	12,100.00	56.84	58.75	-90.00	-3,161.38	637.75	656.96	541.58	115.38	5.694	
15,400.00	12,100.00	15,410.12	12,100.00	58.03	59.90	-90.00	-3,261.37	638.67	656.90	539.18	117.72	5.580	
15,500.00	12,100.00	15,510.12	12,100.00	59.22	61.06	-90.00	-3,361.37	639.59	656.84	536.75	120.09	5.469	

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

Pro Directional Anticollision Report

Company: Matador Resources
Project: Lea County, NM
Reference Site: Carl Mottek 17-24S-34E AR
Site Error: 0.00 usft
Reference Well: 211H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 211H
TVD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
MD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design													Offset Site Error:	0.00 usft	
Carl Mottek 17-24S-34E AR - 215H - OH - Prelim Plan A													Offset Well Error:	0.00 usft	
Survey Program: 0-MWD+HDGM, 1200-MWD+HDGM, 11000-MWD+HDGM															
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance		Minimum Separation	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	(usft)				
15,600.00	12,100.00	15,610.12	12,100.00	60.43	62.24	-90.00	-3,461.36	640.51	656.78	534.30	122.48	5.362			
15,700.00	12,100.00	15,710.12	12,100.00	61.65	63.42	-90.00	-3,561.36	641.44	656.72	531.83	124.89	5.258			
15,800.00	12,100.00	15,810.12	12,100.00	62.88	64.62	-90.00	-3,661.35	642.36	656.65	529.33	127.32	5.158			
15,900.00	12,100.00	15,910.12	12,100.00	64.12	65.83	-90.00	-3,761.35	643.28	656.59	526.83	129.77	5.060			
16,000.00	12,100.00	16,010.12	12,100.00	65.37	67.04	-90.00	-3,861.35	644.20	656.53	524.30	132.23	4.965			
16,100.00	12,100.00	16,110.12	12,100.00	66.62	68.27	-90.00	-3,961.34	645.12	656.47	521.76	134.71	4.873			
16,200.00	12,100.00	16,210.12	12,100.00	67.88	69.50	-90.00	-4,061.34	646.05	656.41	519.20	137.21	4.784			
16,300.00	12,100.00	16,310.12	12,100.00	69.15	70.74	-90.00	-4,161.33	646.97	656.35	516.63	139.72	4.698			
16,400.00	12,100.00	16,410.12	12,100.00	70.43	71.99	-90.00	-4,261.33	647.89	656.29	514.04	142.25	4.614			
16,500.00	12,100.00	16,510.12	12,100.00	71.71	73.24	-90.00	-4,361.32	648.81	656.23	511.44	144.78	4.532			
16,600.00	12,100.00	16,610.12	12,100.00	72.99	74.50	-90.00	-4,461.32	649.73	656.17	508.83	147.34	4.454			
16,700.00	12,100.00	16,710.12	12,100.00	74.28	75.77	-90.00	-4,561.32	650.66	656.11	506.21	149.90	4.377			
16,800.00	12,100.00	16,810.12	12,100.00	75.58	77.04	-90.00	-4,661.31	651.58	656.05	503.57	152.47	4.303			
16,844.64	12,100.00	16,854.76	12,100.00	76.16	77.81	-90.00	-4,705.95	651.99	656.02	502.40	153.62	4.270 SF			

