

HOBBS OCD

FEB 06 2018

RECEIVED

**PECOS DISTRICT
DRILLING OPERATIONS
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Matador Production Company
LEASE NO.:	NMNM-63763
WELL NAME & NO.:	MJ Fed Com 224H
SURFACE HOLE FOOTAGE:	0169' FNL & 2151' FEL
BOTTOM HOLE FOOTAGE:	0240' FSL & 0330' FEL
LOCATION:	Section 23, T. 19 S., R 33 E., NMPM
COUNTY:	County, New Mexico

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

A. Hydrogen Sulfide

1. A Hydrogen Sulfide (H₂S) Drilling Plan shall be activated 500 feet prior to drilling into the Yates 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.

A. 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 Potash Areas:

After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log.

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.

Secretary's Potash

Possibility of water and brine flows in the Artesia and Salado Groups.

Possibility of lost circulation in the Rustler, Capitan Reef, Red Beds, Delaware, and Artesia Group.

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

1. The 13-3/8 inch surface casing shall be set at approximately 1535 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 BLM minimum collapse requirements.

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

Option #1 (Single Stage):

- ☐ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Potash.**

Option #2 (DV tool):

Operator has proposed DV tool at depth of 4500', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

- a. First stage to DV tool: _____
- ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second stage above DV tool:

- ☐ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Potash.**

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

- ☐ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Potash.**

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 (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.

Centralizers required through the curve 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 as proposed by operator. 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.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API 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. **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" 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.

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

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be psi.
5. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8 2nd intermediate casing shoe shall be psi.
6. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 7-5/8 X 7 1st 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.

7. The appropriate BLM office shall be notified a minimum of hours in advance for a representative to witness the tests.
- a. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.
 - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.
 - c. 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.
 - d. The results of the test shall be reported to the appropriate BLM office.
 - e. 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.**
 - f. 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.
 - g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

D. DRILL STEM TEST

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

E. 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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**PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	MATADOR PRODUCTION COMPANY
LEASE NO.:	NMNM63763
WELL NAME & NO.:	223H -MJ FEDERAL
SURFACE HOLE FOOTAGE:	169'/N & 2151'/W
BOTTOM HOLE FOOTAGE:	240'/S & 330'/W
LOCATION:	Section 23 T.19 S., R.33E., NMP
COUNTY:	LEA County, New Mexico

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

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I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

IV. NOXIOUS WEEDS

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

V. SPECIAL REQUIREMENT(S)

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken:

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

Below Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

Tank Battery:

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

Watershed/Water Quality:

The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.

- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g. caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised. (Any access road crossing the berm cannot be lower than the berm height.)

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

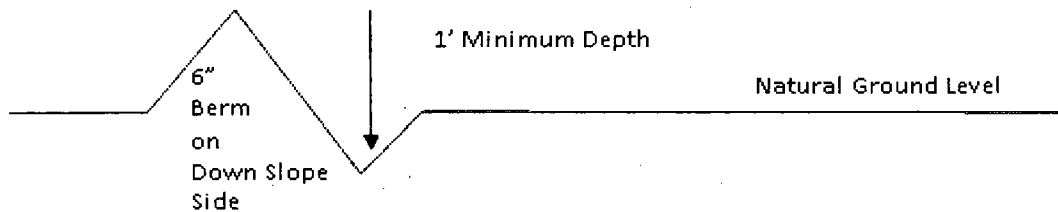
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill out sloping 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

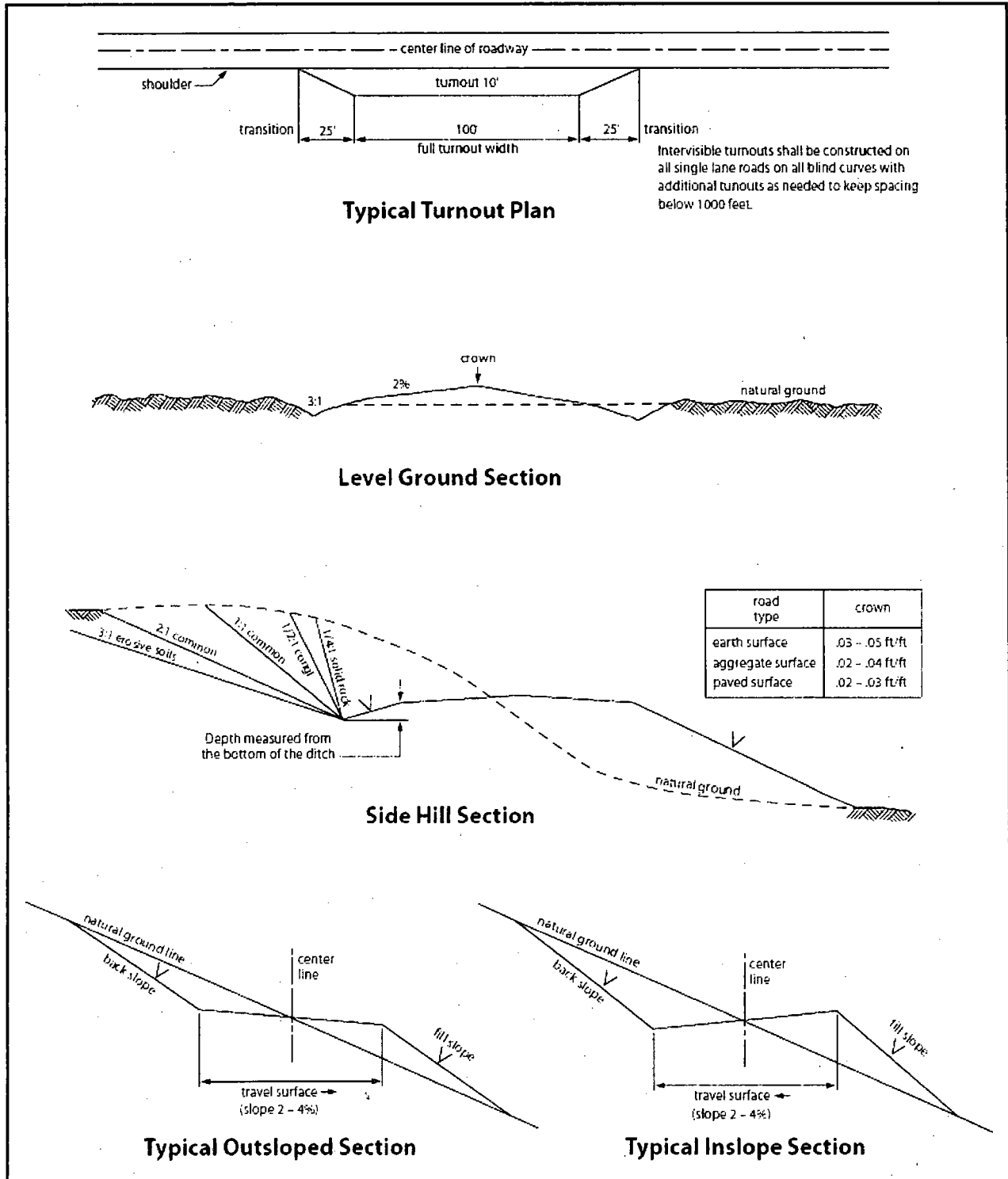


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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).

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

Seed Mixture for LPC Sand/Shinnery Sites

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

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

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

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

*Pounds of pure live seed:

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



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 will be located on the drilling rig floor, in the base of the sub structure / cellar area, 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 should be high enough to be visible.
- Windsock on the rig floor and / top of doghouse should 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 attachments

6 Communication:

- While working under masks, chalkboards will be used for communications.
- Hand signals will be used where chalkboard 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 drilling foreman's trailer or living quarters.



7 Drilling Stem Testing:

- No DSTs or 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

- See following page

H2S Contingency Plan Emergency Contacts
 MJ Federal wells
 Matador Production Company
 Sec. 23, T19S, R33E Lea County, NM

HOBBS OCD
FEB 06 2018
RECEIVED

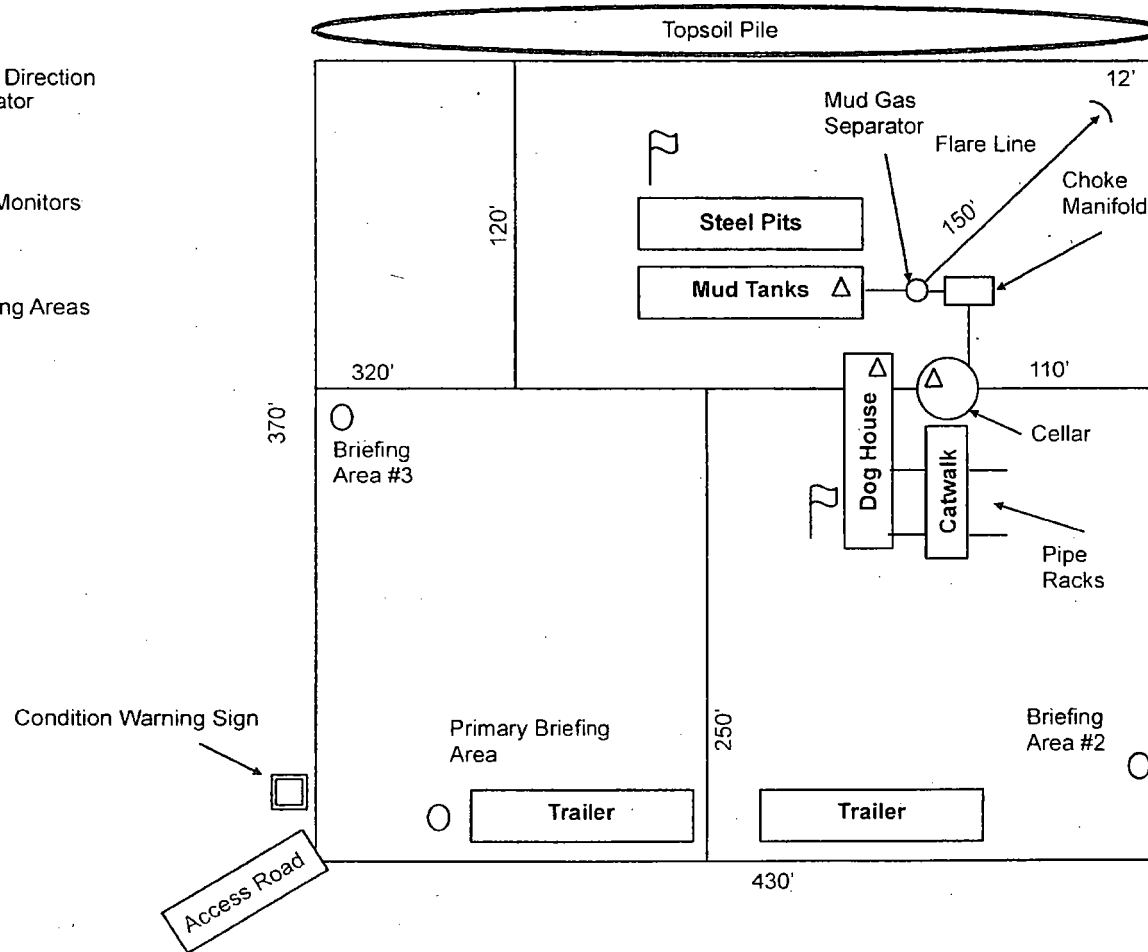
<u>Company Office</u>			
Matador Production Company	(972)-371-5200		
<u>Key Personnel</u>			
Name	Title	Office	Mobile
Billy Goodwin	Vice President Drilling	972-371-5210	817-522-2928
Gary Martin	Drilling Superintendent		601-669-1774
Dee Smith	Drilling Superintendent	972-371-5447	972-822-1010
Patrick Walsh	Drilling Engineer	972-371-5291	626-318-5808
Greg Deevers	Construction Superintendent		405-431-9527
Jimmy Benefield	Construction Superintendent		318-548-6659
<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. (Monument)		575-393-4339	
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	

H2S Rig Diagram

Wind Direction Indicator

H2S Monitors

Briefing Areas



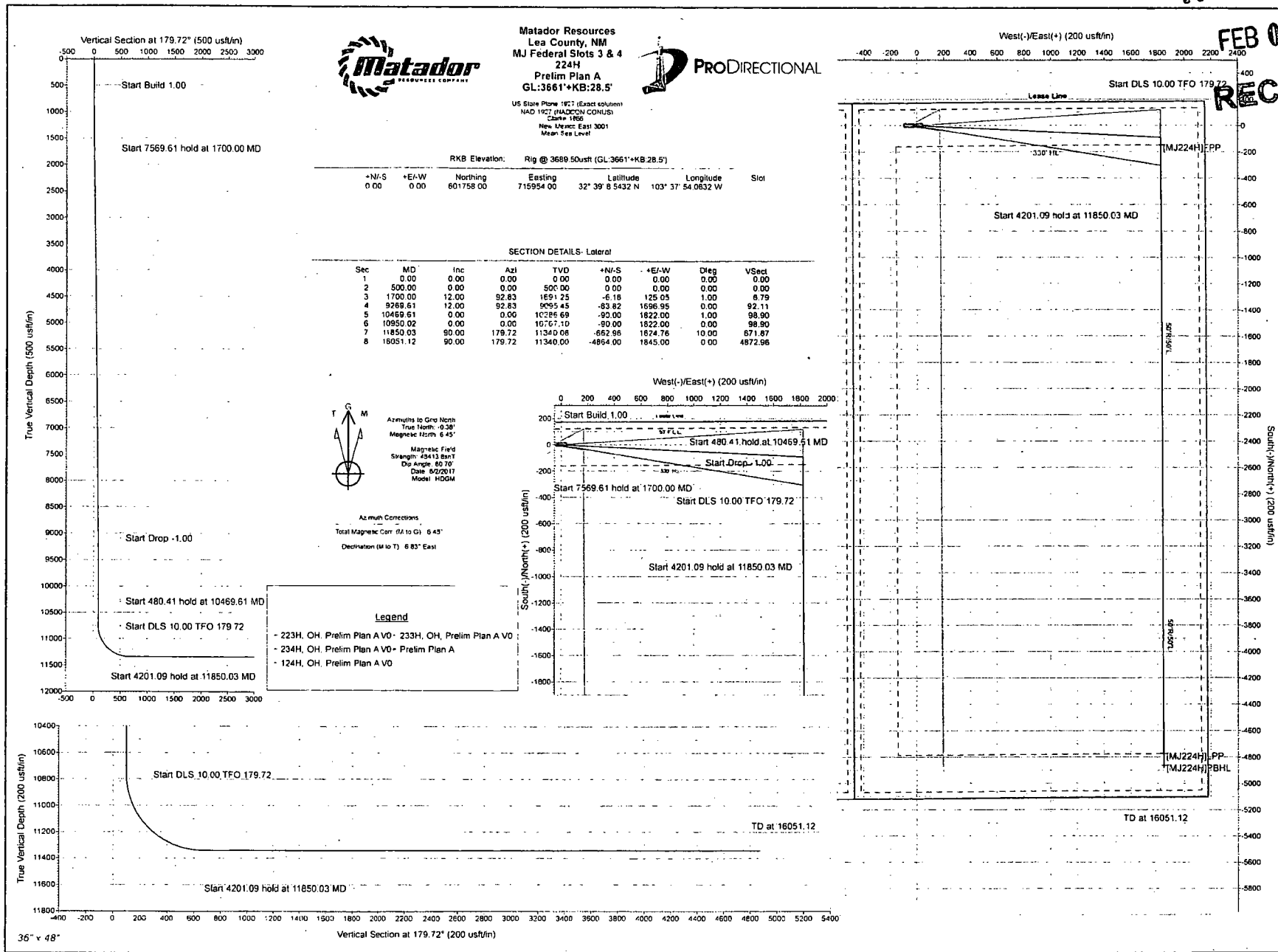
N
↑
Prevaling Wind
Out of South

MJ Federal 224H
SHL 169' FNL & 2151' FEL
23-19S-33E Lea County, NM

HOBBS OCD

FEB 06 2018

RECEIVED



36" x 48"

Matador Production Company

MJ Federal #224H
H₂S Contingency Plan:
2 Mile Radius Map

Section 23, Township 19S, Range 33E
Lea County, New Mexico

⊙ Surface Hole Location

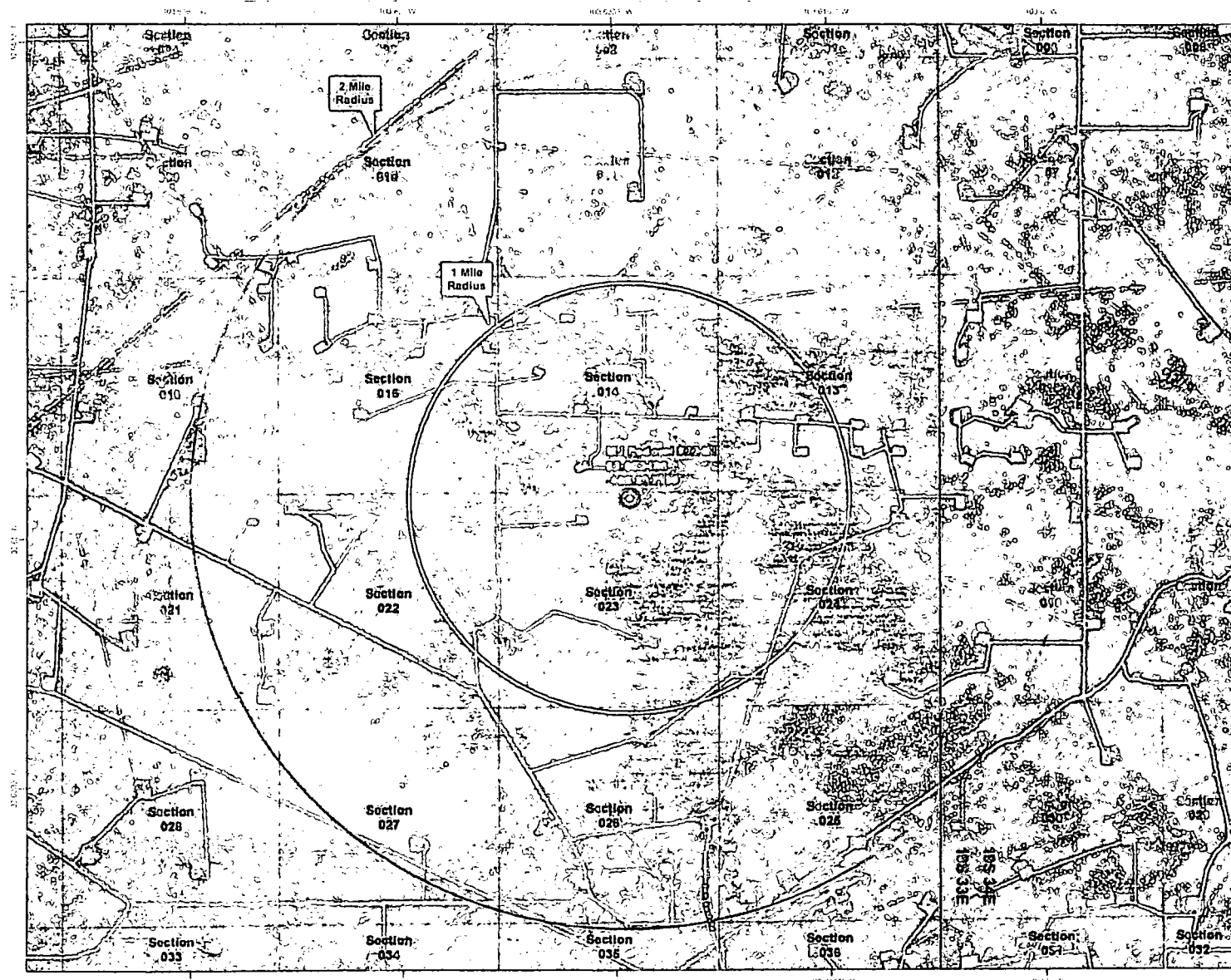
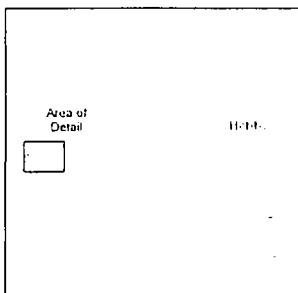
1:27,000
0 0.25 0.5 1
Miles



NAD 1983 New Mexico State Plane East
FIPS 3001 Feet

PERMITS UNIT

Prepared by Permits West, Inc., July 19, 2017
for Matador Production Company



Pro Directional

Survey Report

HOBBS OCD
FEB 06 2018
RECEIVED

Company: Matador Resources
 Project: Lea County, NM
 Site: MJ Federal Slots 3 & 4
 Well: 224H
 Wellbore: OH
 Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
 TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
 MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 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	MJ Federal Slots 3 & 4				
Site Position:		Northing:	601,758.00 usft	Latitude:	32° 39' 8.5491 N
From:	Map	Easting:	715,864.00 usft	Longitude:	103° 37' 55.1358 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.38 °

Well	224H					
Well Position	+N/-S	0.00 usft	Northing:	601,758.00 usft	Latitude:	32° 39' 8.5432 N
	+E/-W	0.00 usft	Easting:	715,954.00 usft	Longitude:	103° 37' 54.0832 W
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,661.00 usft	

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/2/2017	6.83	60.70	48.413.80

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	179.72

Survey Tool Program Date 6/9/2017

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	500.00	Prelim Plan A (OH)	MWD - OWSG	MWD - OWSG
500.00	10,943.00	Prelim Plan A (OH)	MWD - OWSG	MWD - OWSG
10,943.00	16,050.92	Prelim Plan A (OH)	MWD - OWSG	MWD - OWSG

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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	1.00	92.83	599.99	-0.04	0.87	0.05	1.00	1.00	0.00
700.00	2.00	92.83	699.96	-0.17	3.49	0.19	1.00	1.00	0.00
800.00	3.00	92.83	799.86	-0.39	7.84	0.43	1.00	1.00	0.00

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Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