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

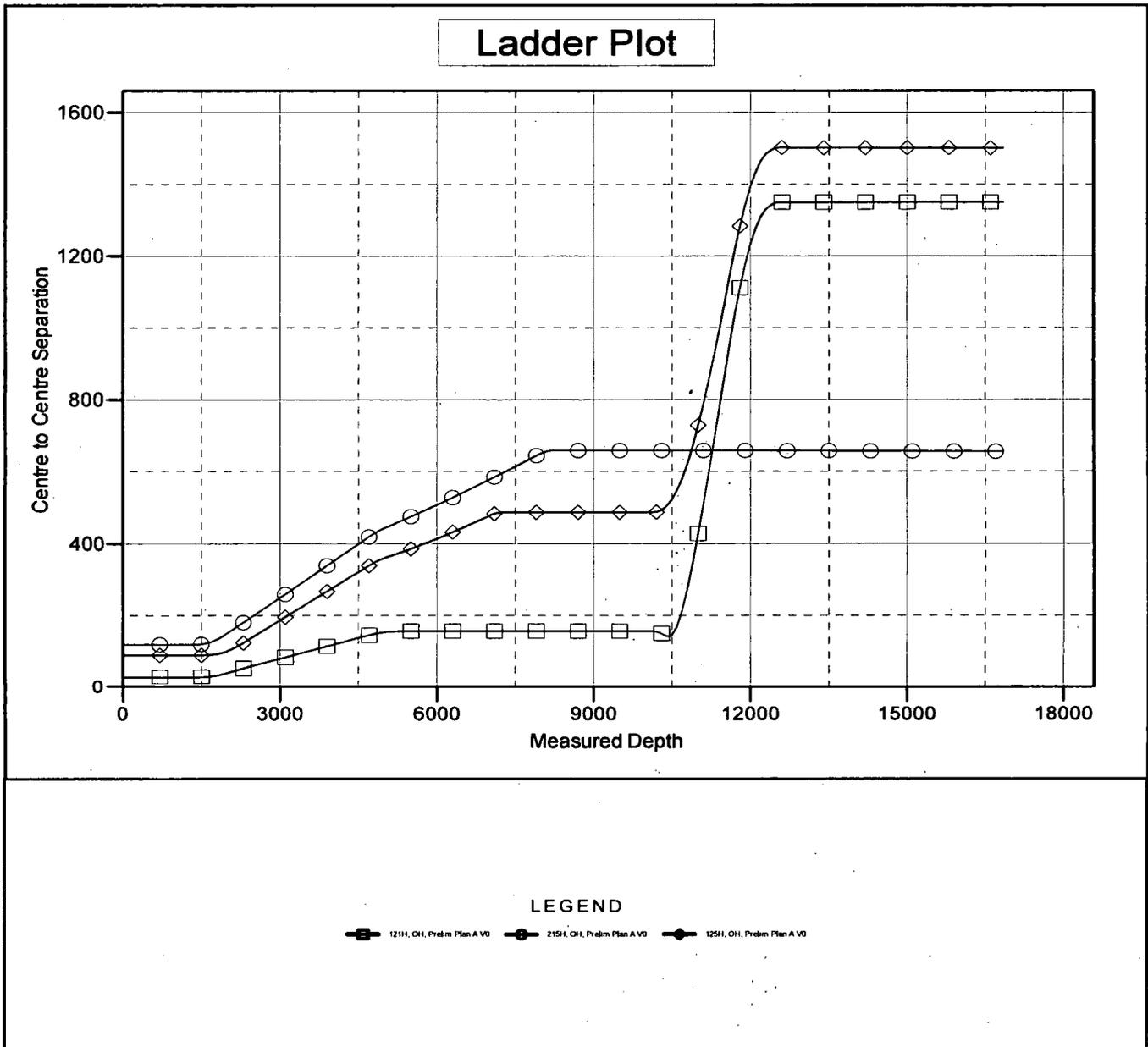
Pro Directional Anticollision Report

Company: Matador Resources
Project: Lea County, NM
Reference Site: Carl Mottek 17-24S-34E AR
Site Error: 0.00 usft
Reference Well: 211H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 211H
TVD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
MD Reference: Rig @ 3607.00usft (GL:3578' + KB:29')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Reference Depths are relative to Rig @ 3607.00usft (GL:3578' + KB:29)
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.3333333

Coordinates are relative to: 211H
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
 Grid Convergence at Surface is: 0.45°