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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)
900.00	4.00	92.83	899.68	-0.69	13.94	0.76	1.00	1.00	0.00
1,000.00	5.00	92.83	999.37	-1.08	21.78	1.18	1.00	1.00	0.00
1,100.00	6.00	92.83	1,098.90	-1.55	31.35	1.70	1.00	1.00	0.00
1,200.00	7.00	92.83	1,198.26	-2.11	42.66	2.32	1.00	1.00	0.00
1,300.00	8.00	92.83	1,297.40	-2.75	55.69	3.02	1.00	1.00	0.00
1,400.00	9.00	92.83	1,396.30	-3.48	70.45	3.82	1.00	1.00	0.00
1,500.00	10.00	92.83	1,494.93	-4.29	86.94	4.72	1.00	1.00	0.00
1,600.00	11.00	92.83	1,593.26	-5.19	105.14	5.71	1.00	1.00	0.00
1,700.00	12.00	92.83	1,691.25	-6.18	125.05	6.79	1.00	1.00	0.00
1,800.00	12.00	92.83	1,789.06	-7.20	145.82	7.92	0.00	0.00	0.00
1,900.00	12.00	92.83	1,886.88	-8.23	166.58	9.04	0.00	0.00	0.00
2,000.00	12.00	92.83	1,984.69	-9.25	187.35	10.17	0.00	0.00	0.00
2,100.00	12.00	92.83	2,082.51	-10.28	208.12	11.30	0.00	0.00	0.00
2,200.00	12.00	92.83	2,180.32	-11.31	228.88	12.42	0.00	0.00	0.00
2,300.00	12.00	92.83	2,278.13	-12.33	249.65	13.55	0.00	0.00	0.00
2,400.00	12.00	92.83	2,375.95	-13.36	270.41	14.68	0.00	0.00	0.00
2,500.00	12.00	92.83	2,473.76	-14.38	291.18	15.81	0.00	0.00	0.00
2,600.00	12.00	92.83	2,571.58	-15.41	311.95	16.93	0.00	0.00	0.00
2,700.00	12.00	92.83	2,669.39	-16.43	332.71	18.06	0.00	0.00	0.00
2,800.00	12.00	92.83	2,767.21	-17.46	353.48	19.19	0.00	0.00	0.00
2,900.00	12.00	92.83	2,865.02	-18.49	374.24	20.31	0.00	0.00	0.00
3,000.00	12.00	92.83	2,962.84	-19.51	395.01	21.44	0.00	0.00	0.00
3,100.00	12.00	92.83	3,060.65	-20.54	415.77	22.57	0.00	0.00	0.00
3,200.00	12.00	92.83	3,158.47	-21.56	436.54	23.70	0.00	0.00	0.00
3,300.00	12.00	92.83	3,256.28	-22.59	457.31	24.82	0.00	0.00	0.00
3,400.00	12.00	92.83	3,354.10	-23.61	478.07	25.95	0.00	0.00	0.00
3,500.00	12.00	92.83	3,451.91	-24.64	498.84	27.08	0.00	0.00	0.00
3,600.00	12.00	92.83	3,549.73	-25.67	519.60	28.21	0.00	0.00	0.00
3,700.00	12.00	92.83	3,647.54	-26.69	540.37	29.33	0.00	0.00	0.00
3,800.00	12.00	92.83	3,745.36	-27.72	561.14	30.46	0.00	0.00	0.00
3,900.00	12.00	92.83	3,843.17	-28.74	581.90	31.59	0.00	0.00	0.00
4,000.00	12.00	92.83	3,940.99	-29.77	602.67	32.71	0.00	0.00	0.00
4,100.00	12.00	92.83	4,038.80	-30.80	623.43	33.84	0.00	0.00	0.00
4,200.00	12.00	92.83	4,136.62	-31.82	644.20	34.97	0.00	0.00	0.00
4,300.00	12.00	92.83	4,234.43	-32.85	664.96	36.10	0.00	0.00	0.00
4,400.00	12.00	92.83	4,332.24	-33.87	685.73	37.22	0.00	0.00	0.00
4,500.00	12.00	92.83	4,430.06	-34.90	706.50	38.35	0.00	0.00	0.00
4,600.00	12.00	92.83	4,527.87	-35.92	727.26	39.48	0.00	0.00	0.00
4,700.00	12.00	92.83	4,625.69	-36.95	748.03	40.60	0.00	0.00	0.00
4,800.00	12.00	92.83	4,723.50	-37.98	768.79	41.73	0.00	0.00	0.00
4,900.00	12.00	92.83	4,821.32	-39.00	789.56	42.86	0.00	0.00	0.00
5,000.00	12.00	92.83	4,919.13	-40.03	810.33	43.99	0.00	0.00	0.00
5,100.00	12.00	92.83	5,016.95	-41.05	831.09	45.11	0.00	0.00	0.00

Pro Directional Survey Report

Company: Matador Resources
Project: Lea County, NM
Site: MJ Federal Slots 3 & 4
Well: 224H
Wellbore: OH
Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
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)
5,200.00	12.00	92.83	5,114.76	-42.08	851.86	46.24	0.00	0.00	0.00
5,300.00	12.00	92.83	5,212.58	-43.10	872.62	47.37	0.00	0.00	0.00
5,400.00	12.00	92.83	5,310.39	-44.13	893.39	48.50	0.00	0.00	0.00
5,500.00	12.00	92.83	5,408.21	-45.16	914.15	49.62	0.00	0.00	0.00
5,600.00	12.00	92.83	5,506.02	-46.18	934.92	50.75	0.00	0.00	0.00
5,700.00	12.00	92.83	5,603.84	-47.21	955.69	51.88	0.00	0.00	0.00
5,800.00	12.00	92.83	5,701.65	-48.23	976.45	53.00	0.00	0.00	0.00
5,900.00	12.00	92.83	5,799.47	-49.26	997.22	54.13	0.00	0.00	0.00
6,000.00	12.00	92.83	5,897.28	-50.28	1,017.98	55.26	0.00	0.00	0.00
6,100.00	12.00	92.83	5,995.10	-51.31	1,038.75	56.39	0.00	0.00	0.00
6,200.00	12.00	92.83	6,092.91	-52.34	1,059.52	57.51	0.00	0.00	0.00
6,300.00	12.00	92.83	6,190.73	-53.36	1,080.28	58.64	0.00	0.00	0.00
6,400.00	12.00	92.83	6,288.54	-54.39	1,101.05	59.77	0.00	0.00	0.00
6,500.00	12.00	92.83	6,386.35	-55.41	1,121.81	60.89	0.00	0.00	0.00
6,600.00	12.00	92.83	6,484.17	-56.44	1,142.58	62.02	0.00	0.00	0.00
6,700.00	12.00	92.83	6,581.98	-57.46	1,163.35	63.15	0.00	0.00	0.00
6,800.00	12.00	92.83	6,679.80	-58.49	1,184.11	64.28	0.00	0.00	0.00
6,900.00	12.00	92.83	6,777.61	-59.52	1,204.88	65.40	0.00	0.00	0.00
7,000.00	12.00	92.83	6,875.43	-60.54	1,225.64	66.53	0.00	0.00	0.00
7,100.00	12.00	92.83	6,973.24	-61.57	1,246.41	67.66	0.00	0.00	0.00
7,200.00	12.00	92.83	7,071.06	-62.59	1,267.17	68.79	0.00	0.00	0.00
7,300.00	12.00	92.83	7,168.87	-63.62	1,287.94	69.91	0.00	0.00	0.00
7,400.00	12.00	92.83	7,266.69	-64.65	1,308.71	71.04	0.00	0.00	0.00
7,500.00	12.00	92.83	7,364.50	-65.67	1,329.47	72.17	0.00	0.00	0.00
7,600.00	12.00	92.83	7,462.32	-66.70	1,350.24	73.29	0.00	0.00	0.00
7,700.00	12.00	92.83	7,560.13	-67.72	1,371.00	74.42	0.00	0.00	0.00
7,800.00	12.00	92.83	7,657.95	-68.75	1,391.77	75.55	0.00	0.00	0.00
7,900.00	12.00	92.83	7,755.76	-69.77	1,412.54	76.68	0.00	0.00	0.00
8,000.00	12.00	92.83	7,853.58	-70.80	1,433.30	77.80	0.00	0.00	0.00
8,100.00	12.00	92.83	7,951.39	-71.83	1,454.07	78.93	0.00	0.00	0.00
8,200.00	12.00	92.83	8,049.21	-72.85	1,474.83	80.06	0.00	0.00	0.00
8,300.00	12.00	92.83	8,147.02	-73.88	1,495.60	81.18	0.00	0.00	0.00
8,400.00	12.00	92.83	8,244.84	-74.90	1,516.36	82.31	0.00	0.00	0.00
8,500.00	12.00	92.83	8,342.65	-75.93	1,537.13	83.44	0.00	0.00	0.00
8,600.00	12.00	92.83	8,440.46	-76.95	1,557.90	84.57	0.00	0.00	0.00
8,700.00	12.00	92.83	8,538.28	-77.98	1,578.66	85.69	0.00	0.00	0.00
8,800.00	12.00	92.83	8,636.09	-79.01	1,599.43	86.82	0.00	0.00	0.00
8,900.00	12.00	92.83	8,733.91	-80.03	1,620.19	87.95	0.00	0.00	0.00
9,000.00	12.00	92.83	8,831.72	-81.06	1,640.96	89.08	0.00	0.00	0.00
9,100.00	12.00	92.83	8,929.54	-82.08	1,661.73	90.20	0.00	0.00	0.00
9,200.00	12.00	92.83	9,027.35	-83.11	1,682.49	91.33	0.00	0.00	0.00
9,269.62	12.00	92.83	9,095.45	-83.82	1,696.95	92.11	0.00	0.00	0.00
9,300.00	11.70	92.83	9,125.18	-84.13	1,703.18	92.45	1.00	-1.00	0.00

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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)
9,400.00	10.70	92.83	9,223.28	-85.09	1,722.57	93.51	1.00	-1.00	0.00
9,500.00	9.70	92.83	9,321.70	-85.96	1,740.25	94.47	1.00	-1.00	0.00
9,600.00	8.70	92.83	9,420.41	-86.75	1,756.21	95.33	1.00	-1.00	0.00
9,700.00	7.70	92.83	9,519.39	-87.45	1,770.45	96.10	1.00	-1.00	0.00
9,800.00	6.70	92.83	9,618.60	-88.07	1,782.96	96.78	1.00	-1.00	0.00
9,900.00	5.70	92.83	9,718.02	-88.60	1,793.74	97.37	1.00	-1.00	0.00
10,000.00	4.70	92.83	9,817.60	-89.05	1,802.79	97.86	1.00	-1.00	0.00
10,100.00	3.70	92.83	9,917.33	-89.41	1,810.10	98.26	1.00	-1.00	0.00
10,200.00	2.70	92.83	10,017.18	-89.69	1,815.67	98.56	1.00	-1.00	0.00
10,300.00	1.70	92.83	10,117.10	-89.88	1,819.49	98.77	1.00	-1.00	0.00
10,400.00	0.70	92.83	10,217.08	-89.98	1,821.58	98.88	1.00	-1.00	0.00
10,469.62	0.00	0.00	10,286.69	-90.00	1,822.00	98.90	1.00	-1.00	0.00
10,500.00	0.00	0.00	10,317.08	-90.00	1,822.00	98.90	0.00	0.00	0.00
10,600.00	0.00	0.00	10,417.08	-90.00	1,822.00	98.90	0.00	0.00	0.00
10,700.00	0.00	0.00	10,517.08	-90.00	1,822.00	98.90	0.00	0.00	0.00
10,800.00	0.00	0.00	10,617.08	-90.00	1,822.00	98.90	0.00	0.00	0.00
10,900.00	0.00	0.00	10,717.08	-90.00	1,822.00	98.90	0.00	0.00	0.00
10,950.02	0.00	0.00	10,767.10	-90.00	1,822.00	98.90	0.00	0.00	0.00
11,000.00	5.00	179.72	10,817.02	-92.18	1,822.01	101.08	10.00	10.00	0.00
11,050.00	10.00	179.72	10,866.57	-98.70	1,822.04	107.60	10.00	10.00	0.00
11,100.00	15.00	179.72	10,915.37	-109.52	1,822.09	118.42	10.00	10.00	0.00
11,150.00	20.00	179.72	10,963.04	-124.55	1,822.17	133.45	10.00	10.00	0.00
11,200.00	25.00	179.72	11,009.22	-143.67	1,822.26	152.58	10.00	10.00	0.00
11,250.00	30.00	179.72	11,053.56	-166.75	1,822.37	175.65	10.00	10.00	0.00
11,300.00	35.00	179.72	11,095.72	-193.60	1,822.50	202.51	10.00	10.00	0.00
11,350.00	40.00	179.72	11,135.37	-224.03	1,822.65	232.94	10.00	10.00	0.00
11,400.00	45.00	179.72	11,172.23	-257.80	1,822.81	266.70	10.00	10.00	0.00
11,450.00	50.00	179.72	11,206.00	-294.65	1,822.99	303.55	10.00	10.00	0.00
11,500.00	55.00	179.72	11,236.43	-334.30	1,823.18	343.21	10.00	10.00	0.00
11,550.00	60.00	179.72	11,263.29	-376.46	1,823.38	385.36	10.00	10.00	0.00
11,600.00	65.00	179.72	11,286.37	-420.79	1,823.59	429.70	10.00	10.00	0.00
11,650.00	70.00	179.72	11,305.50	-466.97	1,823.82	475.88	10.00	10.00	0.00
11,700.00	75.00	179.72	11,320.53	-514.64	1,824.05	523.55	10.00	10.00	0.00
11,750.00	80.00	179.72	11,331.35	-563.44	1,824.28	572.35	10.00	10.00	0.00
11,800.00	85.00	179.72	11,337.88	-612.99	1,824.52	621.90	10.00	10.00	0.00
11,850.03	90.00	179.72	11,340.06	-662.96	1,824.76	671.87	10.00	10.00	0.00
11,900.00	90.00	179.72	11,340.06	-712.93	1,825.00	721.84	0.00	0.00	0.00
12,000.00	90.00	179.72	11,340.06	-812.93	1,825.48	821.84	0.00	0.00	0.00
12,100.00	90.00	179.72	11,340.05	-912.93	1,825.96	921.84	0.00	0.00	0.00
12,200.00	90.00	179.72	11,340.05	-1,012.93	1,826.45	1,021.84	0.00	0.00	0.00
12,300.00	90.00	179.72	11,340.05	-1,112.92	1,826.93	1,121.84	0.00	0.00	0.00
12,400.00	90.00	179.72	11,340.05	-1,212.92	1,827.41	1,221.84	0.00	0.00	0.00
12,500.00	90.00	179.72	11,340.05	-1,312.92	1,827.89	1,321.84	0.00	0.00	0.00
12,600.00	90.00	179.72	11,340.05	-1,412.92	1,828.37	1,421.84	0.00	0.00	0.00

Pro Directional Survey Report

Company: Matador Resources
Project: Lea County, NM
Site: MJ Federal Slots 3 & 4
Well: 224H
Wellbore: OH
Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
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)
12,700.00	90.00	179.72	11,340.05	-1,512.92	1,828.86	1,521.84	0.00	0.00	0.00
12,800.00	90.00	179.72	11,340.04	-1,612.92	1,829.34	1,621.84	0.00	0.00	0.00
12,900.00	90.00	179.72	11,340.04	-1,712.92	1,829.82	1,721.84	0.00	0.00	0.00
13,000.00	90.00	179.72	11,340.04	-1,812.92	1,830.30	1,821.84	0.00	0.00	0.00
13,100.00	90.00	179.72	11,340.04	-1,912.91	1,830.78	1,921.84	0.00	0.00	0.00
13,200.00	90.00	179.72	11,340.04	-2,012.91	1,831.26	2,021.84	0.00	0.00	0.00
13,300.00	90.00	179.72	11,340.04	-2,112.91	1,831.75	2,121.84	0.00	0.00	0.00
13,400.00	90.00	179.72	11,340.04	-2,212.91	1,832.23	2,221.84	0.00	0.00	0.00
13,500.00	90.00	179.72	11,340.04	-2,312.91	1,832.71	2,321.84	0.00	0.00	0.00
13,600.00	90.00	179.72	11,340.03	-2,412.91	1,833.19	2,421.84	0.00	0.00	0.00
13,700.00	90.00	179.72	11,340.03	-2,512.91	1,833.67	2,521.84	0.00	0.00	0.00
13,800.00	90.00	179.72	11,340.03	-2,612.91	1,834.15	2,621.84	0.00	0.00	0.00
13,900.00	90.00	179.72	11,340.03	-2,712.91	1,834.64	2,721.84	0.00	0.00	0.00
14,000.00	90.00	179.72	11,340.03	-2,812.90	1,835.12	2,821.84	0.00	0.00	0.00
14,100.00	90.00	179.72	11,340.03	-2,912.90	1,835.60	2,921.84	0.00	0.00	0.00
14,200.00	90.00	179.72	11,340.03	-3,012.90	1,836.08	3,021.84	0.00	0.00	0.00
14,300.00	90.00	179.72	11,340.02	-3,112.90	1,836.56	3,121.84	0.00	0.00	0.00
14,400.00	90.00	179.72	11,340.02	-3,212.90	1,837.05	3,221.84	0.00	0.00	0.00
14,500.00	90.00	179.72	11,340.02	-3,312.90	1,837.53	3,321.84	0.00	0.00	0.00
14,600.00	90.00	179.72	11,340.02	-3,412.90	1,838.01	3,421.84	0.00	0.00	0.00
14,700.00	90.00	179.72	11,340.02	-3,512.90	1,838.49	3,521.84	0.00	0.00	0.00
14,800.00	90.00	179.72	11,340.02	-3,612.90	1,838.97	3,621.84	0.00	0.00	0.00
14,900.00	90.00	179.72	11,340.02	-3,712.89	1,839.45	3,721.84	0.00	0.00	0.00
15,000.00	90.00	179.72	11,340.01	-3,812.89	1,839.94	3,821.84	0.00	0.00	0.00
15,100.00	90.00	179.72	11,340.01	-3,912.89	1,840.42	3,921.84	0.00	0.00	0.00
15,200.00	90.00	179.72	11,340.01	-4,012.89	1,840.90	4,021.84	0.00	0.00	0.00
15,300.00	90.00	179.72	11,340.01	-4,112.89	1,841.38	4,121.84	0.00	0.00	0.00
15,400.00	90.00	179.72	11,340.01	-4,212.89	1,841.86	4,221.84	0.00	0.00	0.00
15,500.00	90.00	179.72	11,340.01	-4,312.89	1,842.34	4,321.84	0.00	0.00	0.00
15,600.00	90.00	179.72	11,340.01	-4,412.89	1,842.83	4,421.84	0.00	0.00	0.00
15,700.00	90.00	179.72	11,340.01	-4,512.88	1,843.31	4,521.84	0.00	0.00	0.00
15,800.00	90.00	179.72	11,340.00	-4,612.88	1,843.79	4,621.84	0.00	0.00	0.00
15,900.00	90.00	179.72	11,340.00	-4,712.88	1,844.27	4,721.84	0.00	0.00	0.00
16,000.00	90.00	179.72	11,340.00	-4,812.88	1,844.75	4,821.84	0.00	0.00	0.00
16,051.12	90.00	179.72	11,340.00	-4,864.00	1,845.00	4,872.96	0.00	0.00	0.00

Pro Directional Survey Report

Company: Matador Resources
Project: Lea County, NM
Site: MJ Federal Slots 3 & 4
Well: 224H
Wellbore: OH
Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
[MJ224H]FPP	0.00	0.00	0.00	-149.00	1,821.00	601,609.00	717,775.00	32° 39' 6.9493 N	103° 37' 32.7968 W
- plan misses target center by 1827.09usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
[MJ224H]LPP	0.00	0.01	0.00	-4,774.00	1,844.00	596,984.00	717,798.00	32° 38' 21.1836 N	103° 37' 32.8882 W
- plan misses target center by 5117.75usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
[MJ224H]PBHL	0.00	0.00	11,340.00	-4,864.00	1,845.00	596,894.00	717,799.00	32° 38' 20.2930 N	103° 37' 32.8835 W
- plan hits target center									
- Point									

Checked By: _____ Approved By: _____ Date: _____

Pro Directional Anticollision Report

HOBBS OCD
FEB 06 2018
RECEIVED

Company: Matador Resources
Project: Lea County, NM
Reference Site: MJ Federal Slots 3 & 4
Site Error: 0.00 usft
Reference Well: 224H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Reference	Prelim Plan A		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 9,999.98 usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program Date 6/9/2017

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	500.00	Prelim Plan A (OH)	MWD - OWSG	MWD - OWSG
500.00	10,943.00	Prelim Plan A (OH)	MWD - OWSG	MWD - OWSG
10,943.00	16,050.92	Prelim Plan A (OH)	MWD - OWSG	MWD - OWSG

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						
MJ Federal Slots 3 & 4						
124H - OH - Prelim Plan A	722.87	726.04	29.96	26.25	8.071	CC
124H - OH - Prelim Plan A	2,300.00	2,308.39	34.51	19.06	2.234	ES
124H - OH - Prelim Plan A	2,500.00	2,508.20	38.02	20.44	2.162	SF
223H - OH - Prelim Plan A	500.00	472.50	90.00	86.92	29.253	CC
223H - OH - Prelim Plan A	1,000.00	980.03	92.25	86.59	16.306	ES
223H - OH - Prelim Plan A	16,051.12	15,927.44	1,650.13	1,470.15	9.169	SF
233H - OH - Prelim Plan A	517.49	519.68	60.00	57.21	21.492	CC
233H - OH - Prelim Plan A	700.00	703.88	60.32	56.88	17.508	ES
233H - OH - Prelim Plan A	16,051.12	16,486.16	1,695.04	1,517.63	9.554	SF
234H - OH - Prelim Plan A	500.00	503.00	29.02	25.88	9.256	CC
234H - OH - Prelim Plan A	2,300.00	2,303.00	33.86	19.01	2.280	ES
234H - OH - Prelim Plan A	3,000.00	3,003.29	45.25	23.36	2.067	SF

Offset Design

MJ Federal Slots 3 & 4 - 124H - OH - Prelim Plan A

Survey Program: 0-MWD - OWSG 500-MWD - OWSG 9771-MWD - OWSG

Offset Site Error: 0.00 usft

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)			
0.00	0.00	2.00	2.00	0.00	0.00	-90.00	0.00	-30.00	30.00				
100.00	100.00	102.00	102.00	0.13	0.14	-90.00	0.00	-30.00	30.00	29.74	0.26	113.862	
200.00	200.00	202.00	202.00	0.49	0.49	-90.00	0.00	-30.00	30.00	29.02	0.98	30.599	
300.00	300.00	302.00	302.00	0.85	0.85	-90.00	0.00	-30.00	30.00	28.30	1.70	17.674	
400.00	400.00	402.00	402.00	1.20	1.21	-90.00	0.00	-30.00	30.00	27.59	2.41	12.426	
500.00	500.00	502.01	502.01	1.56	1.57	-90.00	0.00	-30.00	30.00	26.87	3.13	9.591	
600.00	599.99	602.53	602.52	1.75	1.76	176.97	-0.15	-29.09	29.97	26.47	3.51	8.549	
700.00	699.96	703.05	703.00	1.82	1.83	176.39	-0.58	-26.45	29.96	26.31	3.65	8.210	
722.87	722.81	726.04	725.98	1.85	1.86	176.20	-0.72	-25.60	29.96	26.25	3.71	8.071	CC
800.00	799.86	803.56	803.42	1.96	1.97	175.42	-1.31	-22.07	29.96	26.04	3.92	7.541	
900.00	899.68	904.07	903.74	2.16	2.17	174.07	-2.31	-15.95	30.00	25.70	4.30	6.974	
1,000.00	999.37	1,004.58	1,003.93	2.40	2.41	172.35	-3.61	-8.09	30.08	25.32	4.76	6.314	
1,100.00	1,098.90	1,105.09	1,103.95	2.68	2.69	170.28	-5.18	1.50	30.23	24.94	5.29	5.715	
1,200.00	1,198.26	1,205.59	1,203.81	2.99	3.01	167.85	-7.05	12.81	30.45	24.59	5.86	5.193	