Pro Directional Anticollision Report

Company: Matador Resources
Project: Lea County, NM
Reference Site: Carl Mottek 17-24S-34E AR
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Output errors are at: 2.00 sigma
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Reference Depths are relative to Rig @ 3607.00usft (GL:3578' + KB:29)
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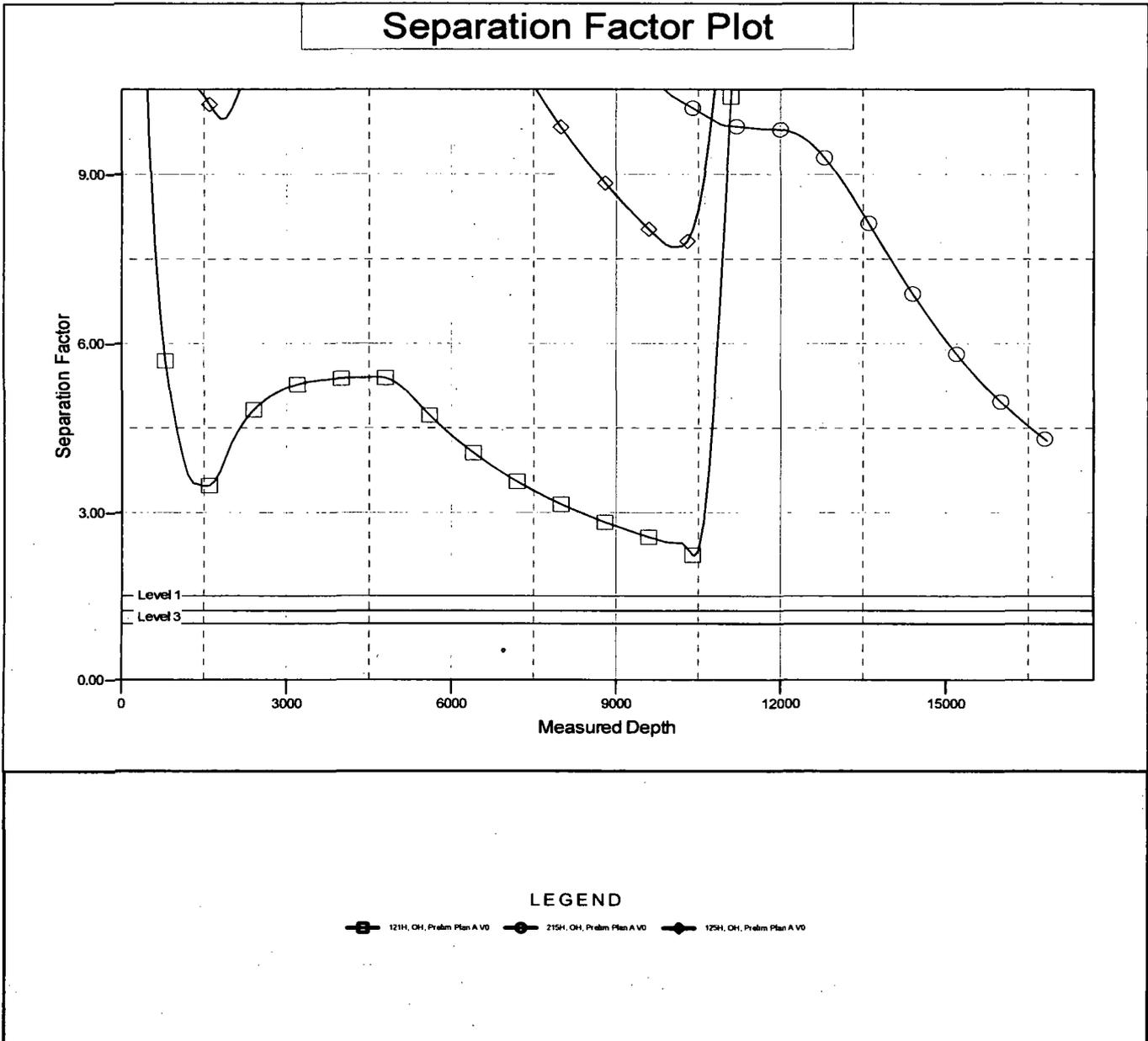
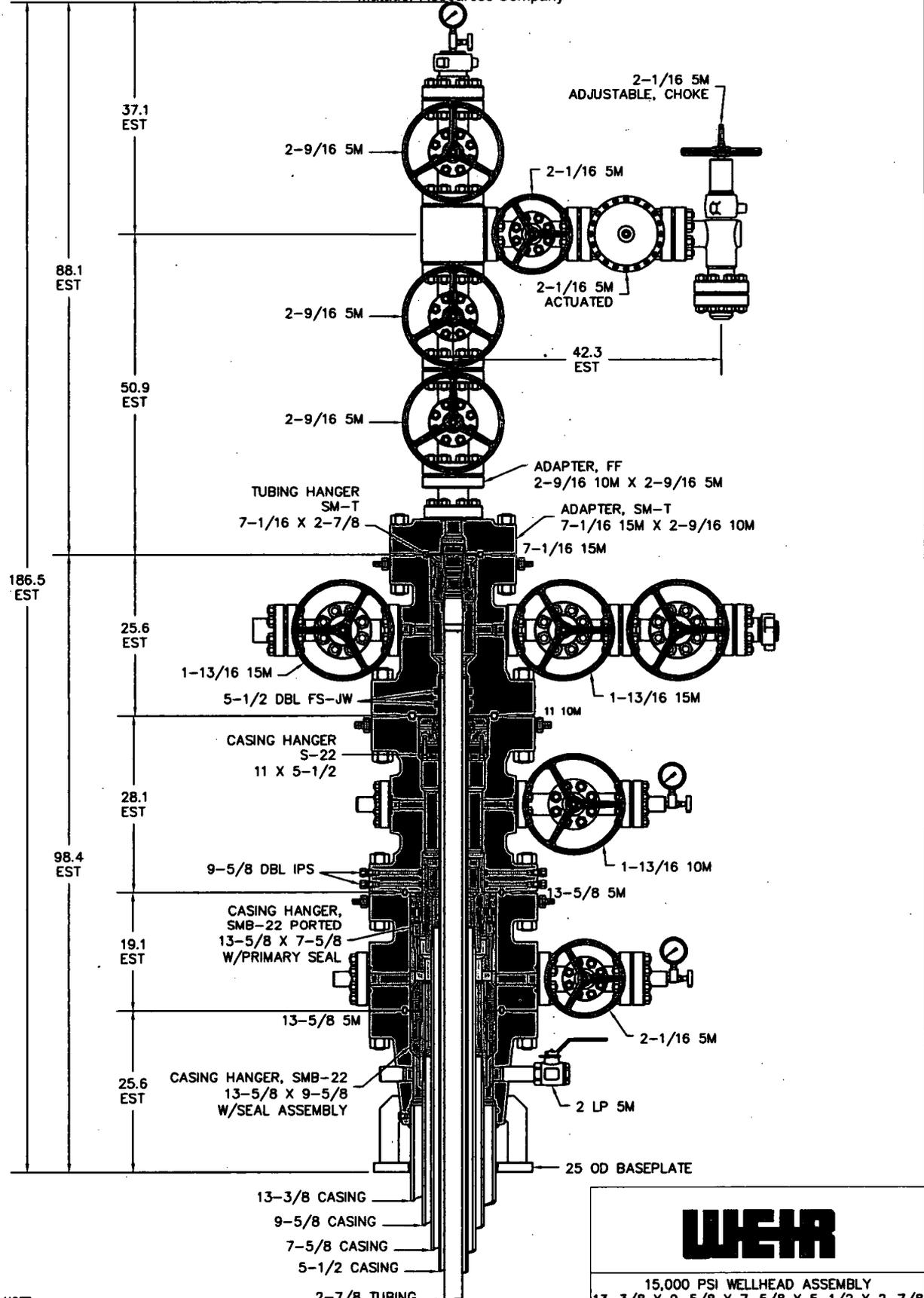