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: MJ Federal Slots 3 & 4
Site Error: 0.00 usft
Reference Well: 224H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design MJ Federal Slots 3 & 4 - 124H - OH - Prelim Plan A													Offset Site Error: 0.00 usft
Survey Program: 0-MWD - OWSG, 500-MWD - OWSG, 9771-MWD - OWSG													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
1,300.00	1,297.40	1,306.08	1,303.42	3.32	3.35	165.12	-9.19	25.86	30.79	24.30	6.48	4.750	
1,400.00	1,396.30	1,406.57	1,402.79	3.69	3.71	162.10	-11.62	40.62	31.25	24.11	7.14	4.379	
1,500.00	1,494.93	1,507.05	1,501.87	4.07	4.10	158.84	-14.34	57.10	31.87	24.04	7.83	4.072	
1,600.00	1,593.26	1,607.52	1,600.63	4.48	4.51	155.41	-17.33	75.29	32.67	24.11	8.56	3.817	
1,700.00	1,691.25	1,707.98	1,699.05	4.91	4.95	151.85	-20.61	95.19	33.67	24.34	9.33	3.608	
1,800.00	1,789.06	1,808.42	1,797.08	5.36	5.41	147.46	-24.16	116.77	34.17	24.00	10.17	3.359	
1,900.00	1,886.88	1,908.80	1,894.64	5.81	5.89	141.20	-27.99	140.04	33.59	22.49	11.10	3.026	
2,000.00	1,984.69	2,008.67	1,991.55	6.28	6.39	133.85	-31.91	163.87	32.99	20.86	12.13	2.719	
2,058.53	2,041.65	2,067.15	2,048.29	6.55	6.68	129.46	-34.21	177.83	32.89	20.13	12.76	2.577	
2,100.00	2,082.51	2,108.57	2,088.49	6.74	6.89	126.34	-35.84	187.72	32.94	19.72	13.22	2.492	
2,200.00	2,180.32	2,208.48	2,185.43	7.22	7.40	118.94	-39.76	211.57	33.45	19.12	14.33	2.335	
2,300.00	2,278.13	2,308.39	2,282.37	7.69	7.91	111.87	-43.69	235.42	34.51	19.06	15.44	2.234 ES	
2,400.00	2,375.95	2,408.29	2,379.30	8.17	8.43	105.31	-47.61	259.27	35.05	19.52	16.53	2.180	
2,500.00	2,473.76	2,508.20	2,476.24	8.65	8.95	99.36	-51.54	283.12	36.02	20.44	17.59	2.162 SF	
2,600.00	2,571.58	2,608.11	2,573.18	9.13	9.48	94.05	-55.46	306.97	40.37	21.76	18.60	2.170	
2,700.00	2,669.39	2,708.01	2,670.12	9.62	10.01	89.36	-59.39	330.81	43.02	23.43	19.58	2.197	
2,800.00	2,767.21	2,807.92	2,767.06	10.11	10.54	85.23	-63.31	354.66	45.92	25.39	20.53	2.237	
2,900.00	2,865.02	2,907.83	2,864.00	10.59	11.07	81.61	-67.24	378.51	49.03	27.58	21.46	2.285	
3,000.00	2,962.84	3,007.73	2,960.94	11.08	11.60	78.43	-71.17	402.36	52.32	29.96	22.36	2.340	
3,100.00	3,060.65	3,107.64	3,057.88	11.57	12.13	75.64	-75.09	426.21	55.75	32.50	23.25	2.398	
3,200.00	3,158.47	3,207.55	3,154.82	12.06	12.67	73.17	-79.02	450.06	59.29	35.16	24.13	2.457	
3,300.00	3,256.28	3,307.45	3,251.75	12.55	13.20	70.99	-82.94	473.91	62.93	37.93	25.01	2.517	
3,400.00	3,354.10	3,407.36	3,348.69	13.04	13.74	69.05	-86.87	497.75	66.66	40.78	25.87	2.576	
3,500.00	3,451.91	3,507.26	3,445.63	13.54	14.28	67.31	-90.79	521.60	70.45	43.71	26.74	2.635	
3,600.00	3,549.73	3,607.17	3,542.57	14.03	14.82	65.75	-94.72	545.45	74.30	46.70	27.60	2.692	
3,700.00	3,647.54	3,707.08	3,639.51	14.52	15.36	64.35	-98.64	569.30	78.20	49.74	28.46	2.748	
3,800.00	3,745.36	3,806.98	3,736.45	15.02	15.90	63.08	-102.57	593.15	82.14	52.82	29.32	2.801	
3,900.00	3,843.17	3,906.89	3,833.39	15.51	16.44	61.93	-106.49	617.00	86.12	55.94	30.18	2.854	
4,000.00	3,940.99	4,006.80	3,930.33	16.01	16.98	60.88	-110.42	640.85	90.12	59.09	31.04	2.904	
4,100.00	4,038.80	4,105.70	4,027.27	16.50	17.52	59.92	-114.35	664.70	94.16	62.27	31.90	2.952	
4,200.00	4,136.62	4,205.61	4,124.20	17.00	18.06	59.04	-118.27	688.54	98.22	65.47	32.75	2.999	
4,300.00	4,234.43	4,306.52	4,221.14	17.49	18.60	58.23	-122.20	712.39	102.31	68.69	33.61	3.044	
4,400.00	4,332.24	4,406.42	4,318.08	17.99	19.14	57.48	-126.12	736.24	106.41	71.93	34.47	3.087	
4,500.00	4,430.06	4,506.33	4,415.02	18.48	19.68	56.78	-130.05	760.09	110.53	75.19	35.33	3.128	
4,600.00	4,527.87	4,606.24	4,511.96	18.98	20.23	56.14	-133.97	783.94	114.66	78.46	36.19	3.168	
4,700.00	4,625.69	4,705.14	4,608.90	19.48	20.77	55.54	-137.90	807.79	118.81	81.75	37.06	3.206	
4,800.00	4,723.50	4,806.05	4,705.84	19.97	21.31	54.99	-141.82	831.64	122.96	85.05	37.92	3.243	
4,900.00	4,821.32	4,905.96	4,802.78	20.47	21.85	54.46	-145.75	855.48	127.13	88.35	38.78	3.278	
5,000.00	4,919.13	5,005.86	4,899.72	20.97	22.40	53.98	-149.67	879.33	131.31	91.67	39.64	3.312	
5,100.00	5,016.95	5,105.77	4,996.66	21.46	22.94	53.52	-153.60	903.18	135.50	95.00	40.51	3.345	
5,200.00	5,114.76	5,205.68	5,093.59	21.96	23.48	53.09	-157.53	927.03	139.70	98.33	41.37	3.377	
5,300.00	5,212.58	5,305.58	5,190.53	22.46	24.03	52.68	-161.45	950.88	143.90	101.67	42.23	3.407	
5,400.00	5,310.39	5,405.49	5,287.47	22.95	24.57	52.30	-165.38	974.73	148.11	105.01	43.10	3.437	
5,500.00	5,408.21	5,505.40	5,384.41	23.45	25.12	51.94	-169.30	998.58	152.33	108.37	43.96	3.465	
5,600.00	5,506.02	5,605.30	5,481.35	23.95	25.66	51.60	-173.23	1,022.43	156.55	111.72	44.83	3.492	
5,700.00	5,603.84	5,705.21	5,578.29	24.45	26.20	51.27	-177.15	1,046.27	160.78	115.09	45.70	3.518	
5,800.00	5,701.65	5,805.12	5,675.23	24.95	26.75	50.96	-181.08	1,070.12	165.01	118.45	46.56	3.544	
5,900.00	5,799.47	5,905.02	5,772.17	25.44	27.29	50.67	-185.00	1,093.97	169.25	121.82	47.43	3.568	
6,000.00	5,897.28	6,004.93	5,869.11	25.94	27.84	50.40	-188.93	1,117.82	173.49	125.20	48.30	3.592	
6,100.00	5,995.10	6,104.84	5,966.04	26.44	28.38	50.13	-192.85	1,141.67	177.74	128.57	49.16	3.615	
6,200.00	6,092.91	6,204.74	6,062.98	26.94	28.93	49.88	-196.78	1,165.52	181.99	131.96	50.03	3.637	
6,300.00	6,190.73	6,304.65	6,159.92	27.43	29.47	49.64	-200.71	1,189.37	186.24	135.34	50.90	3.659	

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: MJ Federal Slots 3 & 4
Site Error: 0.00 usft
Reference Well: 224H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design MJ Federal Slots 3 & 4 - 124H - OH - Prelim Plan A														Offset Site Error:	0.00 usft
Survey Program: 0-MWD - OWSG 500-MWD - OWSG 5771-MWD - OWSG														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)							
6,400.00	6,288.54	6,404.56	6,256.86	27.93	30.02	49.41	-204.63	1,213.22	190.50	138.73	51.77	3.680			
6,500.00	6,386.35	6,504.46	6,353.80	28.43	30.56	49.19	-208.56	1,237.06	194.75	142.12	52.64	3.700			
6,600.00	6,484.17	6,604.37	6,450.74	28.93	31.11	48.98	-212.48	1,260.91	199.02	145.51	53.51	3.719			
6,700.00	6,581.98	6,704.27	6,547.68	29.43	31.65	48.78	-216.41	1,284.76	203.28	148.90	54.38	3.738			
6,800.00	6,679.80	6,804.18	6,644.62	29.93	32.20	48.58	-220.33	1,308.61	207.55	152.30	55.25	3.757			
6,900.00	6,777.61	6,904.09	6,741.56	30.42	32.74	48.40	-224.26	1,332.46	211.81	155.70	56.12	3.775			
7,000.00	6,875.43	7,003.99	6,838.49	30.92	33.29	48.22	-228.18	1,356.31	216.08	159.10	56.99	3.792			
7,100.00	6,973.24	7,103.90	6,935.43	31.42	33.83	48.05	-232.11	1,380.16	220.36	162.50	57.86	3.809			
7,200.00	7,071.06	7,203.81	7,032.37	31.92	34.38	47.88	-236.03	1,404.00	224.63	165.91	58.73	3.825			
7,300.00	7,168.87	7,303.71	7,129.31	32.42	34.93	47.73	-239.96	1,427.85	228.91	169.31	59.60	3.841			
7,400.00	7,266.69	7,403.62	7,226.25	32.92	35.47	47.57	-243.89	1,451.70	233.19	172.72	60.47	3.856			
7,500.00	7,364.50	7,503.53	7,323.19	33.42	36.02	47.43	-247.81	1,475.55	237.47	176.13	61.34	3.871			
7,600.00	7,462.32	7,603.43	7,420.13	33.91	36.56	47.28	-251.74	1,499.40	241.75	179.54	62.21	3.886			
7,700.00	7,560.13	7,703.34	7,517.07	34.41	37.11	47.15	-255.66	1,523.25	246.03	182.95	63.08	3.900			
7,800.00	7,657.95	7,803.25	7,614.01	34.91	37.65	47.01	-259.59	1,547.10	250.31	186.36	63.95	3.914			
7,900.00	7,755.76	7,903.15	7,710.94	35.41	38.20	46.89	-263.51	1,570.95	254.60	189.77	64.82	3.928			
8,000.00	7,853.58	8,003.06	7,807.88	35.91	38.75	46.76	-267.44	1,594.79	258.88	193.19	65.70	3.941			
8,100.00	7,951.39	8,102.97	7,904.82	36.41	39.29	46.64	-271.36	1,618.64	263.17	196.60	66.57	3.953			
8,200.00	8,049.21	8,202.87	8,001.76	36.91	39.84	46.53	-275.29	1,642.49	267.46	200.02	67.44	3.966			
8,300.00	8,147.02	8,304.56	8,100.48	37.41	40.39	46.44	-279.25	1,666.56	271.60	203.26	68.34	3.974			
8,400.00	8,244.84	8,408.29	8,201.55	37.91	40.93	46.57	-283.04	1,689.57	274.54	205.24	69.30	3.961			
8,500.00	8,342.65	8,512.06	8,303.07	38.40	41.45	46.95	-286.53	1,710.78	276.11	205.79	70.32	3.926			
8,600.00	8,440.46	8,615.80	8,404.93	38.90	41.94	47.59	-289.72	1,730.17	276.32	204.93	71.40	3.870			
8,700.00	8,538.28	8,719.44	8,507.04	39.40	42.41	48.48	-292.61	1,747.71	275.22	202.69	72.54	3.794			
8,800.00	8,636.09	8,822.91	8,609.28	39.90	42.85	49.64	-295.19	1,763.41	272.87	199.12	73.75	3.700			
8,900.00	8,733.91	8,926.15	8,711.55	40.40	43.27	51.10	-297.47	1,777.25	269.33	194.30	75.03	3.590			
9,000.00	8,831.72	9,029.09	8,813.77	40.90	43.66	52.88	-299.44	1,789.24	264.72	188.32	76.40	3.465			
9,100.00	8,929.54	9,131.66	8,915.82	41.40	44.03	55.02	-301.11	1,799.38	259.17	181.30	77.87	3.328			
9,200.00	9,027.35	9,233.80	9,017.62	41.90	44.38	57.56	-302.48	1,807.69	252.86	173.41	79.45	3.183			
9,269.62	9,095.45	9,304.62	9,088.28	42.25	44.61	59.59	-303.26	1,812.40	248.12	167.51	80.61	3.078			
9,300.00	9,125.18	9,335.47	9,119.07	42.40	44.70	60.52	-303.55	1,814.18	246.03	164.90	81.13	3.033			
9,400.00	9,223.28	9,436.80	9,220.29	42.88	45.01	63.66	-304.32	1,818.88	239.51	156.69	82.81	2.892			
9,500.00	9,321.70	9,537.87	9,321.32	43.34	45.29	66.94	-304.80	1,821.81	233.56	149.10	84.46	2.765			
9,600.00	9,420.41	9,638.68	9,422.11	43.78	45.56	70.36	-305.00	1,822.98	228.23	142.19	86.04	2.653			
9,700.00	9,519.39	9,737.96	9,521.39	44.20	45.75	73.73	-305.00	1,823.00	223.80	136.35	87.46	2.559			
9,761.20	9,580.09	9,791.77	9,575.20	44.45	45.80	75.45	-305.29	1,823.00	222.09	133.89	88.20	2.518			
9,800.00	9,618.60	9,819.62	9,603.00	44.60	45.80	76.37	-306.84	1,823.01	223.10	134.58	88.52	2.520			
9,900.00	9,718.02	9,890.26	9,672.89	44.98	45.82	78.76	-316.82	1,823.06	234.87	146.50	88.37	2.658			
10,000.00	9,817.60	9,957.69	9,737.98	45.34	45.85	80.92	-334.30	1,823.14	259.28	172.31	86.97	2.981			
10,100.00	9,917.33	10,020.38	9,796.26	45.68	45.91	82.69	-357.30	1,823.25	295.10	210.45	84.65	3.486			
10,200.00	10,017.18	10,077.44	9,846.84	46.01	45.97	84.10	-383.66	1,823.38	340.85	259.06	81.79	4.167			
10,300.00	10,117.10	10,128.60	9,889.76	46.31	46.04	85.25	-411.46	1,823.51	395.01	316.29	78.72	5.018			
10,400.00	10,217.08	10,174.00	9,925.65	46.60	46.11	85.25	-439.26	1,823.65	456.19	380.53	75.66	6.029			
10,469.62	10,286.69	10,200.00	9,945.17	46.79	46.15	179.73	-456.43	1,823.73	502.28	428.88	73.39	6.844			
10,500.00	10,317.08	10,214.06	9,955.40	46.86	46.18	179.73	-466.08	1,823.78	523.17	450.41	72.76	7.191			
10,600.00	10,417.08	10,250.00	9,980.43	47.12	46.24	179.73	-491.86	1,823.90	594.90	524.75	70.14	8.481			
10,700.00	10,517.08	10,280.46	10,000.34	47.38	46.31	179.73	-514.89	1,824.01	670.54	602.84	67.70	9.905			
10,800.00	10,617.08	10,300.00	10,012.47	47.64	46.35	179.73	-530.22	1,824.09	749.52	684.47	65.04	11.524			
10,900.00	10,717.08	10,332.25	10,031.31	47.91	46.43	179.73	-556.39	1,824.21	830.99	767.27	63.72	13.042			
10,950.02	10,767.10	10,350.00	10,041.04	47.97	46.47	179.73	-571.23	1,824.28	872.73	809.42	63.31	13.785			
11,000.00	10,817.02	10,350.00	10,041.04	47.97	46.47	0.00	-571.23	1,824.28	913.64	851.86	61.78	14.789			
11,050.00	10,866.57	10,366.48	10,049.67	47.98	46.51	0.00	-585.28	1,824.35	952.56	891.49	61.07	15.597			

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: MJ Federal Slots 3 & 4
Site Error: 0.00 usft
Reference Well: 224H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design MJ Federal Slots 3 & 4 - 124H - OH - Prelim Plan A													Offset Site Error: 0.00 usft
Survey Program: 0-MWD - OWSG, 500-MWD - OWSG, 9771-MWD - OWSG													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
11,100.00	10,915.37	10,379.04	10,055.96	47.99	46.55	0.00	-596.14	1,824.40	989.36	929.29	60.07	16.471	
11,150.00	10,963.04	10,400.00	10,065.93	48.01	46.60	0.00	-614.58	1,824.49	1,023.98	984.57	59.41	17.237	
11,200.00	11,009.22	10,400.00	10,065.93	48.03	46.60	0.00	-614.58	1,824.49	1,056.09	998.39	57.70	18.302	
11,250.00	11,053.56	10,419.76	10,074.71	48.06	46.66	0.00	-632.28	1,824.58	1,085.72	1,028.83	56.89	19.086	
11,300.00	11,095.72	10,434.15	10,080.72	48.10	46.70	0.00	-645.36	1,824.64	1,112.82	1,057.02	55.80	19.943	
11,350.00	11,135.37	10,450.00	10,086.95	48.14	46.75	0.00	-659.92	1,824.71	1,137.27	1,062.51	54.77	20.766	
11,400.00	11,172.23	10,450.00	10,086.95	48.20	46.75	0.00	-659.92	1,824.71	1,159.26	1,106.11	53.14	21.813	
11,450.00	11,206.00	10,479.07	10,097.33	48.26	46.84	0.00	-687.08	1,824.84	1,177.96	1,125.34	52.62	22.386	
11,500.00	11,236.43	10,500.00	10,103.94	48.33	46.91	0.00	-706.93	1,824.94	1,194.12	1,142.31	51.81	23.050	
11,550.00	11,263.29	10,500.00	10,103.94	48.42	46.91	0.00	-706.93	1,824.94	1,207.45	1,157.09	50.37	23.973	
11,600.00	11,286.37	10,525.75	10,111.07	48.51	46.99	0.00	-731.67	1,825.06	1,217.65	1,167.87	49.78	24.459	
11,650.00	11,305.50	10,550.00	10,116.76	48.61	47.07	0.00	-755.24	1,825.17	1,225.13	1,175.94	49.19	24.907	
11,700.00	11,320.53	10,550.00	10,116.76	48.73	47.07	0.00	-755.24	1,825.17	1,229.54	1,181.48	48.05	25.587	
11,750.00	11,331.35	10,573.25	10,121.28	48.85	47.16	0.00	-778.05	1,825.28	1,230.92	1,183.35	47.57	25.874	
11,800.00	11,337.88	10,600.00	10,125.33	48.99	47.25	0.00	-804.49	1,825.41	1,229.55	1,182.33	47.22	26.040	
11,850.03	11,340.06	10,600.00	10,125.33	49.13	47.25	0.00	-804.49	1,825.41	1,224.93	1,178.44	46.49	26.347	
11,900.00	11,340.06	10,620.85	10,127.62	49.28	47.33	0.00	-825.21	1,825.51	1,219.61	1,173.39	46.22	26.386	
12,000.00	11,340.06	10,650.00	10,129.57	49.62	47.45	0.00	-854.29	1,825.65	1,213.19	1,167.32	45.87	26.447	
12,064.42	11,340.06	10,674.30	10,130.06	49.86	47.54	0.00	-877.33	1,825.76	1,212.00	1,166.06	45.94	26.385	
12,100.00	11,340.05	10,708.62	10,130.06	50.01	47.68	0.00	-912.91	1,825.93	1,212.00	1,165.96	46.04	26.324	
12,200.00	11,340.05	10,808.62	10,130.06	50.44	48.12	0.00	-1,012.91	1,826.42	1,212.00	1,165.62	46.38	26.131	
12,300.00	11,340.05	10,908.62	10,130.05	50.91	48.60	0.00	-1,112.91	1,826.90	1,212.00	1,165.23	46.77	25.913	
12,400.00	11,340.05	11,008.62	10,130.05	51.44	49.13	0.00	-1,212.91	1,827.38	1,212.00	1,164.79	47.21	25.671	
12,500.00	11,340.05	11,108.62	10,130.05	52.02	49.70	0.00	-1,312.90	1,827.86	1,212.00	1,164.30	47.70	25.409	
12,600.00	11,340.05	11,208.62	10,130.05	52.64	50.33	0.00	-1,412.90	1,828.35	1,212.00	1,163.76	48.23	25.127	
12,700.00	11,340.05	11,308.62	10,130.05	53.31	51.00	0.00	-1,512.90	1,828.83	1,212.00	1,163.18	48.81	24.829	
12,800.00	11,340.04	11,408.62	10,130.05	54.02	51.71	0.00	-1,612.90	1,829.31	1,212.00	1,162.56	49.44	24.516	
12,900.00	11,340.04	11,508.62	10,130.05	54.78	52.47	0.00	-1,712.90	1,829.79	1,212.00	1,161.90	50.10	24.191	
13,000.00	11,340.04	11,608.62	10,130.04	55.59	53.27	0.00	-1,812.90	1,830.28	1,212.00	1,161.19	50.81	23.855	
13,100.00	11,340.04	11,708.62	10,130.04	56.44	54.12	0.00	-1,912.90	1,830.76	1,212.00	1,160.45	51.55	23.512	
13,200.00	11,340.04	11,808.62	10,130.04	57.33	55.01	0.00	-2,012.90	1,831.24	1,212.00	1,159.67	52.33	23.161	
13,300.00	11,340.04	11,908.62	10,130.04	58.25	55.94	0.00	-2,112.90	1,831.72	1,212.00	1,158.85	53.14	22.806	
13,400.00	11,340.04	12,008.62	10,130.04	59.21	56.90	0.00	-2,212.89	1,832.21	1,212.00	1,158.01	53.99	22.448	
13,500.00	11,340.04	12,108.62	10,130.04	60.21	57.90	0.00	-2,312.89	1,832.69	1,212.00	1,157.13	54.87	22.088	
13,600.00	11,340.03	12,208.62	10,130.04	61.24	58.94	0.00	-2,412.89	1,833.17	1,212.00	1,156.22	55.78	21.727	
13,700.00	11,340.03	12,308.62	10,130.03	62.30	60.00	0.00	-2,512.89	1,833.65	1,212.00	1,155.28	56.72	21.367	
13,800.00	11,340.03	12,408.62	10,130.03	63.39	61.10	0.00	-2,612.89	1,834.14	1,212.00	1,154.31	57.69	21.009	
13,900.00	11,340.03	12,508.62	10,130.03	64.51	62.23	0.00	-2,712.89	1,834.62	1,212.00	1,153.32	58.68	20.653	
14,000.00	11,340.03	12,608.62	10,130.03	65.66	63.38	0.00	-2,812.89	1,835.10	1,212.00	1,152.30	59.70	20.301	
14,100.00	11,340.03	12,708.63	10,130.03	66.83	64.55	0.00	-2,912.89	1,835.58	1,212.00	1,151.26	60.74	19.953	
14,200.00	11,340.03	12,808.63	10,130.03	68.02	65.75	0.00	-3,012.88	1,836.07	1,212.00	1,150.19	61.81	19.610	
14,300.00	11,340.02	12,908.63	10,130.03	69.23	66.98	0.00	-3,112.88	1,836.55	1,212.00	1,149.11	62.89	19.271	
14,400.00	11,340.02	13,008.63	10,130.02	70.47	68.23	0.00	-3,212.88	1,837.03	1,212.00	1,148.00	64.00	18.939	
14,500.00	11,340.02	13,108.63	10,130.02	71.72	69.49	0.00	-3,312.88	1,837.51	1,212.00	1,146.88	65.12	18.612	
14,600.00	11,340.02	13,208.63	10,130.02	72.99	70.78	0.00	-3,412.88	1,838.00	1,212.00	1,145.74	66.26	18.291	
14,700.00	11,340.02	13,308.63	10,130.02	74.28	72.08	0.00	-3,512.88	1,838.48	1,212.00	1,144.58	67.42	17.976	
14,800.00	11,340.02	13,408.63	10,130.02	75.58	73.40	0.00	-3,612.88	1,838.96	1,212.00	1,143.40	68.60	17.668	
14,900.00	11,340.02	13,508.63	10,130.02	76.90	74.73	0.00	-3,712.88	1,839.45	1,212.00	1,142.21	69.79	17.366	
15,000.00	11,340.01	13,608.63	10,130.02	78.24	76.08	0.00	-3,812.88	1,839.93	1,212.00	1,141.00	71.00	17.071	
15,100.00	11,340.01	13,708.63	10,130.01	79.58	77.44	0.00	-3,912.87	1,840.41	1,212.00	1,139.78	72.22	16.783	
15,200.00	11,340.01	13,808.63	10,130.01	80.94	78.81	0.00	-4,012.87	1,840.89	1,212.00	1,138.55	73.45	16.501	
15,300.00	11,340.01	13,908.63	10,130.01	82.32	80.20	0.00	-4,112.87	1,841.38	1,212.00	1,137.31	74.69	16.226	

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: MJ Federal Slots 3 & 4
Site Error: 0.00 usft
Reference Well: 224H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design MJ Federal Slots 3 & 4 - 124H - OH - Prelim Plan A												Offset Site Error:	0.00 usft
Survey Program: 0-MWD - OWSG, 500-MWD - OWSG, 9771-MWD - OWSG												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,400.00	11,340.01	14,008.63	10,130.01	83.70	81.60	0.00	-4,212.87	1,841.86	1,212.00	1,136.05	75.95	15.957	
15,500.00	11,340.01	14,108.63	10,130.01	85.10	83.01	0.00	-4,312.87	1,842.34	1,212.00	1,134.78	77.22	15.695	
15,600.00	11,340.01	14,208.63	10,130.01	86.50	84.42	0.00	-4,412.87	1,842.82	1,212.00	1,133.50	78.50	15.439	
15,700.00	11,340.01	14,308.63	10,130.01	87.92	85.85	0.00	-4,512.87	1,843.31	1,212.00	1,132.21	79.79	15.189	
15,800.00	11,340.00	14,408.63	10,130.00	89.34	87.29	0.00	-4,612.87	1,843.79	1,212.00	1,130.91	81.09	14.946	
15,900.00	11,340.00	14,508.63	10,130.00	90.77	88.74	0.00	-4,712.86	1,844.27	1,212.00	1,129.60	82.40	14.708	
16,000.00	11,340.00	14,608.63	10,130.00	92.22	90.21	0.00	-4,812.86	1,844.75	1,212.00	1,128.31	83.69	14.482	
16,051.12	11,340.00	14,659.74	10,130.00	92.96	91.05	0.00	-4,863.98	1,845.00	1,212.00	1,127.80	84.20	14.395	

Pro Directional Anticollision Report

Company: Matador Resources
Project: Lea County, NM
Reference Site: MJ Federal Slots 3 & 4
Site Error: 0.00 usft
Reference Well: 224H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design MJ Federal Slots 3 & 4 - 223H - OH - Prelim Plan A														Offset Site Error:	0.00 usft
Survey Program: 0-MWD - OWSG														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)					
0.00	0.00	0.00	0.00	0.00	0.00	-90.00	0.00	-90.00	94.11						
100.00	100.00	72.50	72.50	0.13	0.13	-90.00	0.00	-90.00	90.00	89.74	0.26	348.628			
200.00	200.00	172.50	172.50	0.49	0.44	-90.00	0.00	-90.00	90.00	89.07	0.93	97.218			
300.00	300.00	272.50	272.50	0.85	0.80	-90.00	0.00	-90.00	90.00	88.36	1.64	54.788			
400.00	400.00	372.50	372.50	1.20	1.16	-90.00	0.00	-90.00	90.00	87.64	2.35	38.141			
500.00	500.00	472.50	472.50	1.56	1.51	-90.00	0.00	-90.00	90.00	86.92	3.08	29.253 CC			
600.00	599.99	573.65	573.64	1.75	1.87	177.15	-0.07	-89.53	90.41	86.79	3.62	24.972			
700.00	699.96	675.23	675.21	1.82	2.22	177.03	-0.41	-87.35	90.88	86.84	4.04	22.481			
800.00	799.86	776.83	776.72	1.96	2.58	176.78	-1.01	-83.39	91.34	86.81	4.53	20.164			
900.00	899.68	878.43	878.15	2.16	2.94	176.42	-1.90	-77.65	91.79	86.72	5.07	18.097			
1,000.00	999.37	980.03	979.47	2.40	3.30	175.96	-3.05	-70.14	92.25	86.59	5.66	16.306 ES			
1,100.00	1,098.90	1,080.34	1,079.40	2.68	3.67	175.45	-4.37	-61.53	93.26	86.99	6.27	14.864			
1,200.00	1,198.26	1,180.30	1,178.98	2.99	4.04	175.04	-5.69	-52.92	95.99	89.08	6.92	13.877			
1,300.00	1,297.40	1,280.20	1,278.49	3.32	4.41	174.74	-7.02	-44.31	100.46	92.88	7.58	13.255			
1,400.00	1,396.30	1,380.00	1,377.92	3.69	4.79	174.56	-8.34	-35.71	106.67	98.41	8.26	12.919			
1,500.00	1,494.93	1,479.68	1,477.22	4.07	5.16	174.48	-9.65	-27.13	114.61	105.66	8.95	12.811			
1,600.00	1,593.26	1,579.21	1,576.37	4.48	5.54	174.49	-10.97	-18.55	124.28	114.64	9.65	12.886			
1,700.00	1,691.25	1,678.56	1,675.34	4.91	5.91	174.56	-12.28	-9.99	135.68	125.33	10.35	13.107			
1,800.00	1,789.06	1,777.80	1,774.21	5.36	6.29	174.66	-13.60	-1.44	147.94	136.88	11.06	13.372			
1,900.00	1,886.88	1,877.05	1,873.08	5.81	6.67	174.75	-14.91	7.10	160.21	148.43	11.78	13.600			
2,000.00	1,884.69	1,976.29	1,971.95	6.28	7.04	174.83	-16.22	15.65	172.47	159.97	12.50	13.798			
2,100.00	2,082.51	2,075.54	2,070.81	6.74	7.42	174.89	-17.54	24.20	184.73	171.51	13.22	13.970			
2,200.00	2,180.32	2,174.78	2,169.68	7.22	7.80	174.95	-18.85	32.75	197.00	183.05	13.95	14.122			
2,300.00	2,278.13	2,274.03	2,268.55	7.69	8.18	175.00	-20.16	41.30	209.26	194.58	14.68	14.256			
2,400.00	2,375.95	2,373.27	2,367.41	8.17	8.56	175.05	-21.47	49.85	221.52	206.11	15.41	14.376			
2,500.00	2,473.76	2,472.52	2,466.28	8.65	8.94	175.09	-22.79	58.40	233.79	217.65	16.14	14.483			
2,600.00	2,571.58	2,571.77	2,565.15	9.13	9.31	175.12	-24.10	66.95	246.05	229.17	16.88	14.579			
2,700.00	2,669.39	2,671.01	2,664.02	9.62	9.69	175.15	-25.41	75.50	258.32	240.70	17.61	14.667			
2,800.00	2,767.21	2,770.26	2,762.88	10.11	10.07	175.18	-26.73	84.05	270.58	252.23	18.35	14.746			
2,900.00	2,865.02	2,869.50	2,861.75	10.59	10.45	175.21	-28.04	92.60	282.84	263.76	19.09	14.819			
3,000.00	2,962.84	2,968.75	2,960.62	11.08	10.83	175.24	-29.35	101.15	295.11	275.28	19.82	14.886			
3,100.00	3,060.65	3,067.99	3,059.49	11.57	11.21	175.26	-30.66	109.70	307.37	286.81	20.56	14.947			
3,200.00	3,158.47	3,167.24	3,158.35	12.06	11.59	175.28	-31.98	118.25	319.64	298.33	21.30	15.003			
3,300.00	3,256.28	3,266.48	3,257.22	12.55	11.98	175.30	-33.29	126.80	331.90	309.86	22.04	15.056			
3,400.00	3,354.10	3,365.73	3,356.09	13.04	12.36	175.32	-34.60	135.35	344.17	321.38	22.79	15.104			
3,500.00	3,451.91	3,464.97	3,454.96	13.54	12.74	175.33	-35.92	143.90	356.43	332.90	23.53	15.149			
3,600.00	3,549.73	3,561.80	3,551.43	14.03	13.11	175.35	-37.18	152.11	368.83	344.57	24.26	15.206			
3,700.00	3,647.54	3,654.86	3,644.24	14.52	13.46	175.41	-38.20	158.77	382.53	357.58	24.96	15.327			
3,800.00	3,745.36	3,747.48	3,736.71	15.02	13.80	175.49	-39.99	163.92	397.82	372.17	25.65	15.510			
3,900.00	3,843.17	3,839.61	3,828.77	15.51	14.13	175.61	-39.55	167.58	414.67	388.34	26.33	15.749			
4,000.00	3,940.99	3,931.23	3,920.36	16.01	14.45	175.75	-39.89	169.76	433.08	406.08	27.00	16.040			
4,100.00	4,038.80	4,025.06	4,011.30	16.50	14.78	175.92	-40.00	170.50	453.03	425.36	27.67	16.375			
4,200.00	4,136.62	4,119.99	4,109.12	17.00	15.09	176.10	-40.00	170.50	473.77	445.41	28.36	16.705			
4,300.00	4,234.43	4,217.80	4,206.93	17.49	15.41	176.26	-40.00	170.50	494.52	465.45	29.07	17.012			
4,400.00	4,332.24	4,315.62	4,304.74	17.99	15.74	176.41	-40.00	170.50	515.27	485.49	29.78	17.305			
4,500.00	4,430.05	4,413.43	4,402.56	18.48	16.06	176.55	-40.00	170.50	536.02	505.54	30.49	17.583			
4,600.00	4,527.87	4,511.25	4,500.37	18.98	16.39	176.68	-40.00	170.50	556.78	525.58	31.20	17.848			
4,700.00	4,625.69	4,609.06	4,598.19	19.48	16.72	176.80	-40.00	170.50	577.54	545.63	31.91	18.101			
4,800.00	4,723.50	4,706.88	4,696.00	19.97	17.05	176.91	-40.00	170.50	598.30	565.68	32.62	18.342			
4,900.00	4,821.32	4,804.69	4,793.82	20.47	17.38	177.01	-40.00	170.50	619.06	585.73	33.33	18.572			
5,000.00	4,919.13	4,902.51	4,891.63	20.97	17.71	177.11	-40.00	170.50	639.83	605.78	34.05	18.793			
5,100.00	5,016.95	5,000.32	4,989.45	21.46	18.04	177.20	-40.00	170.50	660.59	625.83	34.76	19.004			

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: MJ Federal Slots 3 & 4
Site Error: 0.00 usft
Reference Well: 224H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design MJ Federal Slots 3 & 4 - 223H - OH - Prelim Plan A													Offset Site Error:	0.00 usft
Survey Program: O-MWD - OWSG													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,200.00	5,114.76	5,101.87	5,087.26	21.96	18.38	177.29	-40.00	170.50	681.35	645.87	35.49	19.199		
5,300.00	5,212.58	5,204.05	5,185.08	22.46	18.73	177.37	-40.00	170.50	702.13	665.91	36.22	19.385		
5,400.00	5,310.39	5,306.24	5,282.89	22.95	19.08	177.44	-40.00	170.50	722.90	685.95	36.95	19.563		
5,500.00	5,408.21	5,408.42	5,380.71	23.45	19.43	177.52	-40.00	170.50	743.67	705.99	37.69	19.734		
5,600.00	5,506.02	5,489.39	5,478.52	23.95	19.70	177.58	-40.00	170.50	764.45	726.10	38.34	19.936		
5,700.00	5,603.84	5,587.21	5,576.34	24.45	20.04	177.65	-40.00	170.50	785.22	746.16	39.06	20.101		
5,800.00	5,701.65	5,685.02	5,674.15	24.95	20.37	177.71	-40.00	170.50	805.99	766.21	39.78	20.260		
5,900.00	5,799.47	5,782.84	5,771.97	25.44	20.71	177.76	-40.00	170.50	826.77	786.27	40.50	20.413		
6,000.00	5,897.28	5,880.65	5,869.78	25.94	21.05	177.82	-40.00	170.50	847.55	806.32	41.22	20.561		
6,100.00	5,995.10	5,978.47	5,967.60	26.44	21.38	177.87	-40.00	170.50	868.32	826.38	41.94	20.703		
6,200.00	6,092.91	6,076.28	6,065.41	26.94	21.72	177.92	-40.00	170.50	889.10	846.44	42.66	20.840		
6,300.00	6,190.73	6,174.10	6,163.23	27.43	22.06	177.97	-40.00	170.50	909.88	866.49	43.38	20.972		
6,400.00	6,288.54	6,271.91	6,261.04	27.93	22.40	178.01	-40.00	170.50	930.66	886.55	44.11	21.100		
6,500.00	6,386.35	6,369.73	6,358.85	28.43	22.74	178.06	-40.00	170.50	951.44	906.61	44.83	21.224		
6,600.00	6,484.17	6,467.54	6,456.67	28.93	23.07	178.10	-40.00	170.50	972.22	926.67	45.55	21.343		
6,700.00	6,581.98	6,565.36	6,554.48	29.43	23.41	178.14	-40.00	170.50	993.00	946.72	46.27	21.459		
6,800.00	6,679.80	6,663.17	6,652.30	29.93	23.75	178.18	-40.00	170.50	1,013.78	966.78	47.00	21.571		
6,900.00	6,777.61	6,760.99	6,750.11	30.42	24.09	178.21	-40.00	170.50	1,034.56	986.84	47.72	21.679		
7,000.00	6,875.43	6,858.80	6,847.93	30.92	24.43	178.25	-40.00	170.50	1,055.34	1,006.90	48.44	21.784		
7,100.00	6,973.24	6,956.62	6,945.74	31.42	24.77	178.28	-40.00	170.50	1,076.12	1,026.96	49.17	21.886		
7,200.00	7,071.06	7,054.43	7,043.56	31.92	25.11	178.32	-40.00	170.50	1,096.91	1,047.01	49.89	21.985		
7,300.00	7,168.87	7,152.24	7,141.37	32.42	25.46	178.35	-40.00	170.50	1,117.69	1,067.07	50.62	22.081		
7,400.00	7,266.69	7,250.06	7,239.19	32.92	25.80	178.38	-40.00	170.50	1,138.47	1,087.13	51.34	22.174		
7,500.00	7,364.50	7,347.87	7,337.00	33.42	26.14	178.41	-40.00	170.50	1,159.26	1,107.19	52.07	22.264		
7,600.00	7,462.32	7,445.69	7,434.82	33.91	26.48	178.43	-40.00	170.50	1,180.04	1,127.25	52.79	22.352		
7,700.00	7,560.13	7,543.50	7,532.63	34.41	26.82	178.46	-40.00	170.50	1,200.82	1,147.30	53.52	22.437		
7,800.00	7,657.95	7,641.32	7,630.45	34.91	27.16	178.49	-40.00	170.50	1,221.61	1,167.36	54.25	22.520		
7,900.00	7,755.76	7,739.13	7,728.26	35.41	27.51	178.51	-40.00	170.50	1,242.39	1,187.42	54.97	22.600		
8,000.00	7,853.58	7,836.95	7,826.08	35.91	27.85	178.54	-40.00	170.50	1,263.18	1,207.48	55.70	22.679		
8,100.00	7,951.39	7,934.76	7,923.89	36.41	28.19	178.56	-40.00	170.50	1,283.96	1,227.54	56.43	22.755		
8,200.00	8,049.21	8,032.58	8,021.71	36.91	28.54	178.58	-40.00	170.50	1,304.75	1,247.59	57.15	22.829		
8,300.00	8,147.02	8,130.39	8,119.52	37.41	28.88	178.61	-40.00	170.50	1,325.53	1,267.65	57.88	22.901		
8,400.00	8,244.84	8,228.21	8,217.34	37.91	29.22	178.63	-40.00	170.50	1,346.32	1,287.71	58.61	22.972		
8,500.00	8,342.65	8,326.02	8,315.15	38.40	29.57	178.65	-40.00	170.50	1,367.10	1,307.77	59.34	23.040		
8,600.00	8,440.46	8,423.84	8,412.96	38.90	29.91	178.67	-40.00	170.50	1,387.89	1,327.83	60.06	23.107		
8,700.00	8,538.28	8,521.65	8,510.78	39.40	30.25	178.69	-40.00	170.50	1,408.67	1,347.88	60.79	23.172		
8,800.00	8,636.09	8,619.47	8,608.59	39.90	30.60	178.71	-40.00	170.50	1,429.46	1,367.94	61.52	23.236		
8,900.00	8,733.91	8,717.28	8,706.41	40.40	30.94	178.73	-40.00	170.50	1,450.25	1,388.00	62.25	23.298		
9,000.00	8,831.72	8,815.10	8,804.22	40.90	31.29	178.74	-40.00	170.50	1,471.03	1,408.06	62.98	23.358		
9,100.00	8,929.54	8,912.91	8,902.04	41.40	31.63	178.76	-40.00	170.50	1,491.82	1,428.11	63.71	23.417		
9,200.00	9,027.35	9,010.73	8,999.85	41.90	31.97	178.78	-40.00	170.50	1,512.61	1,448.17	64.43	23.475		
9,269.62	9,095.45	9,078.82	9,067.95	42.25	32.21	178.79	-40.00	170.50	1,527.08	1,462.13	64.94	23.514		
9,300.00	9,125.18	9,108.56	9,097.68	42.40	32.32	178.80	-40.00	170.50	1,533.31	1,468.15	65.16	23.530		
9,400.00	9,223.28	9,206.65	9,195.78	42.88	32.66	178.82	-40.00	170.50	1,552.73	1,486.84	65.89	23.565		
9,500.00	9,321.70	9,305.07	9,294.20	43.34	33.01	178.83	-40.00	170.50	1,570.42	1,503.81	66.62	23.574		
9,600.00	9,420.11	9,403.79	9,392.91	43.78	33.36	178.85	-40.00	170.50	1,586.40	1,519.06	67.34	23.559		
9,700.00	9,519.39	9,502.76	9,491.89	44.20	33.71	178.86	-40.00	170.50	1,600.56	1,532.60	68.06	23.519		
9,800.00	9,618.50	9,601.97	9,591.10	44.50	34.06	178.87	-40.00	170.50	1,613.18	1,544.41	68.77	23.457		
9,900.00	9,718.02	9,701.39	9,690.52	44.98	34.41	178.88	-40.00	170.50	1,623.97	1,554.49	69.49	23.371		
10,000.00	9,817.60	9,800.98	9,790.10	45.34	34.76	178.89	-40.00	170.50	1,633.03	1,562.83	70.19	23.264		
10,100.00	9,917.33	9,900.71	9,889.83	45.58	35.12	178.90	-40.00	170.50	1,640.34	1,569.44	70.90	23.136		
10,200.00	10,017.18	10,000.55	9,989.68	46.01	35.47	178.90	-40.00	170.50	1,645.32	1,574.32	71.60	22.986		