Exhibit E-1: BOP
 Carl Mottek #211H MATADOR PRODUCTION COMPANY
 Matador Resources Company



NOTE:
 DIMENSIONS SHOWN ON THIS DRAWING ARE ESTIMATES ONLY AND CAN VARY SIGNIFICANTLY DEPENDING ON RAW MATERIAL LENGTHS. NO GUARANTEE OF STACKUP HEIGHT IS IMPLIED. DIMENSIONS SHOWN SHOULD BE CONSIDERED FOR REFERENCE PURPOSES ONLY.

RESTRICTED CONFIDENTIAL DOCUMENT
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WEIR

15,000 PSI WELLHEAD ASSEMBLY
 13-3/8 X 9-5/8 X 7-5/8 X 5-1/2 X 2-7/8

DATE	06OCT17	REV	
SCALE	1-11	DRAWING NO.	P-22401
APPROVED BY:	RPL	CHECKED BY:	



Well Control Plan For 10M MASP Section of Wellbore

Component and Preventer Compatibility Table:

The table below covers the drilling and casing of the 10M MASP portion of the well and outlines the tubulars and the compatible preventers in use. This table, combined with the mud program, documents that two barriers to flow can be maintained at all times, independent of the rating of the annular preventer.

Component	OD	Preventer	RWP
Drill pipe	4"	Lower 3.5-5.5" VBR Upper 3.5-5.5" VBR	10M
HWDP	4"		
Jars/Agitator	4.75-5"		
Drill collars and MWD tools	4.75-5.25"		
Mud Motor	4.75-5.25"		
Production casing	4.5-5.5"		
ALL	0-13.625"	Annular	5M
Open-hole	-	Blind Rams	10M

VBR = Variable Bore Ram with compatible range listed in chart

HWDP = Heavy Weight Drill Pipe

MWD = Measurement While Drilling

Well Control Procedures

Well control procedures are specific to the rig equipment and the operation at the time the kick occurs. Below are the minimal high-level tasks prescribed to assure a proper shut-in while drilling, tripping, running casing, pipe out of the hole (open hole), and moving the Bottom Hole Assembly (BHA) through the Blowout Preventers (BOP). The maximum pressure at which well control is transferred from the annular to another compatible ram is 3,000 psi.

General Procedure While Drilling

1. Sound alarm (alert crew)
2. Space out drill string
3. Shut down pumps and stop rotary
4. Shut-in well with the annular preventer (The Hydraulic Control Remote (HCR) valve and choke will already be in the closed position)
5. Confirm shut-in
6. Notify tool pusher and company representative
7. Read and record the following:
 - SIDPP and SICP
 - Pit gain
 - Time of shut in
8. Regroup and identify forward plan
9. If pressure has increased or is anticipated to increase above 3,000 psi, confirm spacing and close the upper pipe rams

General Procedure While Tripping

1. Sound alarm (alert crew)
2. Stab full opening safety valve and close



Well Control Plan For 10M MASP Section of Wellbore

3. Space out drill string
4. Shut-in well with annular preventer (The HCR valve and choke will already be in the closed position)
5. Confirm shut-in
6. Notify tool pusher and company representative
7. Read and record the following:
 - SIDPP and SICP
 - Pit gain
 - Time of shut in
8. Regroup and identify forward plan
9. If pressure has increased or is anticipated to increase above 3,000 psi, confirm spacing and close the upper pipe rams