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: MJ Federal Slots 3 & 4
Site Error: 0.00 usft
Reference Well: 224H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design MJ Federal Slots 3 & 4 - 223H - OH - Prelim Plan A														Offset Site Error: 0.00 usft
Survey Program: 0-MWD - CWSG														Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside		Offset Wellbore Centre		Distance		Minimum		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor	
10,300.00	10,117.10	10,100.48	10,089.60	46.31	35.82	178.90		-40.00	170.50	1,649.75	1,577.45	72.29	22.820	
10,400.00	10,217.08	10,200.45	10,189.58	46.60	36.17	178.91		-40.00	170.50	1,651.83	1,578.85	72.98	22.633	
10,469.62	10,286.69	10,270.07	10,259.19	46.79	36.42	-88.27		-40.00	170.50	1,652.26	1,578.80	73.46	22.493	
10,500.00	10,317.08	10,300.45	10,289.58	46.86	36.53	-88.27		-40.00	170.50	1,652.26	1,578.80	73.66	22.431	
10,600.00	10,417.08	10,400.45	10,389.58	47.12	36.88	-88.27		-40.00	170.50	1,652.26	1,577.93	74.33	22.230	
10,700.00	10,517.08	10,500.45	10,489.58	47.38	37.24	-88.27		-40.00	170.50	1,652.26	1,577.26	74.99	22.032	
10,800.00	10,617.08	10,600.45	10,589.58	47.64	37.59	-88.27		-40.00	170.50	1,652.26	1,576.59	75.66	21.837	
10,900.00	10,717.08	10,700.45	10,689.58	47.91	37.94	-88.27		-40.00	170.50	1,652.26	1,575.92	76.33	21.645	
10,950.02	10,767.10	10,750.47	10,739.60	47.97	38.12	-88.27		-40.00	170.50	1,652.26	1,575.67	76.59	21.573	
11,000.00	10,817.02	10,804.17	10,793.27	47.97	38.31	92.05		-41.14	170.51	1,652.30	1,575.51	76.79	21.517	
11,050.00	10,866.57	10,860.01	10,848.74	47.98	38.49	92.08		-47.38	170.54	1,652.33	1,575.33	77.00	21.459	
11,100.00	10,915.37	10,915.94	10,903.43	47.99	38.67	92.10		-59.00	170.60	1,652.34	1,575.13	77.21	21.401	
11,150.00	10,963.04	10,971.88	10,956.73	48.01	38.85	92.10		-75.90	170.68	1,652.34	1,574.92	77.42	21.342	
11,200.00	11,009.22	11,027.79	11,009.10	48.03	39.02	92.08		-97.91	170.79	1,652.31	1,574.68	77.63	21.283	
11,250.00	11,053.56	11,083.59	11,057.00	48.06	39.19	92.04		-124.75	170.93	1,652.26	1,574.41	77.85	21.224	
11,300.00	11,095.72	11,139.23	11,102.92	48.10	39.35	91.98		-156.13	171.09	1,652.20	1,574.13	78.07	21.163	
11,350.00	11,135.37	11,194.65	11,145.42	48.14	39.51	91.91		-191.66	171.27	1,652.12	1,573.82	78.30	21.099	
11,400.00	11,172.23	11,249.80	11,184.11	48.20	39.67	91.82		-230.93	171.47	1,652.03	1,573.48	78.55	21.032	
11,450.00	11,206.00	11,304.63	11,218.66	48.26	39.83	91.72		-273.48	171.68	1,651.93	1,573.12	78.81	20.961	
11,500.00	11,236.43	11,359.09	11,248.80	48.33	40.00	91.60		-318.82	171.91	1,651.82	1,572.73	79.09	20.886	
11,550.00	11,263.29	11,413.16	11,274.32	48.42	40.18	91.47		-366.46	172.15	1,651.71	1,572.32	79.39	20.806	
11,600.00	11,286.37	11,466.80	11,295.10	48.51	40.37	91.33		-415.89	172.40	1,651.59	1,571.89	79.71	20.721	
11,650.00	11,305.50	11,519.98	11,311.05	48.61	40.56	91.18		-466.60	172.66	1,651.49	1,571.44	80.05	20.632	
11,700.00	11,320.53	11,572.70	11,322.16	48.73	40.76	91.02		-518.12	172.92	1,651.38	1,570.98	80.41	20.538	
11,750.00	11,331.35	11,624.93	11,328.44	48.85	40.96	90.85		-569.95	173.19	1,651.29	1,570.50	80.79	20.440	
11,800.00	11,337.88	11,676.38	11,330.06	48.99	41.16	90.68		-621.36	173.45	1,651.21	1,570.03	81.18	20.340	
11,850.03	11,340.06	11,726.35	11,330.06	49.13	41.38	90.61		-671.33	173.70	1,651.18	1,569.57	81.60	20.235	
11,900.00	11,340.06	11,776.32	11,330.06	49.28	41.60	90.61		-721.30	173.95	1,651.16	1,569.11	82.05	20.123	
12,000.00	11,340.06	11,876.32	11,330.06	49.62	42.10	90.61		-821.29	174.46	1,651.14	1,568.08	83.06	19.879	
12,100.00	11,340.05	11,976.32	11,330.05	50.01	42.65	90.61		-921.29	174.97	1,651.11	1,566.93	84.18	19.614	
12,200.00	11,340.05	12,076.32	11,330.05	50.44	43.26	90.61		-1,021.29	175.47	1,651.09	1,565.67	85.42	19.329	
12,300.00	11,340.05	12,176.32	11,330.05	50.91	43.93	90.61		-1,121.29	175.98	1,651.06	1,564.29	86.77	19.027	
12,400.00	11,340.05	12,276.32	11,330.05	51.44	44.64	90.61		-1,221.29	176.49	1,651.04	1,562.81	88.23	18.713	
12,500.00	11,340.05	12,376.32	11,330.05	52.02	45.41	90.61		-1,321.29	176.99	1,651.01	1,561.23	89.79	18.388	
12,600.00	11,340.05	12,476.32	11,330.05	52.64	46.22	90.61		-1,421.29	177.50	1,650.99	1,559.55	91.44	18.055	
12,700.00	11,340.05	12,576.32	11,330.05	53.31	47.08	90.61		-1,521.28	178.01	1,650.96	1,557.78	93.19	17.717	
12,800.00	11,340.04	12,676.32	11,330.04	54.02	47.99	90.61		-1,621.28	178.51	1,650.94	1,555.92	95.02	17.376	
12,900.00	11,340.04	12,776.32	11,330.04	54.78	48.93	90.61		-1,721.28	179.02	1,650.91	1,553.99	96.93	17.033	
13,000.00	11,340.04	12,876.32	11,330.04	55.59	49.91	90.61		-1,821.28	179.53	1,650.89	1,551.98	98.91	16.690	
13,100.00	11,340.04	12,976.32	11,330.04	56.44	50.93	90.61		-1,921.28	180.03	1,650.86	1,549.89	100.97	16.351	
13,200.00	11,340.04	13,076.32	11,330.04	57.33	51.98	90.61		-2,021.28	180.54	1,650.84	1,547.74	103.10	16.013	
13,300.00	11,340.04	13,176.32	11,330.04	58.25	53.06	90.61		-2,121.28	181.05	1,650.81	1,545.53	105.28	15.680	
13,400.00	11,340.04	13,276.32	11,330.04	59.21	54.17	90.61		-2,221.28	181.55	1,650.79	1,543.26	107.53	15.352	
13,500.00	11,340.04	13,376.32	11,330.03	60.21	55.31	90.61		-2,321.27	182.06	1,650.76	1,540.93	109.84	15.029	
13,600.00	11,340.03	13,476.32	11,330.03	61.24	56.48	90.61		-2,421.27	182.57	1,650.74	1,538.55	112.19	14.714	
13,700.00	11,340.03	13,576.32	11,330.03	62.30	57.67	90.61		-2,521.27	183.07	1,650.71	1,536.12	114.60	14.405	
13,800.00	11,340.03	13,676.32	11,330.03	63.39	58.89	90.61		-2,621.27	183.58	1,650.69	1,533.64	117.05	14.103	
13,900.00	11,340.03	13,776.32	11,330.03	64.51	60.12	90.61		-2,721.27	184.09	1,650.66	1,531.12	119.54	13.808	
14,000.00	11,340.03	13,876.32	11,330.03	65.66	61.38	90.61		-2,821.27	184.59	1,650.64	1,528.56	122.08	13.521	
14,100.00	11,340.03	13,976.32	11,330.03	66.83	62.66	90.61		-2,921.27	185.10	1,650.61	1,525.97	124.65	13.242	
14,200.00	11,340.03	14,076.32	11,330.03	68.02	63.95	90.61		-3,021.27	185.61	1,650.59	1,523.33	127.26	12.971	
14,300.00	11,340.02	14,176.32	11,330.02	69.23	65.27	90.61		-3,121.26	186.11	1,650.56	1,520.67	129.90	12.707	

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: MJ Federal Slots 3 & 4
Site Error: 0.00 usft
Reference Well: 224H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design MJ Federal Slots 3 & 4 - 223H - OH - Prelim Plan A												Offset Site Error:	0.00 usft
Survey Program: 0-MWD - CWSG												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
14,400.00	11,340.02	14,276.32	11,330.02	70.47	66.59	90.61	-3,221.26	186.62	1,650.54	1,517.97	132.57	12.450	
14,500.00	11,340.02	14,376.32	11,330.02	71.72	67.94	90.61	-3,321.26	187.13	1,650.51	1,515.24	135.28	12.201	
14,600.00	11,340.02	14,476.32	11,330.02	72.99	69.29	90.61	-3,421.26	187.63	1,650.49	1,512.48	138.01	11.959	
14,700.00	11,340.02	14,576.32	11,330.02	74.28	70.67	90.61	-3,521.26	188.14	1,650.46	1,509.70	140.76	11.725	
14,800.00	11,340.02	14,676.32	11,330.02	75.58	72.05	90.61	-3,621.26	188.65	1,650.44	1,506.89	143.55	11.498	
14,900.00	11,340.02	14,776.32	11,330.02	76.90	73.44	90.61	-3,721.26	189.15	1,650.41	1,504.06	146.35	11.277	
15,000.00	11,340.01	14,876.32	11,330.01	78.24	74.85	90.61	-3,821.26	189.66	1,650.39	1,501.21	149.18	11.063	
15,100.00	11,340.01	14,976.32	11,330.01	79.58	76.27	90.61	-3,921.25	190.17	1,650.36	1,498.33	152.03	10.855	
15,200.00	11,340.01	15,076.32	11,330.01	80.94	77.70	90.61	-4,021.25	190.67	1,650.34	1,495.44	154.90	10.654	
15,300.00	11,340.01	15,176.32	11,330.01	82.32	79.13	90.61	-4,121.25	191.18	1,650.31	1,492.53	157.79	10.459	
15,400.00	11,340.01	15,276.32	11,330.01	83.70	80.58	90.61	-4,221.25	191.69	1,650.29	1,489.60	160.69	10.270	
15,500.00	11,340.01	15,376.32	11,330.01	85.10	82.04	90.61	-4,321.25	192.19	1,650.26	1,486.65	163.61	10.086	
15,600.00	11,340.01	15,476.32	11,330.01	86.50	83.50	90.61	-4,421.25	192.70	1,650.24	1,483.69	166.55	9.908	
15,700.00	11,340.01	15,576.32	11,330.01	87.92	84.97	90.61	-4,521.25	193.21	1,650.21	1,480.71	169.50	9.736	
15,800.00	11,340.00	15,676.32	11,330.00	89.34	86.45	90.61	-4,621.25	193.71	1,650.19	1,477.72	172.47	9.568	
15,900.00	11,340.00	15,776.32	11,330.00	90.77	87.93	90.61	-4,721.24	194.22	1,650.17	1,474.72	175.45	9.405	
16,000.00	11,340.00	15,876.32	11,330.00	92.22	89.42	90.61	-4,821.24	194.73	1,650.14	1,471.70	178.44	9.247	
16,051.12	11,340.00	15,927.44	11,330.00	92.96	90.19	90.61	-4,872.36	194.99	1,650.13	1,470.15	179.98	9.169 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: MJ Federal Slots 3 & 4
Site Error: 0.00 usft
Reference Well: 224H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design MJ Federal Slots 3 & 4 - 233H - OH - Prelim Plan A													Offset Site Error:	0.00 usft
Survey Program: 0-MWD - OWSG, 400-MWD - OWSG, 11168-MWD - OWSG													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning		
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	(usft)	(usft)	(usft)			
0.00	0.00	2.00	2.00	0.00	0.00	-90.00	0.00	-60.00	60.00					
100.00	100.00	102.00	102.00	0.13	0.14	-90.00	0.00	-60.00	60.00	59.74	0.26	227.724		
200.00	200.00	202.00	202.00	0.49	0.49	-90.00	0.00	-60.00	60.00	59.02	0.987	61.198		
300.00	300.00	302.00	302.00	0.85	0.85	-90.00	0.00	-60.00	60.00	58.31	1.69	35.417		
400.00	400.00	402.00	402.00	1.20	1.04	-90.00	0.00	-60.00	60.00	57.75	2.25	26.716		
500.00	500.00	502.02	502.02	1.56	1.16	-90.00	0.00	-60.00	60.00	57.28	2.72	22.034		
517.49	517.49	519.68	519.68	1.60	1.20	177.19	0.02	-59.97	60.00	57.21	2.79	21.492 CC		
600.00	599.99	602.96	602.95	1.75	1.37	177.62	0.43	-59.18	60.06	56.94	3.12	19.272		
700.00	699.96	703.88	703.83	1.82	1.62	178.92	1.67	-56.78	60.32	56.88	3.45	17.508 ES		
800.00	799.86	804.77	804.63	1.96	1.92	-178.95	3.72	-52.80	60.85	56.97	3.87	15.706		
900.00	899.68	905.63	905.29	2.16	2.24	-176.05	6.60	-47.25	61.73	57.35	4.38	14.102		
1,000.00	999.37	1,006.44	1,005.78	2.40	2.58	-172.45	10.28	-40.14	63.10	58.16	4.94	12.784		
1,100.00	1,098.90	1,106.26	1,105.22	2.68	2.92	-168.90	14.28	-32.41	65.84	60.30	5.54	11.888		
1,200.00	1,198.26	1,206.09	1,204.67	2.99	3.28	-165.99	18.28	-24.68	70.50	64.32	6.17	11.422		
1,300.00	1,297.40	1,305.84	1,304.04	3.32	3.64	-163.81	22.27	-16.96	76.98	70.15	6.83	11.270		
1,400.00	1,396.30	1,405.48	1,403.30	3.69	4.00	-162.32	26.26	-9.25	85.22	77.71	7.51	11.350		
1,500.00	1,494.93	1,504.97	1,502.42	4.07	4.37	-161.42	30.25	-1.55	95.15	86.95	8.20	11.602		
1,600.00	1,593.26	1,604.30	1,601.36	4.48	4.74	-161.00	34.23	6.14	106.74	97.83	8.91	11.985		
1,700.00	1,691.25	1,703.42	1,700.11	4.91	5.10	-160.92	38.20	13.81	119.96	110.34	9.62	12.471		
1,800.00	1,789.06	1,802.43	1,798.74	5.36	5.47	-161.01	42.16	21.47	134.01	123.67	10.34	12.962		
1,900.00	1,886.86	1,901.43	1,897.37	5.81	5.85	-161.09	46.13	29.14	148.05	136.99	11.06	13.382		
2,000.00	1,984.69	2,000.44	1,996.00	6.28	6.22	-161.15	50.10	36.80	162.09	150.30	11.79	13.745		
2,100.00	2,082.51	2,100.55	2,094.63	6.74	6.59	-161.20	54.06	44.47	176.14	163.60	12.53	14.056		
2,200.00	2,180.32	2,201.54	2,193.27	7.22	6.98	-161.25	58.03	52.13	190.18	176.90	13.28	14.325		
2,300.00	2,278.13	2,302.53	2,291.90	7.69	7.36	-161.29	62.00	59.79	204.22	190.20	14.02	14.562		
2,400.00	2,375.95	2,403.52	2,390.53	8.17	7.74	-161.32	65.96	67.46	218.27	203.49	14.77	14.773		
2,500.00	2,473.76	2,504.51	2,489.16	8.65	8.12	-161.35	69.93	75.12	232.31	216.79	15.53	14.962		
2,600.00	2,571.58	2,605.50	2,587.79	9.13	8.51	-161.39	73.89	82.78	246.36	230.08	16.28	15.131		
2,700.00	2,669.39	2,706.50	2,686.43	9.62	8.89	-161.40	77.86	90.45	260.40	243.06	17.04	15.284		
2,800.00	2,767.21	2,807.49	2,785.06	10.11	9.27	-161.42	81.83	98.11	274.44	256.65	17.79	15.423		
2,900.00	2,865.02	2,908.48	2,883.69	10.59	9.66	-161.44	85.79	105.78	288.49	269.94	18.55	15.549		
3,000.00	2,962.84	3,009.47	2,982.32	11.08	10.04	-161.46	89.76	113.44	302.53	283.22	19.31	15.665		
3,100.00	3,060.65	3,089.54	3,080.95	11.57	10.35	-161.48	93.72	121.10	316.58	296.58	20.00	15.832		
3,200.00	3,158.47	3,188.55	3,179.59	12.06	10.72	-161.49	97.69	128.77	330.62	309.87	20.75	15.934		
3,300.00	3,256.28	3,287.56	3,278.22	12.55	11.10	-161.50	101.66	136.43	344.67	323.16	21.50	16.028		
3,400.00	3,354.10	3,386.57	3,376.85	13.04	11.48	-161.52	105.62	144.09	358.71	336.45	22.26	16.115		
3,500.00	3,451.91	3,484.95	3,474.86	13.54	11.85	-161.53	109.55	151.69	372.77	349.76	23.01	16.199		
3,600.00	3,549.73	3,579.67	3,569.30	14.03	12.21	-161.55	113.48	158.12	386.82	363.79	23.73	16.329		
3,700.00	3,647.54	3,674.04	3,663.50	14.52	12.55	-161.56	117.36	163.14	403.37	378.93	24.44	16.505		
3,800.00	3,745.36	3,768.00	3,757.38	15.02	12.89	-162.35	121.21	166.77	420.32	395.19	25.13	16.726		
3,900.00	3,843.17	3,861.51	3,850.85	15.51	13.22	-162.89	125.06	169.03	438.39	412.58	25.81	16.987		
4,000.00	3,940.99	3,954.53	3,943.86	16.01	13.54	-163.52	128.91	169.93	457.60	431.13	26.47	17.289		
4,100.00	4,038.80	4,051.47	4,040.80	16.50	13.86	-164.22	132.76	169.94	477.59	450.44	27.15	17.590		
4,200.00	4,136.62	4,149.28	4,138.62	17.00	14.19	-164.87	136.61	169.94	497.66	469.81	27.84	17.873		
4,300.00	4,234.43	4,247.10	4,236.43	17.49	14.52	-165.47	140.46	169.94	517.79	489.25	28.54	18.143		
4,400.00	4,332.24	4,344.91	4,334.24	17.99	14.85	-166.02	144.31	169.94	537.96	508.73	29.24	18.400		
4,500.00	4,430.05	4,442.73	4,432.05	18.48	15.18	-166.54	148.16	169.94	558.19	528.25	29.94	18.645		
4,600.00	4,527.87	4,540.54	4,529.87	18.98	15.51	-167.02	152.01	169.94	578.45	547.81	30.64	18.879		
4,700.00	4,625.69	4,638.36	4,627.69	19.48	15.85	-167.47	155.86	169.94	598.75	567.41	31.34	19.103		
4,800.00	4,723.50	4,736.17	4,725.50	19.97	16.18	-167.88	159.71	169.94	619.08	587.03	32.05	19.317		
4,900.00	4,821.32	4,833.99	4,823.32	20.47	16.51	-168.27	163.56	169.94	639.44	606.69	32.76	19.522		
5,000.00	4,919.13	4,931.80	4,921.13	20.97	16.85	-168.64	167.41	169.94	659.83	626.37	33.46	19.716		

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: MJ Federal Slots 3 & 4
Site Error: 0.00 usft
Reference Well: 224H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design MJ Federal Slots 3 & 4 - 233H - OH - Prelim Plan A													Offset Site Error:	0.00 usft
Survey Program: 0-MWD - OWSG, 400-MWD - CWSG, 11168-MWD - OWSG													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,016.95	5,029.62	5,018.95	21.46	17.18	-168.98	119.00	169.94	680.24	646.07	34.17	19.906		
5,200.00	5,114.76	5,127.43	5,116.76	21.96	17.52	-169.31	119.00	169.94	700.68	665.80	34.88	20.086		
5,300.00	5,212.58	5,225.25	5,214.58	22.46	17.86	-169.62	119.00	169.94	721.13	685.54	35.60	20.259		
5,400.00	5,310.39	5,323.06	5,312.39	22.95	18.19	-169.90	119.00	169.94	741.61	705.30	36.31	20.425		
5,500.00	5,408.21	5,420.88	5,410.21	23.45	18.53	-170.18	119.00	169.94	762.10	725.08	37.02	20.585		
5,600.00	5,506.02	5,518.69	5,508.02	23.95	18.87	-170.44	119.00	169.94	782.61	744.87	37.74	20.739		
5,700.00	5,603.84	5,616.51	5,605.84	24.45	19.21	-170.68	119.00	169.94	803.13	764.68	38.45	20.887		
5,800.00	5,701.65	5,714.32	5,703.65	24.95	19.55	-170.92	119.00	169.94	823.66	784.50	39.17	21.029		
5,900.00	5,799.47	5,812.14	5,801.47	25.44	19.88	-171.14	119.00	169.94	844.21	804.33	39.88	21.166		
6,000.00	5,897.28	5,909.95	5,899.28	25.94	20.22	-171.35	119.00	169.94	864.77	824.17	40.60	21.299		
6,100.00	5,995.10	6,007.77	5,997.10	26.44	20.56	-171.55	119.00	169.94	885.34	844.02	41.32	21.426		
6,200.00	6,092.91	6,105.58	6,094.91	26.94	20.90	-171.75	119.00	169.94	905.92	863.88	42.04	21.549		
6,300.00	6,190.73	6,203.39	6,192.73	27.43	21.25	-171.93	119.00	169.94	926.51	883.75	42.76	21.668		
6,400.00	6,288.54	6,301.21	6,290.54	27.93	21.59	-172.11	119.00	169.94	947.11	903.63	43.48	21.783		
6,500.00	6,386.35	6,400.98	6,388.35	28.43	21.93	-172.28	119.00	169.94	967.72	923.51	44.21	21.891		
6,600.00	6,484.17	6,503.16	6,486.17	28.93	22.29	-172.44	119.00	169.94	988.33	943.39	44.94	21.991		
6,700.00	6,581.98	6,605.35	6,583.98	29.43	22.65	-172.60	119.00	169.94	1,008.95	963.27	45.68	22.088		
6,800.00	6,679.80	6,707.53	6,681.80	29.93	23.01	-172.74	119.00	169.94	1,029.58	983.16	46.42	22.182		
6,900.00	6,777.61	6,809.72	6,779.61	30.42	23.36	-172.89	119.00	169.94	1,050.22	1,003.06	47.15	22.272		
7,000.00	6,875.43	6,888.10	6,877.43	30.92	23.64	-173.03	119.00	169.94	1,070.86	1,023.05	47.81	22.399		
7,100.00	6,973.24	6,985.91	6,975.24	31.42	23.98	-173.16	119.00	169.94	1,091.50	1,042.97	48.53	22.491		
7,200.00	7,071.06	7,083.73	7,073.06	31.92	24.32	-173.29	119.00	169.94	1,112.16	1,062.90	49.25	22.580		
7,300.00	7,168.87	7,181.54	7,170.87	32.42	24.67	-173.41	119.00	169.94	1,132.81	1,082.83	49.98	22.666		
7,400.00	7,266.69	7,279.36	7,268.69	32.92	25.01	-173.53	119.00	169.94	1,153.47	1,102.77	50.70	22.750		
7,500.00	7,364.50	7,377.17	7,366.50	33.42	25.35	-173.64	119.00	169.94	1,174.14	1,122.71	51.43	22.831		
7,600.00	7,462.32	7,474.99	7,464.32	33.91	25.70	-173.75	119.00	169.94	1,194.81	1,142.66	52.15	22.910		
7,700.00	7,560.13	7,572.80	7,562.13	34.41	26.04	-173.86	119.00	169.94	1,215.49	1,162.61	52.88	22.987		
7,800.00	7,657.95	7,670.62	7,659.95	34.91	26.39	-173.96	119.00	169.94	1,236.17	1,182.56	53.60	23.062		
7,900.00	7,755.76	7,768.43	7,757.76	35.41	26.73	-174.06	119.00	169.94	1,256.85	1,202.52	54.33	23.135		
8,000.00	7,853.58	7,866.25	7,855.58	35.91	27.08	-174.16	119.00	169.94	1,277.53	1,222.48	55.05	23.205		
8,100.00	7,951.39	7,964.06	7,953.39	36.41	27.42	-174.25	119.00	169.94	1,298.22	1,242.44	55.78	23.274		
8,200.00	8,049.21	8,061.88	8,051.21	36.91	27.77	-174.34	119.00	169.94	1,318.92	1,262.41	56.51	23.341		
8,300.00	8,147.02	8,159.69	8,149.02	37.41	28.11	-174.43	119.00	169.94	1,339.61	1,282.38	57.23	23.406		
8,400.00	8,244.84	8,257.50	8,246.84	37.91	28.46	-174.51	119.00	169.94	1,360.31	1,302.35	57.96	23.470		
8,500.00	8,342.65	8,355.32	8,344.65	38.40	28.80	-174.60	119.00	169.94	1,381.01	1,322.32	58.69	23.532		
8,600.00	8,440.46	8,453.13	8,442.46	38.90	29.15	-174.68	119.00	169.94	1,401.72	1,342.30	59.41	23.592		
8,700.00	8,538.28	8,550.95	8,540.28	39.40	29.49	-174.75	119.00	169.94	1,422.42	1,362.28	60.14	23.651		
8,800.00	8,636.09	8,648.76	8,638.09	39.90	29.84	-174.83	119.00	169.94	1,443.13	1,382.26	60.87	23.708		
8,900.00	8,733.91	8,746.58	8,735.91	40.40	30.18	-174.90	119.00	169.94	1,463.84	1,402.24	61.60	23.764		
9,000.00	8,831.72	8,844.39	8,833.72	40.90	30.53	-174.97	119.00	169.94	1,484.56	1,422.23	62.33	23.819		
9,100.00	8,929.54	8,942.21	8,931.54	41.40	30.88	-175.04	119.00	169.94	1,505.27	1,442.22	63.05	23.872		
9,200.00	9,027.35	9,040.02	9,029.35	41.90	31.22	-175.11	119.00	169.94	1,525.99	1,462.21	63.78	23.925		
9,269.62	9,095.45	9,108.12	9,097.45	42.25	31.46	-175.16	119.00	169.94	1,540.41	1,476.12	64.29	23.960		
9,300.00	9,125.18	9,137.85	9,127.18	42.40	31.57	-175.18	119.00	169.94	1,546.63	1,482.12	64.51	23.974		
9,400.00	9,223.28	9,235.95	9,225.28	42.88	31.92	-175.25	119.00	169.94	1,565.98	1,500.74	65.24	24.004		
9,500.00	9,321.70	9,334.37	9,323.70	43.34	32.26	-175.33	119.00	169.94	1,583.63	1,517.66	65.96	24.007		
9,600.00	9,420.41	9,433.08	9,422.41	43.78	32.61	-175.38	119.00	169.94	1,599.56	1,532.87	66.69	23.986		
9,700.00	9,519.39	9,532.06	9,521.39	44.20	32.96	-175.44	119.00	169.94	1,613.77	1,546.35	67.41	23.941		
9,800.00	9,618.60	9,631.27	9,620.60	44.60	33.32	-175.48	119.00	169.94	1,626.26	1,558.13	68.12	23.873		
9,900.00	9,718.02	9,730.69	9,720.02	44.98	33.67	-175.52	119.00	169.94	1,637.02	1,568.18	68.83	23.782		
10,000.00	9,817.60	9,830.27	9,819.60	45.34	34.02	-175.55	119.00	169.94	1,646.05	1,576.50	69.54	23.670		
10,100.00	9,917.33	9,930.00	9,919.33	45.68	34.38	-175.58	119.00	169.94	1,653.34	1,583.09	70.25	23.536		

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Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design MJ Federal Slots 3 & 4 - 233H - OH - Prelim Plan A													Offset Site Error: 0.00 usft
Survey Program: 0-MWD - OWSG, 400-MWD - OWSG, 11168-MWD - OWSG													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,200.00	10,017.18	10,029.85	10,019.18	46.01	34.73	-175.60	119.00	169.94	1,658.90	1,587.95	70.95	23.382	
10,300.00	10,117.10	10,129.77	10,119.10	46.31	35.08	-175.61	119.00	169.94	1,662.72	1,591.08	71.64	23.209	
10,400.00	10,217.08	10,229.75	10,219.08	46.50	35.44	-175.62	119.00	169.94	1,664.80	1,592.47	72.33	23.016	
10,469.62	10,286.69	10,300.64	10,286.69	46.79	35.69	-82.79	119.00	169.94	1,665.22	1,592.41	72.81	22.871	
10,500.00	10,317.08	10,329.75	10,319.08	46.86	35.79	-82.79	119.00	169.94	1,665.22	1,592.22	73.01	22.809	
10,600.00	10,417.08	10,429.75	10,419.08	47.12	36.15	-82.79	119.00	169.94	1,665.22	1,591.55	73.68	22.602	
10,700.00	10,517.08	10,529.75	10,519.08	47.38	36.50	-82.79	119.00	169.94	1,665.22	1,590.88	74.34	22.399	
10,800.00	10,617.08	10,629.75	10,619.08	47.64	36.86	-82.79	119.00	169.94	1,665.22	1,590.21	75.01	22.199	
10,900.00	10,717.08	10,729.75	10,719.08	47.91	37.21	-82.79	119.00	169.94	1,665.22	1,589.54	75.68	22.002	
10,950.02	10,767.10	10,779.77	10,769.10	47.97	37.39	-82.79	119.00	169.94	1,665.22	1,589.28	75.94	21.928	
11,000.00	10,817.02	10,829.68	10,819.02	47.97	37.57	97.53	119.00	169.94	1,665.51	1,589.39	76.12	21.880	
11,050.00	10,866.57	10,879.24	10,868.57	47.98	37.75	97.67	119.00	169.94	1,666.38	1,590.08	76.30	21.840	
11,100.00	10,915.37	10,928.04	10,917.37	47.99	37.92	97.88	119.00	169.94	1,667.88	1,591.40	76.48	21.809	
11,150.00	10,963.04	10,975.71	10,965.04	48.01	38.09	98.15	119.00	169.94	1,670.08	1,593.43	76.65	21.789	
11,200.00	11,009.22	11,021.89	11,011.22	48.03	38.25	98.45	119.00	169.94	1,673.06	1,596.24	76.82	21.779	
11,250.00	11,053.56	11,066.23	11,055.56	48.06	38.41	98.76	119.00	169.94	1,676.95	1,599.96	76.99	21.783	
11,300.00	11,095.72	11,108.39	11,097.72	48.10	38.56	99.04	119.00	169.94	1,681.86	1,604.71	77.15	21.801	
11,350.00	11,135.37	11,148.04	11,137.37	48.14	38.70	99.25	119.00	169.94	1,687.93	1,610.62	77.30	21.835	
11,400.00	11,172.23	11,219.86	11,209.12	48.20	38.83	100.13	116.63	169.96	1,695.09	1,617.53	77.56	21.856	
11,450.00	11,206.00	11,354.02	11,340.09	48.26	38.83	102.07	88.99	170.10	1,701.96	1,624.23	77.74	21.894	
11,500.00	11,236.43	11,529.16	11,495.00	48.33	38.86	104.00	8.76	170.50	1,707.30	1,629.57	77.72	21.966	
11,550.00	11,263.29	11,741.68	11,639.74	48.42	38.97	105.05	-145.18	171.27	1,709.73	1,632.03	77.69	22.006	
11,600.00	11,286.37	11,800.00	11,713.87	48.51	38.91	104.64	-320.80	172.15	1,708.31	1,630.91	77.40	22.071	
11,650.00	11,305.50	12,089.08	11,730.06	48.61	39.68	103.52	-475.26	172.93	1,704.13	1,625.07	79.06	21.554	
11,700.00	11,320.53	12,136.75	11,730.06	48.73	39.86	103.41	-522.93	173.17	1,700.46	1,621.01	79.45	21.404	
11,750.00	11,331.35	12,185.55	11,730.06	48.85	40.05	103.31	-571.73	173.41	1,697.89	1,618.05	79.84	21.266	
11,800.00	11,337.88	12,235.10	11,730.06	48.99	40.26	103.25	-621.28	173.66	1,696.36	1,616.10	80.26	21.135	
11,850.03	11,340.06	12,285.07	11,730.06	49.13	40.49	103.23	-671.25	173.91	1,695.85	1,615.16	80.70	21.015	
11,900.00	11,340.06	12,335.04	11,730.05	49.28	40.74	103.23	-721.22	174.16	1,695.84	1,614.68	81.16	20.894	
12,000.00	11,340.06	12,435.04	11,730.05	49.62	41.28	103.23	-821.22	174.66	1,695.82	1,613.65	82.18	20.637	
12,100.00	11,340.05	12,535.04	11,730.05	50.01	41.88	103.23	-921.21	175.16	1,695.81	1,612.50	83.30	20.357	
12,200.00	11,340.05	12,635.04	11,730.05	50.44	42.54	103.23	-1,021.21	175.57	1,695.79	1,611.24	84.55	20.058	
12,300.00	11,340.05	12,735.04	11,730.05	50.91	43.26	103.23	-1,121.21	176.17	1,695.77	1,609.87	85.89	19.743	
12,400.00	11,340.05	12,835.04	11,730.05	51.44	44.02	103.23	-1,221.21	176.67	1,695.75	1,608.40	87.34	19.415	
12,500.00	11,340.05	12,935.04	11,730.05	52.02	44.84	103.23	-1,321.21	177.17	1,695.73	1,606.84	88.89	19.077	
12,600.00	11,340.05	13,035.04	11,730.05	52.64	45.70	103.23	-1,421.21	177.67	1,695.71	1,605.18	90.53	18.731	
12,700.00	11,340.05	13,135.04	11,730.04	53.31	46.61	103.23	-1,521.21	178.17	1,695.69	1,603.43	92.25	18.381	
12,800.00	11,340.04	13,235.04	11,730.04	54.02	47.56	103.23	-1,621.20	178.68	1,695.67	1,601.61	94.06	18.027	
12,900.00	11,340.04	13,335.04	11,730.04	54.78	48.55	103.23	-1,721.20	179.18	1,695.65	1,599.70	95.95	17.673	
13,000.00	11,340.04	13,435.04	11,730.04	55.59	49.57	103.23	-1,821.20	179.68	1,695.63	1,597.72	97.91	17.319	
13,100.00	11,340.04	13,535.04	11,730.04	56.44	50.63	103.23	-1,921.20	180.18	1,695.61	1,595.68	99.93	16.967	
13,200.00	11,340.04	13,635.04	11,730.04	57.33	51.72	103.23	-2,021.20	180.68	1,695.59	1,593.56	102.03	16.619	
13,300.00	11,340.04	13,735.04	11,730.04	58.25	52.84	103.23	-2,121.20	181.18	1,695.57	1,591.39	104.18	16.275	
13,400.00	11,340.04	13,835.04	11,730.03	59.21	53.99	103.23	-2,221.20	181.69	1,695.55	1,589.16	106.39	15.937	
13,500.00	11,340.04	13,935.04	11,730.03	60.21	55.17	103.23	-2,321.20	182.19	1,695.53	1,586.88	108.65	15.605	
13,600.00	11,340.03	14,035.04	11,730.03	61.24	56.37	103.23	-2,421.19	182.69	1,695.51	1,584.55	110.97	15.279	
13,700.00	11,340.03	14,135.04	11,730.03	62.30	57.59	103.23	-2,521.19	183.19	1,695.49	1,582.16	113.33	14.961	
13,800.00	11,340.03	14,235.04	11,730.03	63.39	58.84	103.23	-2,621.19	183.69	1,695.48	1,579.74	115.74	14.649	
13,900.00	11,340.03	14,335.04	11,730.03	64.51	60.11	103.23	-2,721.19	184.19	1,695.46	1,577.27	118.18	14.346	
14,000.00	11,340.03	14,435.04	11,730.03	65.66	61.39	103.23	-2,821.19	184.70	1,695.44	1,574.76	120.67	14.050	
14,100.00	11,340.03	14,535.04	11,730.03	66.83	62.70	103.23	-2,921.19	185.20	1,695.42	1,572.22	123.20	13.762	
14,200.00	11,340.03	14,635.04	11,730.02	68.02	64.02	103.23	-3,021.19	185.70	1,695.40	1,569.64	125.75	13.482	

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: MJ Federal Slots 3 & 4
Site Error: 0.00 usft
Reference Well: 224H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design MJ Federal Slots 3 & 4 - 233H - OH - Prelim Plan A													Offset Site Error: 0.00 usft
Survey Program: 3-MWD - OWSG, 400-MWD - OWSG, 11168-MWD - OWSG													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface [°]	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
14,300.00	11,340.02	14,735.04	11,730.02	69.23	65.36	103.23	-3,121.19	186.20	1,695.38	1,567.03	128.34	13.210	
14,400.00	11,340.02	14,835.04	11,730.02	70.47	66.71	103.23	-3,221.18	186.70	1,695.36	1,564.39	130.97	12.945	
14,500.00	11,340.02	14,935.04	11,730.02	71.72	68.08	103.23	-3,321.18	187.20	1,695.34	1,561.72	133.62	12.688	
14,600.00	11,340.02	15,035.04	11,730.02	72.99	69.46	103.23	-3,421.18	187.71	1,695.32	1,559.03	136.29	12.439	
14,700.00	11,340.02	15,135.04	11,730.02	74.28	70.85	103.23	-3,521.18	188.21	1,695.30	1,556.30	139.00	12.197	
14,800.00	11,340.02	15,235.04	11,730.02	75.58	72.26	103.23	-3,621.18	188.71	1,695.28	1,553.56	141.72	11.962	
14,900.00	11,340.02	15,335.04	11,730.02	76.90	73.67	103.23	-3,721.18	189.21	1,695.26	1,550.79	144.47	11.734	
15,000.00	11,340.01	15,435.04	11,730.01	78.24	75.10	103.23	-3,821.18	189.71	1,695.24	1,548.00	147.24	11.513	
15,100.00	11,340.01	15,535.04	11,730.01	79.58	76.54	103.23	-3,921.18	190.21	1,695.22	1,545.19	150.04	11.299	
15,200.00	11,340.01	15,635.04	11,730.01	80.94	77.98	103.23	-4,021.17	190.72	1,695.20	1,542.36	152.85	11.091	
15,300.00	11,340.01	15,735.04	11,730.01	82.32	79.44	103.23	-4,121.17	191.22	1,695.18	1,539.51	155.67	10.889	
15,400.00	11,340.01	15,835.04	11,730.01	83.70	80.90	103.23	-4,221.17	191.72	1,695.17	1,536.65	158.52	10.694	
15,500.00	11,340.01	15,935.04	11,730.01	85.10	82.37	103.23	-4,321.17	192.22	1,695.15	1,533.76	161.38	10.504	
15,600.00	11,340.01	16,035.04	11,730.01	86.50	83.85	103.23	-4,421.17	192.72	1,695.13	1,530.87	164.26	10.320	
15,700.00	11,340.01	16,135.04	11,730.00	87.92	85.33	103.23	-4,521.17	193.22	1,695.11	1,527.96	167.15	10.141	
15,800.00	11,340.00	16,235.04	11,730.00	89.34	86.83	103.23	-4,621.17	193.73	1,695.09	1,525.03	170.06	9.958	
15,900.00	11,340.00	16,335.04	11,730.00	90.77	88.32	103.23	-4,721.17	194.23	1,695.07	1,522.09	172.98	9.799	
16,000.00	11,340.00	16,435.04	11,730.00	92.22	89.83	103.23	-4,821.16	194.73	1,695.05	1,519.14	175.91	9.636	
16,051.12	11,340.00	16,486.16	11,730.00	92.96	90.60	103.23	-4,872.28	194.99	1,695.04	1,517.63	177.41	9.554 SF	

Pro Directional Anticollision Report

Company: Matador Resources
Project: Lea County, NM
Reference Site: MJ Federal Slots 3 & 4
Site Error: 0.00 usft
Reference Well: 224H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design MJ Federal Slots 3 & 4 - 234H - OH - Prelim Plan A													Offset Site Error: 0.00 usft
Survey Program: 0-MWD - OWSG, 500-MWD - OWSG, 11353-MWD - OWSG													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	3.00	3.00	0.00	0.00	88.03	1.00	29.00	29.02				
100.00	100.00	103.00	103.00	0.13	0.14	88.03	1.00	29.00	29.02	28.75	0.27	108.654	
200.00	200.00	203.00	203.00	0.49	0.50	88.03	1.00	29.00	29.02	28.03	0.98	29.489	
300.00	300.00	303.00	303.00	0.85	0.86	88.03	1.00	29.00	29.02	27.32	1.70	17.059	
400.00	400.00	403.00	403.00	1.20	1.21	88.03	1.00	29.00	29.02	26.60	2.42	12.001	
500.00	500.00	503.00	503.00	1.56	1.57	88.03	1.00	29.00	29.02	25.88	3.13	9.256 CC	
600.00	599.99	602.48	602.48	1.75	1.76	-5.00	1.06	29.91	29.07	25.56	3.51	8.292	
700.00	699.96	701.98	701.93	1.82	1.83	-5.59	1.23	32.55	29.12	25.47	3.65	7.983	
800.00	799.85	801.47	801.33	1.96	1.96	-6.58	1.52	36.91	29.17	25.25	3.92	7.445	
900.00	899.68	900.96	900.63	2.16	2.16	-7.94	1.92	42.99	29.24	24.95	4.30	6.808	
1,000.00	999.37	1,000.45	999.81	2.40	2.40	-9.69	2.44	50.79	29.34	24.59	4.75	6.174	
1,100.00	1,098.90	1,099.93	1,098.83	2.68	2.68	-11.81	3.06	60.31	29.49	24.22	5.27	5.593	
1,200.00	1,198.26	1,199.41	1,197.68	2.99	2.98	-14.28	3.80	71.54	29.70	23.86	5.84	5.087	
1,300.00	1,297.40	1,298.89	1,296.30	3.32	3.32	-17.09	4.66	84.49	30.01	23.57	6.45	4.656	
1,400.00	1,396.30	1,398.36	1,394.69	3.69	3.68	-20.19	5.62	99.13	30.44	23.35	7.09	4.294	
1,500.00	1,494.93	1,497.83	1,492.79	4.07	4.06	-23.54	6.70	115.48	31.01	23.25	7.77	3.993	
1,600.00	1,593.26	1,602.72	1,590.56	4.48	4.49	-27.09	7.89	133.52	31.76	23.26	8.50	3.737	
1,700.00	1,691.25	1,702.75	1,688.72	4.91	4.91	-31.41	9.14	152.56	31.96	22.69	9.27	3.447	
1,800.00	1,789.06	1,802.79	1,786.84	5.36	5.34	-35.56	10.39	171.59	31.64	21.53	10.10	3.131	
1,874.42	1,861.86	1,871.60	1,859.86	5.70	5.65	-40.45	11.33	185.75	31.57	20.83	10.73	2.941	
1,900.00	1,886.88	1,902.84	1,884.96	5.81	5.78	-41.78	11.65	190.62	31.57	20.59	10.98	2.875	
2,000.00	1,984.69	1,997.12	1,983.08	6.26	6.21	-46.98	12.90	209.65	31.77	19.89	11.88	2.674	
2,100.00	2,082.51	2,102.92	2,081.20	6.74	6.68	-52.07	14.16	228.68	32.23	19.37	12.86	2.506	
2,200.00	2,180.32	2,202.96	2,179.33	7.22	7.14	-56.99	15.41	247.71	32.93	19.08	13.85	2.378	
2,300.00	2,278.13	2,303.00	2,277.45	7.69	7.59	-61.66	16.66	266.75	33.86	19.01	14.86	2.280 ES	
2,400.00	2,375.95	2,403.04	2,375.57	8.17	8.05	-66.06	17.92	285.78	35.01	19.14	15.87	2.206	
2,500.00	2,473.76	2,503.08	2,473.69	8.65	8.51	-70.16	19.17	304.81	36.35	19.46	16.89	2.152	
2,600.00	2,571.58	2,603.13	2,571.81	9.13	8.98	-73.95	20.43	323.84	37.86	19.95	17.91	2.114	
2,700.00	2,669.39	2,703.17	2,669.94	9.62	9.44	-77.43	21.68	342.87	39.52	20.61	18.92	2.089	
2,800.00	2,767.21	2,803.21	2,768.06	10.11	9.91	-80.62	22.93	361.91	41.32	21.40	19.92	2.075	
2,900.00	2,865.02	2,903.25	2,866.18	10.59	10.37	-83.54	24.19	380.94	43.24	22.33	20.91	2.068	
3,000.00	2,962.84	3,003.29	2,964.30	11.08	10.84	-86.20	25.44	399.97	45.25	23.36	21.89	2.067 SF	
3,100.00	3,060.65	3,103.33	3,062.42	11.57	11.31	-88.64	26.70	419.00	47.36	24.50	22.86	2.071	
3,200.00	3,158.47	3,203.38	3,160.55	12.06	11.78	-90.86	27.95	438.03	49.54	25.71	23.83	2.079	
3,300.00	3,256.28	3,303.42	3,258.67	12.55	12.25	-92.89	29.20	457.06	51.80	27.01	24.79	2.090	
3,400.00	3,354.10	3,403.46	3,356.79	13.04	12.72	-94.75	30.46	476.10	54.11	28.37	25.74	2.102	
3,500.00	3,451.91	3,503.50	3,454.91	13.54	13.19	-96.45	31.71	495.13	56.47	29.79	26.68	2.117	
3,600.00	3,549.73	3,603.54	3,553.03	14.03	13.66	-98.02	32.97	514.16	58.88	31.27	27.62	2.132	
3,700.00	3,647.54	3,696.42	3,651.16	14.52	14.10	-99.46	34.22	533.19	61.34	32.82	28.52	2.151	
3,800.00	3,745.36	3,803.62	3,749.28	15.02	14.61	-100.79	35.47	552.22	63.82	34.34	29.48	2.165	
3,900.00	3,843.17	3,903.67	3,847.40	15.51	15.08	-102.02	36.73	571.25	66.34	35.93	30.41	2.182	
4,000.00	3,940.99	4,003.71	3,945.52	16.01	15.55	-103.16	37.98	590.29	68.89	37.56	31.33	2.199	
4,100.00	4,038.80	4,103.75	4,043.64	16.50	16.03	-104.22	39.23	609.32	71.46	39.21	32.25	2.216	
4,200.00	4,136.62	4,203.79	4,141.77	17.00	16.50	-105.21	40.49	628.35	74.06	40.89	33.17	2.233	
4,300.00	4,234.43	4,303.83	4,239.89	17.49	16.97	-106.13	41.74	647.38	76.67	42.59	34.08	2.250	
4,400.00	4,332.24	4,396.13	4,338.01	17.99	17.41	-106.98	43.00	666.41	79.31	44.35	34.96	2.268	
4,500.00	4,430.06	4,503.91	4,436.13	18.48	17.92	-107.79	44.25	685.44	81.96	46.05	35.91	2.282	
4,600.00	4,527.87	4,603.96	4,534.25	18.98	18.40	-108.54	45.50	704.48	84.62	47.80	36.82	2.298	
4,700.00	4,625.69	4,704.00	4,632.38	19.48	18.87	-109.24	46.76	723.51	87.30	49.57	37.73	2.314	
4,800.00	4,723.50	4,804.04	4,730.50	19.97	19.35	-109.91	48.01	742.54	90.00	51.36	38.64	2.329	
4,900.00	4,821.32	4,904.08	4,828.62	20.47	19.82	-110.53	49.27	761.57	92.70	53.15	39.55	2.344	
5,000.00	4,919.13	5,004.12	4,926.74	20.97	20.30	-111.12	50.52	780.60	95.41	54.96	40.45	2.359	