General Procedure While Running Casing

1. Sound alarm (alert crew)
2. Stab crossover and full opening safety valve and close
3. Space out string
4. Shut-in well with annular preventer (The HCR valve and choke will already be in the closed position)
5. Confirm shut-in
6. Notify tool pusher and company representative
7. Read and record the following:
 - SIDPP and SICP
 - Pit gain
 - Time of shut in
8. Regroup and identify forward plan
9. If pressure has increased or is anticipated to increase above 3,000 psi, confirm spacing and close the upper pipe rams

General Procedure with No Pipe In Hole

1. At any point when the BOP stack is clear of pipe or BHA, the well will be shut in with blind rams, the HCR valve will be open, and choke will be closed. If pressure increase is observed:
2. Sound alarm (alert crew)
3. Confirm shut-in
4. Notify tool pusher and company representative
5. Read and record the following:
 - SICP
 - Time of shut in
6. Regroup and identify forward plan

General Procedure While Pulling BHA through Stack

1. Prior to pulling last joint/stand of drill pipe through the stack, perform flow check. If flowing:
 - a. Sound alarm (alert crew)
 - b. Stab full opening safety valve and close
 - c. Space out drill string
 - d. Shut-in well with annular preventer (The HCR valve and choke will already be in the closed position)
 - e. Confirm shut-in



Well Control Plan For 10M MASP Section of Wellbore

- f. Notify tool pusher and company representative
 - g. Read and record the following:
 - SIDPP and SICP
 - Pit gain
 - Time of shut in
 - h. Regroup and identify forward plan
2. With BHA in the stack and compatible ram preventer and pipe combo immediately available:
- a. Sound alarm (alert crew)
 - b. Stab crossover and full opening safety valve and close
 - c. Space out drill string with the upset just beneath the compatible pipe ram
 - d. Shut-in well using compatible pipe rams (The HCR valve and choke will already be in the closed position)
 - e. Confirm shut-in
 - f. Notify tool pusher and company representative
 - g. Read and record the following:
 - SIDPP and SICP
 - Pit gain
 - Time of shut in
 - h. Regroup and identify forward plan
3. With BHA in the stack and no compatible ram preventer and pipe combo immediately available:
- a. Sound alarm (alert crew)
 - b. If possible to pick up high enough, pull BHA clear of the stack
 - i. Follow "No Pipe in Hole" procedure above
 - c. If impossible to pick up high enough to pull string clear of the stack:
 - i. Stab crossover, make up one joint/stand of drill pipe, and full opening safety valve and close
 - ii. Space out drill string with the upset just beneath the compatible pipe ram
 - iii. Shut-in well using compatible pipe rams (The HCR valve and choke will already be in the closed position)
 - iv. Confirm shut-in
 - v. Notify tool pusher and company representative
 - vi. Read and record the following:
 - SIDPP and SICP
 - Pit gain
 - Time of shut in
 - vii. Regroup and identify forward plan

Well Control Drills

Well control drills are specific to the rig equipment, personnel, and operations. Each crew will execute one drill weekly relevant to ongoing operations, but will make a reasonable attempt to vary the type of drills. The drills will be recorded in the daily drilling log.

Matador Production Company
Carl Mottek Federal 211H
SHL 326' FNL & 380' FWL
BHL 240' FSL & 330' FWL
Sec. 17, T. 24 S., R. 34 E., Lea County, NM

DRILL PLAN PAGE 1

Drilling Program

1. ESTIMATED TOPS

Formation	TVD	MD	Bearing
Quaternary	000'	000'	water
Rustler anhydrite	1268'	1268'	N/A
Salado (top) salt	1798'	1800'	N/A
Salado (base) salt	5279'	5293'	N/A
Bell Canyon sandstone	5310'	5324'	hydrocarbons
Brushy Canyon sandstone	7522'	7536'	hydrocarbons
Bone Spring limestone	8922'	8934'	hydrocarbons
Avalon shale	9150'	9162'	hydrocarbons
1 st Bone Spring Carb	9787'	9799'	hydrocarbons
1 st Bone Spring Sand	9976'	9989'	hydrocarbons
2 nd Bone Spring Carb	10441'	10472'	hydrocarbons
2 nd Bone Spring Sand	10592'	10660'	hydrocarbons
KOP	11516'	11528'	
3 rd Bone Spring Carb	11563'	11566'	hydrocarbons
Wolfcamp A	11881'	11921'	hydrocarbons
TD	12100'	16845'	

2. NOTABLE ZONES

Wolfcamp A is the goal. Hole will extend south of the last perforation point to allow for pump installation. All perforations will be $\geq 330'$ from the dedication perimeter. Closest water well (C 03932) is 766' northwest. No depth to water was reported in this well. Ground water depth estimated at 220'.