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: MJ Federal Slots 3 & 4
Site Error: 0.00 usft
Reference Well: 224H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design MJ Federal Slots 3 & 4 - 234H - OH - Prelim Plan A													Offset Site Error: 0.00 usft
Survey Program: 0-MWD - OWSG, 500-MWD - OWSG, 11353-MWD - OWSG													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	
5,100.00	5,016.95	5,104.16	5,024.86	21.46	20.77	-111.68	51.77	799.63	98.14	56.78	41.36	2.373	
5,200.00	5,114.76	5,204.21	5,122.99	21.96	21.25	-112.20	53.03	818.67	100.87	58.60	42.27	2.387	
5,300.00	5,212.58	5,304.25	5,221.11	22.46	21.72	-112.70	54.28	837.70	103.61	60.44	43.17	2.400	
5,400.00	5,310.39	5,404.29	5,319.23	22.95	22.20	-113.17	55.54	856.73	106.35	62.28	44.07	2.413	
5,500.00	5,408.21	5,504.33	5,417.35	23.45	22.67	-113.62	56.79	875.76	109.11	64.13	44.98	2.426	
5,600.00	5,506.02	5,604.37	5,515.47	23.95	23.15	-114.05	58.04	894.79	111.87	65.99	45.88	2.438	
5,700.00	5,603.84	5,704.41	5,613.60	24.45	23.63	-114.46	59.30	913.83	114.64	67.85	46.78	2.450	
5,800.00	5,701.65	5,795.55	5,711.72	24.95	24.06	-114.84	60.55	932.86	117.41	69.76	47.65	2.464	
5,900.00	5,799.47	5,895.50	5,809.84	25.44	24.54	-115.21	61.81	951.89	120.19	71.64	48.55	2.476	
6,000.00	5,897.28	5,995.46	5,907.96	25.94	25.01	-115.57	63.06	970.92	122.97	73.52	49.45	2.487	
6,100.00	5,995.10	6,104.58	6,006.08	26.44	25.53	-115.90	64.31	989.95	125.75	75.36	50.39	2.495	
6,200.00	6,092.91	6,195.38	6,104.21	26.94	25.96	-116.23	65.57	1,008.98	128.54	77.29	51.25	2.508	
6,300.00	6,190.73	6,304.66	6,202.33	27.43	26.48	-116.53	66.82	1,028.02	131.34	79.14	52.20	2.516	
6,400.00	6,288.54	6,404.70	6,300.45	27.93	26.96	-116.83	68.08	1,047.05	134.14	81.04	53.10	2.526	
6,500.00	6,386.35	6,504.74	6,398.57	28.43	27.44	-117.11	69.33	1,066.08	136.94	82.94	54.00	2.536	
6,600.00	6,484.17	6,604.79	6,496.69	28.93	27.91	-117.39	70.58	1,085.11	139.74	84.84	54.90	2.545	
6,700.00	6,581.98	6,704.83	6,594.81	29.43	28.39	-117.65	71.84	1,104.14	142.55	86.75	55.80	2.555	
6,800.00	6,679.80	6,804.87	6,692.94	29.93	28.86	-117.90	73.09	1,123.17	145.36	88.66	56.70	2.564	
6,900.00	6,777.61	6,895.09	6,791.06	30.42	29.29	-118.14	74.34	1,142.21	148.17	90.61	57.56	2.574	
7,000.00	6,875.43	7,004.95	6,889.18	30.92	29.82	-118.37	75.60	1,161.24	150.99	92.48	58.51	2.581	
7,100.00	6,973.24	7,095.01	6,987.30	31.42	30.25	-118.60	76.85	1,180.27	153.81	94.45	59.36	2.591	
7,200.00	7,071.06	7,205.04	7,085.42	31.92	30.77	-118.82	78.11	1,199.30	156.63	96.32	60.31	2.597	
7,300.00	7,168.87	7,305.08	7,183.55	32.42	31.25	-119.02	79.36	1,218.33	159.45	98.24	61.21	2.605	
7,400.00	7,266.69	7,394.88	7,281.67	32.92	31.68	-119.23	80.61	1,237.36	162.28	100.22	62.06	2.615	
7,500.00	7,364.50	7,505.16	7,379.79	33.42	32.20	-119.42	81.87	1,256.40	165.10	102.09	63.01	2.620	
7,600.00	7,462.32	7,605.20	7,477.91	33.91	32.68	-119.61	83.12	1,275.43	167.93	104.02	63.91	2.628	
7,700.00	7,560.13	7,705.24	7,576.03	34.41	33.16	-119.79	84.38	1,294.46	170.76	105.95	64.81	2.635	
7,800.00	7,657.95	7,794.72	7,674.16	34.91	33.58	-119.97	85.63	1,313.49	173.59	107.93	65.66	2.644	
7,900.00	7,755.76	7,905.33	7,772.28	35.41	34.11	-120.14	86.88	1,332.52	176.43	109.82	66.61	2.649	
8,000.00	7,853.58	8,005.37	7,870.40	35.91	34.59	-120.30	88.14	1,351.55	179.26	111.75	67.51	2.655	
8,100.00	7,951.39	8,105.41	7,968.52	36.41	35.06	-120.46	89.39	1,370.59	182.10	113.69	68.41	2.662	
8,200.00	8,049.21	8,205.45	8,066.64	36.91	35.54	-120.61	90.65	1,389.62	184.94	115.62	69.31	2.668	
8,300.00	8,147.02	8,305.49	8,164.77	37.41	36.02	-120.76	91.90	1,408.65	187.78	117.56	70.21	2.674	
8,400.00	8,244.84	8,405.53	8,262.89	37.91	36.49	-120.91	93.15	1,427.68	190.62	119.50	71.11	2.680	
8,500.00	8,342.65	8,494.43	8,361.01	38.40	36.92	-121.05	94.41	1,446.71	193.46	121.50	71.96	2.688	
8,600.00	8,440.46	8,605.62	8,453.13	38.90	37.45	-121.19	95.66	1,465.74	196.30	123.39	72.91	2.692	
8,700.00	8,538.28	8,694.34	8,557.25	39.40	37.87	-121.32	96.92	1,484.78	199.14	125.38	73.76	2.700	
8,800.00	8,636.09	8,805.70	8,655.38	39.90	38.40	-121.45	98.17	1,503.81	201.99	127.28	74.71	2.704	
8,900.00	8,733.91	8,905.74	8,753.50	40.40	38.88	-121.58	99.42	1,522.84	204.83	129.22	75.61	2.709	
9,000.00	8,831.72	9,005.78	8,851.62	40.90	39.36	-121.70	100.68	1,541.87	207.68	131.17	76.51	2.714	
9,100.00	8,929.54	9,105.82	8,949.74	41.40	39.83	-121.82	101.93	1,560.90	210.53	133.12	77.41	2.720	
9,200.00	9,027.35	9,205.87	9,047.86	41.90	40.31	-121.94	103.19	1,579.94	213.38	135.06	78.31	2.725	
9,269.62	9,095.45	9,263.72	9,116.17	42.25	40.59	-122.01	104.06	1,593.18	215.36	136.47	78.89	2.730	
9,300.00	9,125.18	9,305.91	9,145.99	42.40	40.79	-122.04	104.44	1,598.97	216.18	136.97	79.22	2.729	
9,400.00	9,223.28	9,394.07	9,244.12	42.88	41.21	-121.85	105.69	1,618.00	218.29	138.17	80.12	2.724	
9,500.00	9,321.70	9,505.97	9,342.25	43.34	41.74	-121.28	106.95	1,637.03	219.49	138.28	81.21	2.703	
9,600.00	9,420.41	9,606.04	9,440.35	43.78	42.22	-120.31	108.20	1,656.06	219.83	137.50	82.32	2.670	
9,700.00	9,519.39	9,706.18	9,538.37	44.20	42.70	-118.95	109.45	1,675.07	219.37	135.87	83.51	2.627	
9,800.00	9,618.60	9,806.41	9,636.30	44.60	43.18	-117.17	110.70	1,694.07	218.24	133.49	84.76	2.575	
9,900.00	9,718.02	9,893.22	9,734.11	44.98	43.59	-114.95	111.95	1,713.04	216.58	130.59	86.00	2.518	
10,000.00	9,817.60	9,991.79	9,830.99	45.34	44.05	-112.48	113.15	1,731.13	214.77	127.48	87.29	2.460	
10,100.00	9,917.33	10,090.39	9,928.21	45.68	44.50	-109.99	114.23	1,747.58	213.17	124.66	88.51	2.408	

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: MJ Federal Slots 3 & 4
Site Error: 0.00 usft
Reference Well: 224H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design MJ Federal Slots 3 & 4 - 234H - OH - Prelim Plan A													Offset Site Error: 0.00 usft
Survey Program: 0-MWD - CWSG, 500-MWD - CWSG, 11353-MWD - CWSG													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
10,200.00	10,017.18	10,189.16	10,025.86	46.01	44.92	-107.46	115.21	1,762.37	211.79	122.13	89.66	2.362	
10,300.00	10,117.10	10,288.10	10,123.91	46.31	45.33	-104.91	116.07	1,775.50	210.63	119.91	90.72	2.322	
10,400.00	10,217.08	10,367.20	10,222.34	46.60	45.72	-102.34	116.83	1,786.96	209.69	118.00	91.69	2.287	
10,469.62	10,286.69	10,456.28	10,291.07	46.79	45.98	-7.71	117.29	1,793.95	209.18	116.87	92.31	2.266	
10,500.00	10,317.08	10,486.47	10,321.12	46.86	46.09	-6.94	117.47	1,796.74	209.00	116.44	92.56	2.258	
10,600.00	10,417.08	10,586.00	10,420.33	47.12	46.44	-4.72	118.00	1,804.82	208.71	115.38	93.33	2.236	
10,650.83	10,467.91	10,636.70	10,470.91	47.25	46.62	-3.77	118.23	1,808.28	208.68	114.99	93.69	2.227	
10,700.00	10,517.08	10,685.80	10,519.92	47.38	46.78	-2.97	118.42	1,811.20	208.70	114.68	94.02	2.220	
10,800.00	10,617.08	10,785.78	10,619.79	47.64	47.10	-1.69	118.73	1,815.86	208.82	114.17	94.65	2.206	
10,900.00	10,717.08	10,885.90	10,719.86	47.91	47.41	-0.88	118.92	1,818.77	208.95	113.71	95.24	2.194	
10,950.02	10,767.10	10,936.01	10,769.97	47.97	47.55	-0.66	118.97	1,819.58	208.99	113.54	95.45	2.189	
11,000.00	10,817.02	10,986.02	10,819.98	47.97	47.69	179.71	119.00	1,819.94	211.19	115.59	95.59	2.209	
11,050.00	10,866.57	11,035.61	10,869.57	47.98	47.83	179.73	119.00	1,819.97	217.71	121.98	95.73	2.274	
11,100.00	10,915.37	11,084.41	10,918.37	47.99	47.96	179.73	119.00	1,819.97	228.53	132.66	95.87	2.384	
11,150.00	10,963.04	11,132.09	10,966.04	48.01	48.09	179.74	119.00	1,819.97	243.56	147.55	96.00	2.537	
11,200.00	11,009.22	11,178.27	11,012.22	48.03	48.21	179.75	119.00	1,819.97	262.88	166.55	96.13	2.732	
11,250.00	11,053.56	11,222.60	11,056.56	48.06	48.33	179.76	119.00	1,819.97	285.76	189.50	96.26	2.969	
11,300.00	11,095.72	11,264.76	11,098.72	48.10	48.44	179.77	119.00	1,819.97	312.61	216.23	96.39	3.243	
11,350.00	11,135.37	11,304.42	11,138.37	48.14	48.55	179.78	119.00	1,819.97	343.04	246.54	96.50	3.555	
11,400.00	11,172.23	11,341.27	11,175.23	48.20	48.60	179.78	119.00	1,819.97	376.81	280.25	96.56	3.902	
11,450.00	11,206.00	11,431.41	11,265.12	48.26	48.61	179.81	113.65	1,820.00	412.16	316.31	95.85	4.300	
11,500.00	11,236.43	11,589.36	11,416.69	48.33	48.62	179.85	70.99	1,820.21	442.37	351.96	90.41	4.893	
11,550.00	11,263.29	11,609.34	11,596.60	48.42	48.69	179.87	-53.22	1,820.84	462.17	386.40	75.77	6.100	
11,600.00	11,286.37	11,600.00	11,718.26	48.51	48.62	179.88	-240.38	1,821.78	465.29	406.79	58.50	7.953	
11,650.00	11,305.50	12,266.17	11,760.06	48.61	49.29	179.88	-466.98	1,822.91	451.56	401.16	50.40	8.959	
11,700.00	11,320.53	12,313.84	11,760.06	48.73	49.39	179.88	-514.65	1,823.15	436.53	386.01	50.52	8.640	
11,750.00	11,331.35	12,362.64	11,760.06	48.85	49.51	179.88	-563.45	1,823.40	425.71	375.06	50.65	8.405	
11,800.00	11,337.88	12,412.20	11,760.06	48.99	49.64	179.88	-613.00	1,823.65	419.18	368.41	50.77	8.256	
11,850.03	11,340.06	12,462.16	11,760.06	49.13	49.79	179.88	-662.97	1,823.90	417.00	366.09	50.91	8.191	
11,850.03	11,340.06	12,462.16	11,760.06	49.13	49.79	179.88	-662.97	1,823.90	417.00	366.09	50.91	8.191	
11,900.00	11,340.06	12,512.13	11,760.05	49.28	49.94	179.88	-712.94	1,824.15	417.00	365.95	51.04	8.169	
12,000.00	11,340.06	12,612.13	11,760.05	49.62	50.29	179.89	-812.94	1,824.65	417.00	365.64	51.36	8.120	
12,100.00	11,340.05	12,712.13	11,760.05	50.01	50.68	179.89	-912.94	1,825.15	417.00	365.28	51.72	8.063	
12,200.00	11,340.05	12,812.13	11,760.05	50.44	51.12	179.89	-1,012.93	1,825.66	417.00	364.88	52.12	8.001	
12,300.00	11,340.05	12,912.13	11,760.05	50.91	51.62	179.89	-1,112.93	1,826.16	417.00	364.43	52.57	7.933	
12,400.00	11,340.05	13,012.13	11,760.05	51.44	52.16	179.90	-1,212.93	1,826.66	417.00	363.94	53.06	7.860	
12,500.00	11,340.05	13,112.13	11,760.05	52.02	52.76	179.90	-1,312.93	1,827.16	417.00	363.41	53.59	7.782	
12,600.00	11,340.05	13,212.13	11,760.05	52.64	53.40	179.90	-1,412.93	1,827.67	417.00	362.84	54.16	7.699	
12,700.00	11,340.05	13,312.13	11,760.04	53.31	54.09	179.91	-1,512.93	1,828.17	417.00	362.23	54.77	7.614	
12,800.00	11,340.04	13,412.13	11,760.04	54.02	54.83	179.91	-1,612.93	1,828.67	417.00	361.58	55.42	7.524	
12,900.00	11,340.04	13,512.13	11,760.04	54.78	55.62	179.91	-1,712.93	1,829.17	417.00	360.89	56.10	7.433	
13,000.00	11,340.04	13,612.13	11,760.04	55.59	56.44	179.91	-1,812.92	1,829.67	417.00	360.17	56.82	7.338	
13,100.00	11,340.04	13,712.13	11,760.04	56.44	57.31	179.92	-1,912.92	1,830.18	417.00	359.42	57.58	7.242	
13,200.00	11,340.04	13,812.13	11,760.04	57.33	58.22	179.92	-2,012.92	1,830.68	417.00	358.63	58.37	7.145	
13,300.00	11,340.04	13,912.13	11,760.04	58.25	59.17	179.92	-2,112.92	1,831.18	417.00	357.81	59.18	7.046	
13,400.00	11,340.04	14,012.13	11,760.04	59.21	60.15	179.93	-2,212.92	1,831.68	417.00	356.97	60.03	6.946	
13,500.00	11,340.04	14,112.13	11,760.03	60.21	61.17	179.93	-2,312.92	1,832.19	417.00	356.09	60.91	6.846	
13,600.00	11,340.03	14,212.13	11,760.03	61.24	62.22	179.93	-2,412.92	1,832.69	417.00	355.19	61.81	6.746	
13,700.00	11,340.03	14,312.13	11,760.03	62.30	63.29	179.93	-2,512.92	1,833.19	417.00	354.26	62.74	6.646	
13,800.00	11,340.03	14,412.13	11,760.03	63.39	64.40	179.94	-2,612.91	1,833.69	417.00	353.30	63.70	6.546	
13,900.00	11,340.03	14,512.13	11,760.03	64.51	65.53	179.94	-2,712.91	1,834.20	417.00	352.32	64.68	6.447	
14,000.00	11,340.03	14,612.13	11,760.03	65.66	66.69	179.94	-2,812.91	1,834.70	417.00	351.32	65.68	6.349	

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: MJ Federal Slots 3 & 4
Site Error: 0.00 usft
Reference Well: 224H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: WellPlanner1
Offset TVD Reference: Offset Datum

Offset Design MJ Federal Slots 3 & 4 - 234H - OH - Prelim Plan A													Offset Site Error: 0.00 usft
Survey Program: 0-MWD - OWSG, 500-MWD - OWSG, 11353-MWD - OWSG													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
14,100.00	11,340.03	14,712.13	11,760.03	66.83	67.87	179.94	-2,912.91	1,835.20	417.00	350.29	66.70	6.251	
14,200.00	11,340.03	14,812.13	11,760.02	68.02	69.07	179.95	-3,012.91	1,835.70	417.00	349.25	67.75	6.155	
14,300.00	11,340.02	14,912.13	11,760.02	69.23	70.29	179.95	-3,112.91	1,836.20	417.00	348.18	68.81	6.060	
14,400.00	11,340.02	15,012.13	11,760.02	70.47	71.53	179.95	-3,212.91	1,836.71	417.00	347.10	69.90	5.966	
14,500.00	11,340.02	15,112.13	11,760.02	71.72	72.79	179.96	-3,312.91	1,837.21	417.00	346.00	71.00	5.873	
14,600.00	11,340.02	15,212.13	11,760.02	72.99	74.07	179.96	-3,412.90	1,837.71	417.00	344.88	72.12	5.782	
14,700.00	11,340.02	15,312.13	11,760.02	74.28	75.37	179.96	-3,512.90	1,838.21	417.00	343.74	73.26	5.692	
14,800.00	11,340.02	15,412.13	11,760.02	75.58	76.67	179.96	-3,612.90	1,838.72	417.00	342.59	74.41	5.604	
14,900.00	11,340.02	15,512.13	11,760.02	76.90	78.00	179.97	-3,712.90	1,839.22	417.00	341.42	75.58	5.518	
15,000.00	11,340.01	15,612.13	11,760.01	78.24	79.34	179.97	-3,812.90	1,839.72	417.00	340.24	76.76	5.433	
15,100.00	11,340.01	15,712.13	11,760.01	79.58	80.69	179.97	-3,912.90	1,840.22	417.00	339.05	77.95	5.349	
15,200.00	11,340.01	15,812.13	11,760.01	80.94	82.05	179.98	-4,012.90	1,840.72	417.00	337.84	79.16	5.268	
15,300.00	11,340.01	15,912.13	11,760.01	82.32	83.43	179.98	-4,112.90	1,841.23	417.00	336.62	80.38	5.188	
15,400.00	11,340.01	16,012.13	11,760.01	83.70	84.81	179.98	-4,212.89	1,841.73	417.00	335.39	81.61	5.109	
15,500.00	11,340.01	16,112.13	11,760.01	85.10	86.21	179.98	-4,312.89	1,842.23	417.00	334.14	82.86	5.033	
15,600.00	11,340.01	16,212.13	11,760.01	86.50	87.62	179.99	-4,412.89	1,842.73	417.00	332.89	84.11	4.958	
15,700.00	11,340.01	16,312.13	11,760.00	87.92	89.03	179.99	-4,512.89	1,843.24	417.00	331.62	85.38	4.884	
15,800.00	11,340.00	16,412.13	11,760.00	89.34	90.46	179.99	-4,612.89	1,843.74	417.00	330.35	86.65	4.812	
15,900.00	11,340.00	16,512.13	11,760.00	90.77	91.89	180.00	-4,712.89	1,844.24	417.00	329.06	87.94	4.742	
16,000.00	11,340.00	16,612.13	11,760.00	92.22	93.33	180.00	-4,812.89	1,844.74	417.00	327.77	89.23	4.673	
16,051.12	11,340.00	16,663.25	11,760.00	92.96	94.07	-180.00	-4,864.01	1,845.00	417.00	327.10	89.90	4.639	