3. PRESSURE CONTROL

A 12,000' 10,000-psi BOP stack consisting of 3 rams with 2 pipe rams, 1 blind ram, and 1 annular preventer will be used below surface casing to TD. See attached BOP, choke manifold, co-flex hose, and speed head diagrams.

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DRILL PLAN PAGE 2

An accumulator complying with Onshore Order 2 requirements for the BOP stack pressure rating will be present. Rotating head will be installed as needed.

Testing Procedure

Pressure tests will be conducted before drilling out from under all casing strings. BOP will be inspected and operated as required in Onshore Order 2. Kelly cock and sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position.

A third party company will test the BOPs.

After setting surface casing, and before drilling below the surface casing shoe, BOPE will be tested to 250 psi low and 2000 psi high. Annular will be tested to 250 psi low and 1000 psi high. After setting 9-5/8" casing, pressure tests will be made to 250 psi low and 5000 psi high. Annular will be tested to 250 psi low and 2500 psi high. After setting 7-5/8" x 7" Casing, pressure tests will be made to 250 psi low and 10,000 psi high. Annular will be tested to 250 psi low and 5000 psi high.

Variance Request

Matador requests a variance to drill this well using a co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached. Manufacturer does not require the hose to be anchored. If the specific hose is not available, then one of equal or higher rating will be used.

Operator requests a variance to use a 5M Annular and test to 250 psi low and 5000 psi high.

Matador is requesting a variance to use a speed head for setting the intermediate (9-5/8") casing. In the case of running a speed head with landing mandrel for 9-5/8" casing, BOP test pressures after setting surface casing will be 250 psi low and 5000 psi high. Annular will be tested to 250 psi low and 2500 psi high before drilling below the surface shoe. The BOPs will not be tested again until after setting 7-5/8" x 7" casing unless any flanges are separated. A diagram of the speed head is attached.

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DRILL PLAN PAGE 3

4. CASING & CEMENT

All casing will be API and new. See attached casing assumption worksheet.

Hole O. D.	Set MD	Set TVD	Casing O. D.	Weight (lb/ft)	Grade	Joint	Collaps e	Burst	Tension
17.5"	0' -1300'	0' -1300'	Surface 13.375"	54.5	J-55	BTC	1.125	1.125	1.8
12.25"	0' -5300'	0' -5300'	Inter. 1 9.625"	40	J-55	BTC	1.125	1.125	1.8
8.75"	0' -4300'	0' -4300'	Inter. 2 7.625"	29.7	P-110	BTC	1.125	1.125	1.8
8.75"	4300' -11000'	4300' -11000'	Inter. 2 7.625"	29.7	P-110	VAM HTF-NR	1.125	1.125	1.8
8.75"	11000' -12330'	11000' -12330'	Inter. 2 7"	29	P-110	BTC	1.125	1.125	1.8
6.125"	0' -10700'	0' -10700'	Product. 5.5"	20	P-110	BTC/TXP	1.125	1.125	1.8
6.125"	10700' -16845'	10700' -12100'	Product. 4.5"	13.5	P-110	BTC/TXP	1.125	1.125	1.8

Casing Name	Type	Sacks	Yield	Cu. Ft.	Weight	Blend
Surface	Lead	740	1.82	1346	12.8	Class C + bentonite + 2% CaCl ₂ + 3% NaCl + LCM
	Tail	330	1.38	455	14.8	Class C + 5% NaCl + LCM
TOC = GL		100% Excess			Centralizers per Onshore Order 2	
Intermediate 1	Lead	1110	2.09	2319	12.6	Class C + Bentonite + 1% CaCl ₂ + 8% NaCl + LCM
	Tail	540	1.38	745	14.8	Class C + 5% NaCl + LCM
TOC = GL		100% Excess			2 on btm jt, 1 on 2nd jt, 1 every 4th jt to GL	
Intermediate	Lead	600	2.21	1320	11.5	TXI + Fluid Loss + Dispersant +

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DRILL PLAN PAGE 4

2						Retarder + LCM
	Tail	375	1.37	376	13.2	TXI + Fluid Loss + Dispersant + Retarder + LCM
TOC = 4300'		60% Excess		2 on btm jt, 1 on 2nd jt, 1 every 4th jt to top of tail cement (500' above TOC)		
Production	Tail	600	1.17	702	15.8	TXI + Fluid Loss + Dispersant + Retarder + LCM
TOC = 10500'		20% Excess		2 on btm jt, 1 on 2nd jt, 1 every other jt to top of curve		

5. MUD PROGRAM

An electronic Pason mud monitoring system complying with Onshore Order 1 will be used. All necessary mud products (barite, bentonite, LCM) for weight addition and fluid loss control will be on location at all times. Mud program is subject to change due to hole conditions. A closed loop system will be used.

Type	Interval (MD)	lb/gal	Viscosity	Fluid Loss
fresh water spud	0' - 1300'	8.3	28	NC
brine water	1300' - 5300'	10.0	30-32	NC
fresh water & cut brine	5300' - 12330'	9.0	30-32	NC
OBM	12330' - 16845'	12.50	50-60	<10

6. CORES, TESTS, & LOGS

No core or drill stem test is planned.

Testing, Logging & Coring Program:

- Mud Logging Program: 2 man unit from 5300 – TD
- Electric Logging Program: No electric logs are planned at this time. GR will be collected through the MWD tools from 1st Inter. Csg to TD
- No DSTs or cores are planned at this time
- CBL w/ CCL from as far as gravity will let it fall to TOC

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DRILL PLAN PAGE 5

7. DOWN HOLE CONDITIONS

No abnormal pressure or temperature is expected. Maximum expected bottom hole pressure is ≈ 7250 psi. Expected bottom hole temperature is $\approx 180^\circ$ F.

In accordance with Onshore Order 6, Matador does not anticipate that there will be enough H₂S from the surface to the Bone Spring to meet the BLM's minimum requirements for the submission of an "H₂S Drilling Operation Plan" or "Public Protection Plan" for drilling and completing this well. Since Matador has an H₂S safety package on all wells, an "H₂S Drilling Operations Plan" is attached. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

8. OTHER INFORMATION

Anticipated spud date is upon approval. It is expected it will take ≈ 3 months to drill and complete the well.



APD ID: 10400028331

Submission Date: 03/13/2018

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: CARL MOTTEK FEDERAL

Well Number: 211H

Well Type: OIL WELL

Well Work Type: Drill



[Show Final Text](#)

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

CM_211H_Road_Map_20180313114845.pdf

Existing Road Purpose: ACCESS

Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

CM_211H_New_Road_Map_20180313114911.pdf

New road type: RESOURCE

Length: 579.49 Feet

Width (ft.): 30

Max slope (%): 0

Max grade (%): 1

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 14

New road access erosion control: Crowned and ditched

New road access plan or profile prepared? NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

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Sec. 17, T. 24 S., R. 34 E., Lea County, NM**

SURFACE PLAN PAGE 1

Surface Use Plan

1. ROAD DIRECTIONS & DESCRIPTIONS (See MAPS 1 – 5)

From the junction NM 18 & NM 128 in Jal, NM...
Go NW 19 miles on paved NM 128 the equivalent of Mile Post 31.9
Then turn right and go N 1.0 mile on paved County Road 21, aka Delaware Basin
Then turn right and go E 0.55 mile on a caliche road to far side of COG's 4H pad
(Beware of anchors on COG's Sebastian Fed Com 4H)
Then continue E cross-country 579.49' to the proposed Carl Mottek Federal pad

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

2. ROAD TO BE BUILT OR UPGRADED (See MAPS 4 & 5)

The 579.49' of new resource road will be crowned and ditched, have a 14' wide driving surface, and be surfaced with caliche. Maximum disturbed width = 30'. Maximum grade = 1%. Maximum cut or fill = 1'. No culvert, cattle guard, or vehicle turn out is needed. COG's anchors will be marked. No upgrade is needed.

3. EXISTING WELLS (See MAP 6)

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

4. PROPOSED PRODUCTION FACILITIES (See MAP 7)

Pipeline and power line plans have not been finalized. Production equipment will be on the north side of the pad.

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SURFACE PLAN PAGE 2

5. WATER SUPPLY (See MAP 8)

Water will be trucked via existing roads from the existing Madera water station on private land in NWNE 21-24s-34e.

6. CONSTRUCTION MATERIALS & METHODS (See MAPS 9 & 10)

COG and NM One Call (811) will be notified before construction starts. Top ≈6" of soil and brush will be stockpiled south of the pad. Pipe racks will face north. Closed loop drilling system will be used. Caliche will be hauled from an existing caliche pit on private (Madera) land in SENW 6-25s-35e.

7. WASTE DISPOSAL

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

8. ANCILLARY FACILITIES

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

9. WELL SITE LAYOUT (See MAP 9)

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

10. RECLAMATION (See MAP 11)

Interim reclamation will be completed within 6 months of completing the well. Interim reclamation will consist of shrinking the pad ≈23% (0.85 acre) by removing caliche and reclaiming a 100' wide swath on the east side. This will leave 2.80 acres for producing 5 wells and tractor-trailer turn around. Disturbed areas will be contoured to match pre-

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SURFACE PLAN PAGE 3

construction grades. Soil and brush will be evenly spread over disturbed areas and harrowed on the contour. Disturbed areas will be seeded in accordance with the land owner's requirements.

Enough stockpiled topsoil will be retained to cover the remainder of the pad when the well is plugged. Once the last well is plugged, then the rest of the pad and 579.49' of new road will be similarly reclaimed within 6 months of plugging. Noxious weeds will be controlled.

Land use

30' x 579.49' road = 0.40 acre
+ 370' x 430' pad = 3.65 acres
4.05 acres short term
- 0.85 acre interim reclamation pad
3.20 acres long term (0.40 ac. road + 2.80 ac. pad)

11. SURFACE OWNER

Well pad and that portion of the new road in Sec. 17 will be on private surface owned by Billie McKandles Fortner, 1033 Park Center St., Benbrook TX 76126. That portion of the new road in Section 18 will be on private land owned by Rubert Madera, PO Box 2795, Ruidoso NM 88355.

12. OTHER INFORMATION

On-site inspection was held with Vance Wolf (BLM).

CERTIFICATION

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U. S. C. 1001 for the filing of false statements. Executed this 13th day of February, 2018.

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Carl Mottek Federal 211H
SHL 326' FNL & 380' FWL
BHL 240' FSL & 330' FWL
Sec. 17, T. 24 S., R. 34 E., Lea County, NM**

SURFACE PLAN PAGE 4



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

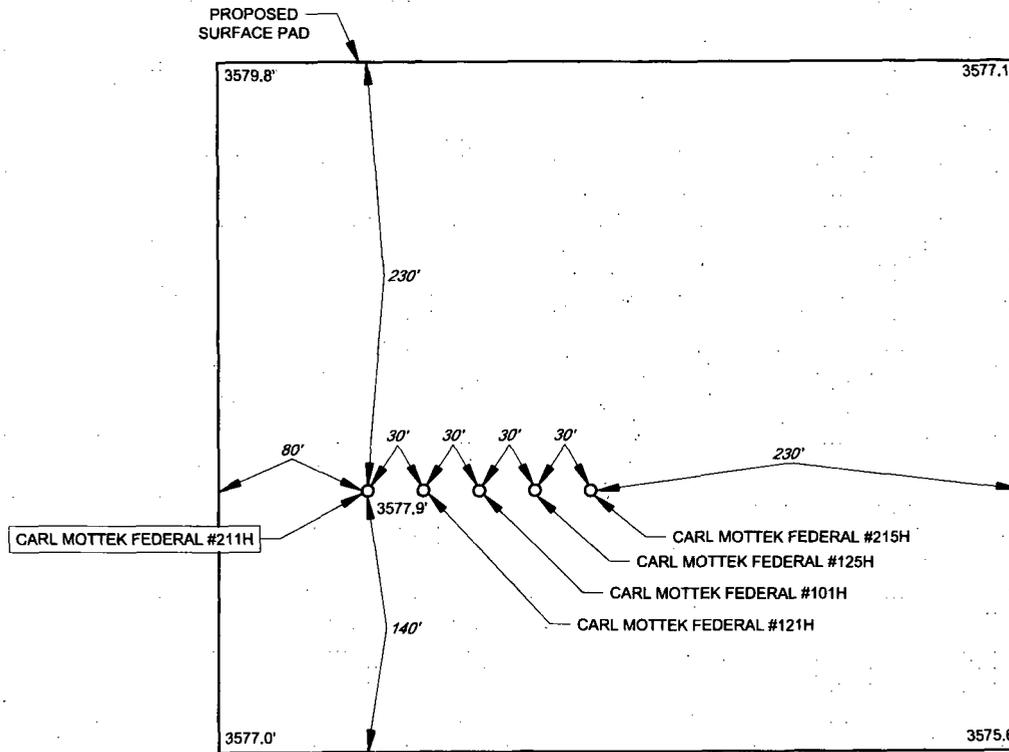
**Field representative will be:
Sam Pryor, Senior Staff Landman
Matador Production Company
5400 LBJ Freeway, Suite 1500, Dallas TX 75240
Phone: (972) 371-5241 FAX: (214) 866-4841**



SECTION 17, TOWNSHIP 24-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

DETAIL VIEW
SCALE: 1" = 100'

SECTION LINE



LEASE NAME & WELL NO.: CARL MOTTEK FEDERAL #211H
 #211H LATITUDE N 32.2239339 #211H LONGITUDE W 103.4992637

LEGEND

SECTION LINE



SCALE: 1" = 100'
 0' 50' 100'

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID
 BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY
 FEET

THIS PROPOSED PAD SITE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER
 MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY,
 AND DATA PROVIDED BY MATADOR PRODUCTION COMPANY. THIS CERTIFICATION IS MADE AND
 LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS
 NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.



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