Pro Directional Anticollision Report

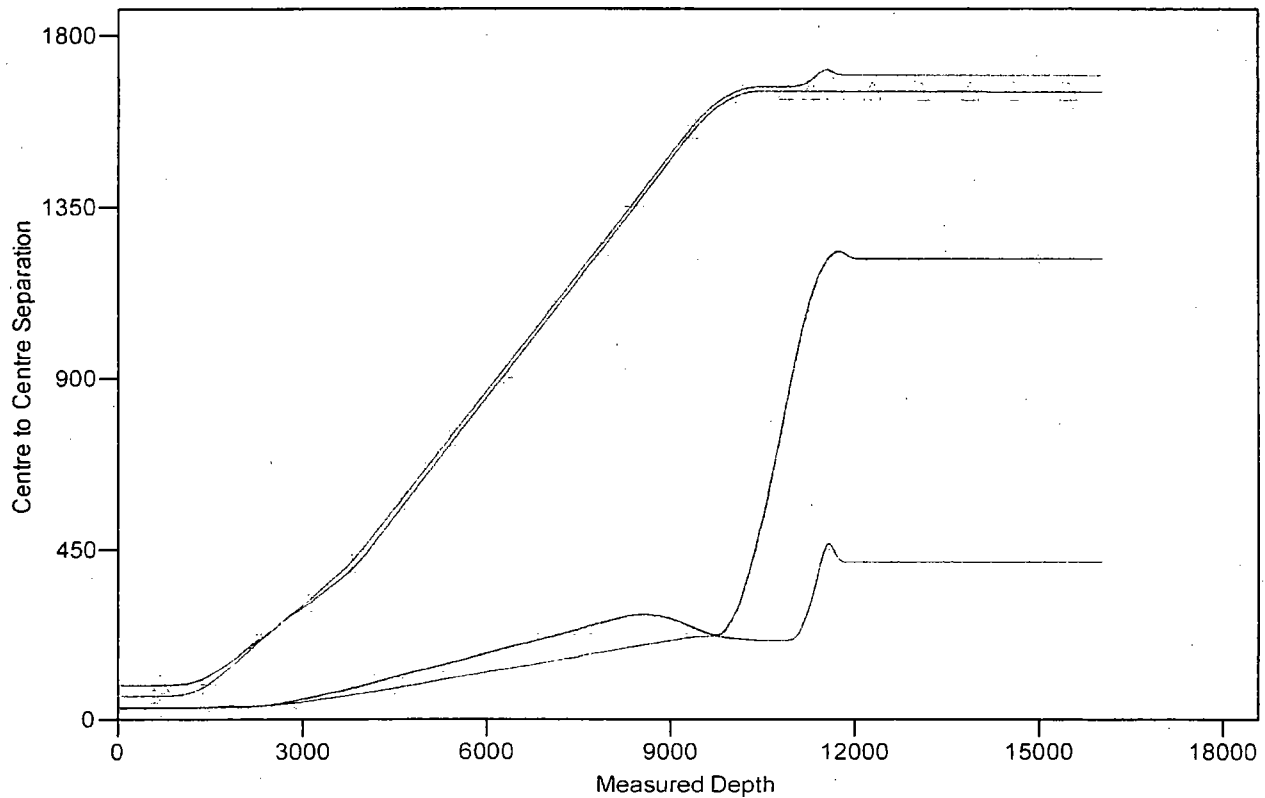
Company: Matador Resources
Project: Lea County, NM
Reference Site: MJ Federal Slots 3 & 4
Site Error: 0.00 usft
Reference Well: 224H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
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 @ 3689.50usft (GL:3661'+KB:28.5
Offset Depths are relative to Offset Datum
Central Meridian is 104° 19' 60.0000 W

Coordinates are relative to: 224H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.38°

Ladder Plot



LEGEND

224H, OH, Prelim Plan A V0 124H, OH, Prelim Plan A V0 2304H, OH, Prelim Plan A V0

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

Matador Production Company
 MJ Federal 224H
 SHL 169' FNL & 2151' FEL
 BHL 240' FSL & 330' FEL
 Sec. 23, T. 19 S., R. 33 E., Lea County, NM

DRILL PLAN PAGE 1

HOBBS OCD

FEB 06 2018

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Drilling Program

1. ESTIMATED TOPS

Formation Name	TVD	MD	Bearing
Quaternary	000'	000'	water
Rustler anhydrite	1510'	1515'	N/A
Top salt	1625'	1632'	N/A
Base salt	3205'	3247'	N/A
Yates gypsum	3395'	3441'	N/A
Seven Rivers dolomite	3825'	3880'	N/A
Queen sandstone	4355'	4423'	N/A
Grayburg sandstone	4845'	4923'	N/A
Delaware Mt. Group sandstones	5550'	5644'	hydrocarbons
Brushy Canyon sandstone	6170'	6278'	hydrocarbons
Bone Spring Limestone	7995'	8145'	hydrocarbons
1 st Bone Spring sandstone	9215'	9391'	hydrocarbons
2 nd Bone Spring sandstone	9705'	9888'	hydrocarbons
3 rd Bone Spring sandstone	10585'	10768'	hydrocarbons
Wolfcamp carbonates	10780'	10963'	hydrocarbons
(KOP	10817'	11000'	hydrocarbons
Wolfcamp B sandstone	10990'	11177'	hydrocarbons & goal
TD	11340'	16051'	hydrocarbons

2. NOTABLE ZONES

Wolfcamp B 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 (CP 00658) is 8298' SSE. Depth to water is unknown in this 100' deep inactive well.

Pro Directional Anticollision Report

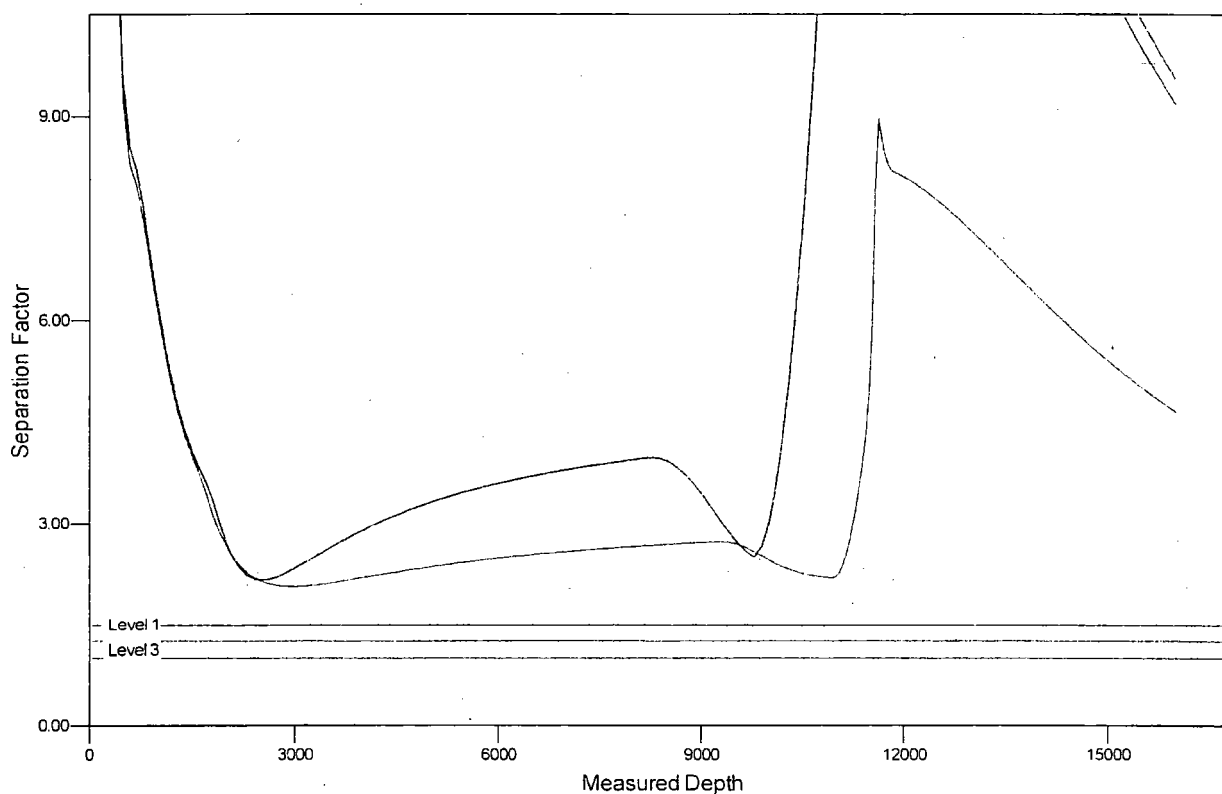
Company: Matador Resources
Project: Lea County, NM
Reference Site: MJ Federal Slots 3 & 4
Site Error: 0.00 usft
Reference Well: 224H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Prelim Plan A

Local Co-ordinate Reference: Well 224H
TVD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
MD Reference: Rig @ 3689.50usft (GL:3661'+KB:28.5')
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 @ 3689.50usft (GL:3661'+KB:28.5')
Offset Depths are relative to Offset Datum
Central Meridian is 104° 19' 60.0000 W

Coordinates are relative to: 224H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.38°

Separation Factor Plot



LEGEND

224H, OH, Prelim Plan A VO 224H, OH, Prelim Plan A VO
224H, OH, Prelim Plan A VO 224H, OH, Prelim Plan A VO

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

Matador Production Company
MJ Federal 224H
SHL 169' FNL & 2151' FEL
BHL 240' FSL & 330' FEL
Sec. 23, T. 19 S., R. 33 E., Lea County, NM

DRILL PLAN PAGE 2

3. PRESSURE CONTROL

A 12,000' 5000-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.

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

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 surface casing is set and the BOP is nipped up, then BOP pressure tests will be made to 250 psi low and 2000 psi high. Intermediate 1 pressure tests will be made to 250 psi low and 3000 psi high. Intermediate 2 pressure tests will be made to 250 psi low and 7500 psi high. Annular preventer will be tested to 250 psi low and 2500 psi high on the surface casing, and 250 psi low and 2500 psi high on the intermediate 1 and 2 casing.

In the case of running a speed head with landing mandrel for 9.625" and 7" casing, after surface casing is set, BOP test pressures will be 250 psi low and 3000 psi high. Wellhead seals will be tested to 5000 psi once the 9.625" casing has been landed and cemented. BOP will then be lifted to install the C-section of the wellhead. BOP will then be nipped back up and pressure tested to 250 psi low and 7500 psi high. Annular will be tested to 250 psi low and 2500 psi high.

Matador is requesting a variance to use a speed head. Speed head diameter range is 13.375" x 9.625" x 7.625" x 5.5".

Matador Production Company

DRILL PLAN PAGE 3

MJ Federal 224H

SHL 169' FNL & 2151' FEL

BHL 240' FSL & 330' FEL

Sec. 23, T. 19 S., R. 33 E., Lea County, NM

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.

4. CASING & CEMENT

All casing will be API and new. See attached casing assumption work sheet. Minimum safety factors are: burst = 1.125, collapse = 1.125, tension = 1.

Hole O. D.	Set MD	Set TVD	Name	Casing O. D.	TOC	Weight (lb/ft)	Grade	Joint
20"	0' - 1535'	0' - 1530'	Surface	13.375"	GL	54.5	J-55	BTC
12.25"	0' - 5000'	0' - 4919'	Intermediate 1	9.625"	GL	40	J-55	BTC
8.75"	0' - 4900'	0' - 4821'	Intermediate 2	7.625"	4000'	29.7	P-110	BTC
	4900' - 10900'	4821' - 10717'		7.625"		29.7	P-110	VAM HTF-NR
	10900' - 11750'	10717' - 11331'		7"		29	P-110	BTC
6.125"	0' - 10800'	0' - 10617'	Production	5.5"	10750'	20	P-110	Tenaris XP
	10800' - 16051'	10617' - 11340'		4.5"		13.5	P-110	Tenaris XP

Matador Production Company
 MJ Federal 224H
 SHL 169' FNL & 2151' FEL
 BHL 240' FSL & 330' FEL
 Sec. 23, T. 19 S., R. 33 E., Lea County, NM

DRILL PLAN PAGE 4

Name	Type	Sacks	Yield	Cu. Ft.	Weight	Blend
Surface	Lead	1693	1.75	2962	13.5	Class C + 3% NaCl + LCM
	Tail	537	1.38	741	14.8	Class C + 5% NaCl + LCM
TOC = GL		100% Excess			Centralizers per Onshore Order 2.III.B.1f	
Intermediate 1	Lead	1161	1.81	2101	13.5	Class C + Bentonite + 1% CaCl ₂ + 8% NaCl + LCM
	Tail	454	1.38	626	14.8	Class C + 5% NaCl + LCM
TOC = GL		100% Excess			2 on btm jt, 1 on 2nd jt, 1 every 4th jt to surface	
Intermediate 2	Lead	836	2.36	1972	11.5	TXI + Fluid Loss + Dispersant + Retarder + LCM
	Tail	204	1.38	281	13.2	TXI + Fluid Loss + Dispersant + Retarder + LCM
TOC = 4000'		35% Excess			2 on btm jt, 1 on 2nd jt, 1 every other jt to top of tail cement (500' above TOC), 1 every 4 th jt to GL	
Production	Tail	398	1.38	549	15.8	Class H + Fluid Loss + Dispersant + Retarder + LCM
TOC = 10750'		10% Excess			2 on btm jt, 1 on 2nd jt, 1 every third jt to top of tail cement (1000' tie back)	

Matador requests the option to run a DV tool with annular packer as contingency in the intermediate or production casing if lost circulation occurs. If losses occur, then a DV tool with packer will be placed $\geq 100'$ above the loss zone to have the option to pump cement as either a single stage or two stage.

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.

Matador Production Company

DRILL PLAN PAGE 5

MJ Federal 224H

SHL 169' FNL & 2151' FEL

BHL 240' FSL & 330' FEL

Sec. 23, T. 19 S., R. 33 E., Lea County, NM

Type	Casing	Interval (MD)	lb/gal	Viscosity	Fluid Loss
fresh water spud	surface	0' - 1535'	8.3	28	NC
brine water	intermediate 1	1535' - 5000'	10.0	30-32	NC
fresh water & cut brine	intermediate 2	5000' - 11750'	9.0	30-31	NC
OBM	production	11750' - 16051'	12.5	50-60	<10

6. CORES, TESTS, & LOGS

No core or drill stem test is planned.

A 2-person mud logging program will be used from $\approx 1515'$ to TD.

No electric log is planned at this time. GR will be collected through the MWD tools from intermediate casing to TD. CBL with CCL will be run as far as gravity will let it fall to TOC.

7. DOWN HOLE CONDITIONS

No abnormal pressure or temperature is expected. Maximum expected bottom hole pressure is ≈ 7938 psi. Expected bottom hole temperature is $\approx 170^\circ$ F.

In accordance with Onshore Order 6, Matador does not anticipate that there will be enough H_2S from the surface to the Bone Spring to meet BLM's minimum requirements for submitting an " H_2S Drilling Operation Plan" or "Public Protection Plan" for drilling and completing this well. Since Matador has an H_2S safety package on all wells, an " H_2S 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.

Matador Production Company
MJ Federal 224H
SHL 169' FNL & 2151' FEL
BHL 240' FSL & 330' FEL
Sec. 23, T. 19 S., R. 33 E., Lea County, NM

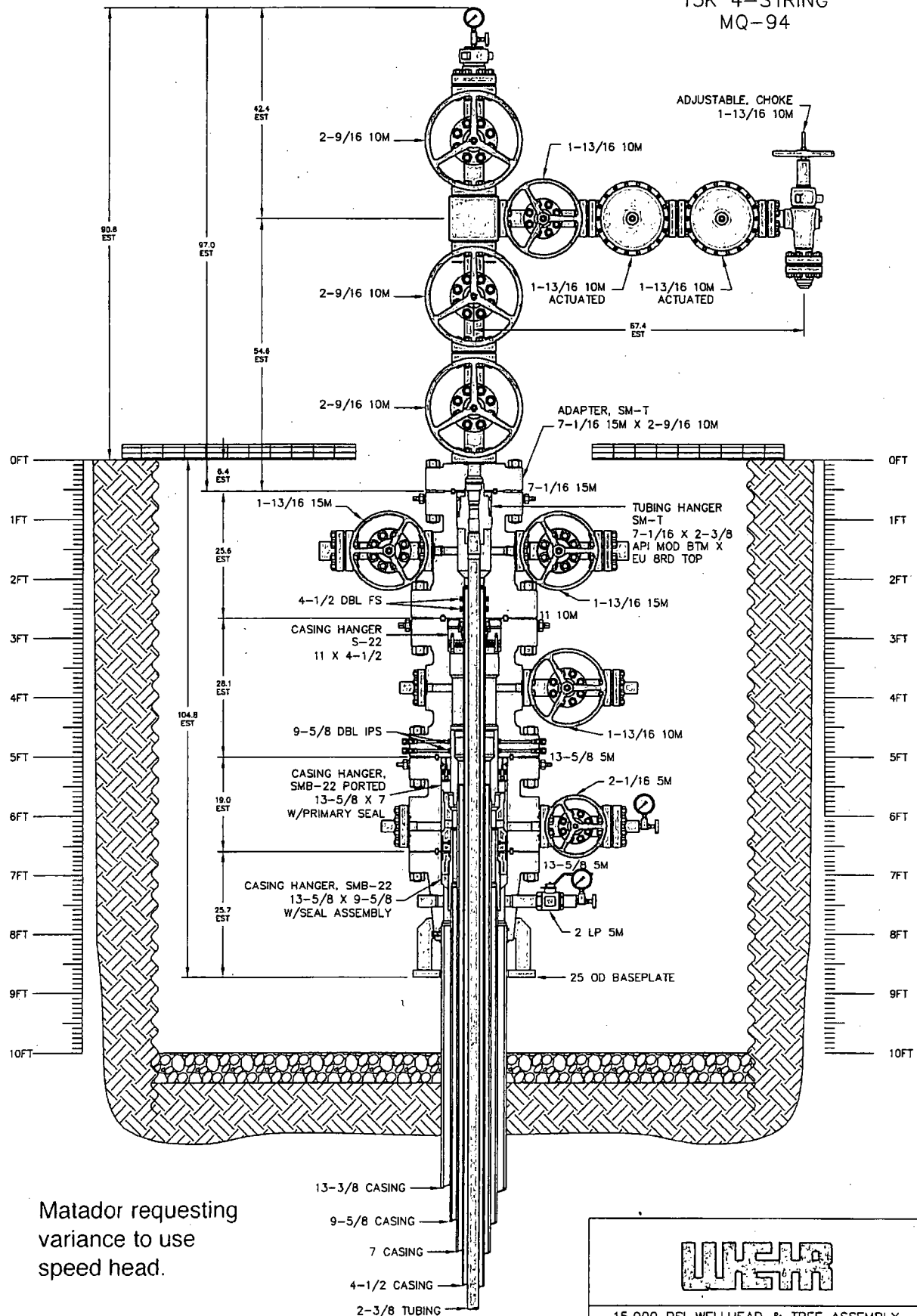
DRILL PLAN PAGE 6

8. OTHER INFORMATION

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

Matador Production Company through its affiliate MRC Delaware Resources LLC is a Lessee of the lease.

MATADOR
15K 4-STRING
MQ-94



Matador requesting
variance to use
speed head.

NOTE:
DIMENSIONS SHOWN ON THIS DRAWING ARE
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NO GUARANTEE OF STACKUP HEIGHT IS IMPLIED.
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CONSENT OF SEABOARD INTERNATIONAL, INC.



15,000 PSI WELLHEAD & TREE ASSEMBLY
13-3/8 X 9-5/8 X 7 X 4-1/2 X 2-3/8

DRAWN BY:	RPL	SCALE:	1:10	DATE:	18JAN16	REV:	
CHECKED BY:		DRAWING NO.:					
APPROVED BY:							

P-20986

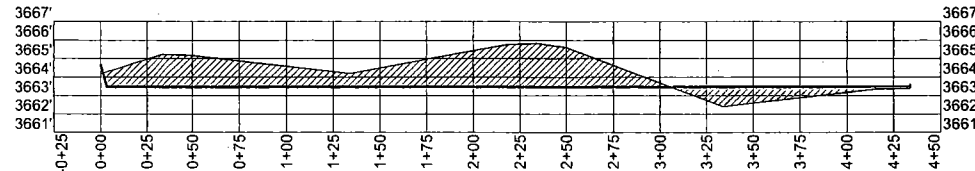
TOP OF PAD ELEVATION: 3663.4527
 CUT SLOPE: 33.33% 3.000:1 18.43°
 FILL SLOPE: 33.33% 3.000:1 18.43°
 BALANCE TOLERANCE (C.Y.): 0.00
 CUT SWELL FACTOR: 1.00
 FILL SHRINK FACTOR: 1.00

PAD EARTHWORK VOLUMES
 CUT: 95,625.8 C.F., 3,541.70 C.Y.
 FILL: 95,625.8 C.F., 3,541.70 C.Y.
 AREA: 165586.2 SQ.FT., 3.801 ACRES

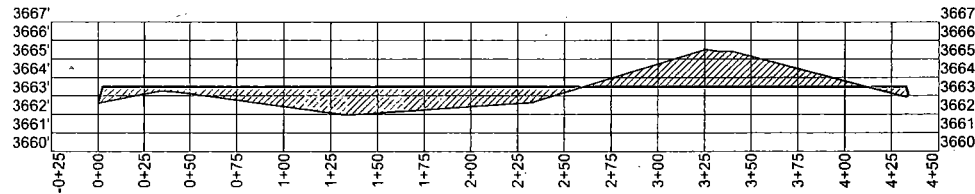
SECTION 23, TOWNSHIP 19-S, RANGE 33-E, N.M.P.M.
 EDDY COUNTY, NEW MEXICO



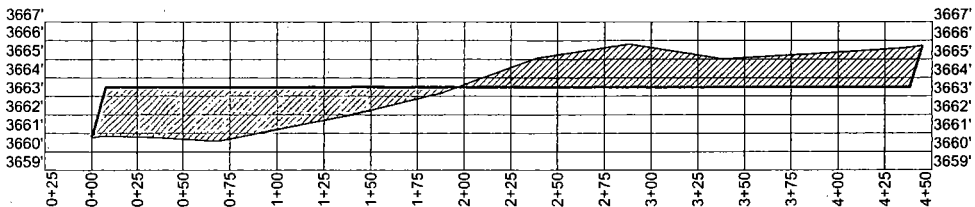
A-A'



B-B'



C-C'



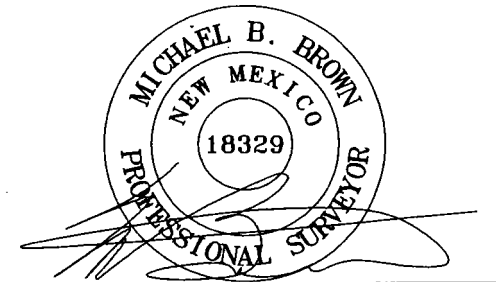
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 Vertical Scale = 1:10



1400 EVERMAN PARKWAY, Ste. 197 • FT. WORTH, TEXAS 76140
 TELEPHONE: (817) 744-7512 • FAX (817) 744-7548
 TEXAS FIRM REGISTRATION NO. 10042504
 WWW.TOPOGRAPHIC.COM

MJ FEDERAL #223H SURFACE PAD SITE PROFILE	REVISION:		NOTES:
	MML	05/01/17	
DATE: 03/03/17			1. ORIGINAL DOCUMENT SIZE: 8.5" X 11" 2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, U.S. SURVEY FEET, NORTH AMERICAN DATUM 1927. 3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT. IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY MATADOR RESOURCE COMPANY. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. AND MADE FOR THIS TRANSACTION ONLY.
FILE: CD_MJ_FEDERAL_223H_SURFACE_PAD_SITE_REV1			
DRAWN BY: EAH			
SHEET: 2 OF 2			

MAP 9



Michael Blake Brown, P.S. No. 18329

MAY 01, 2017

Field note description of even date accompanies this plat.

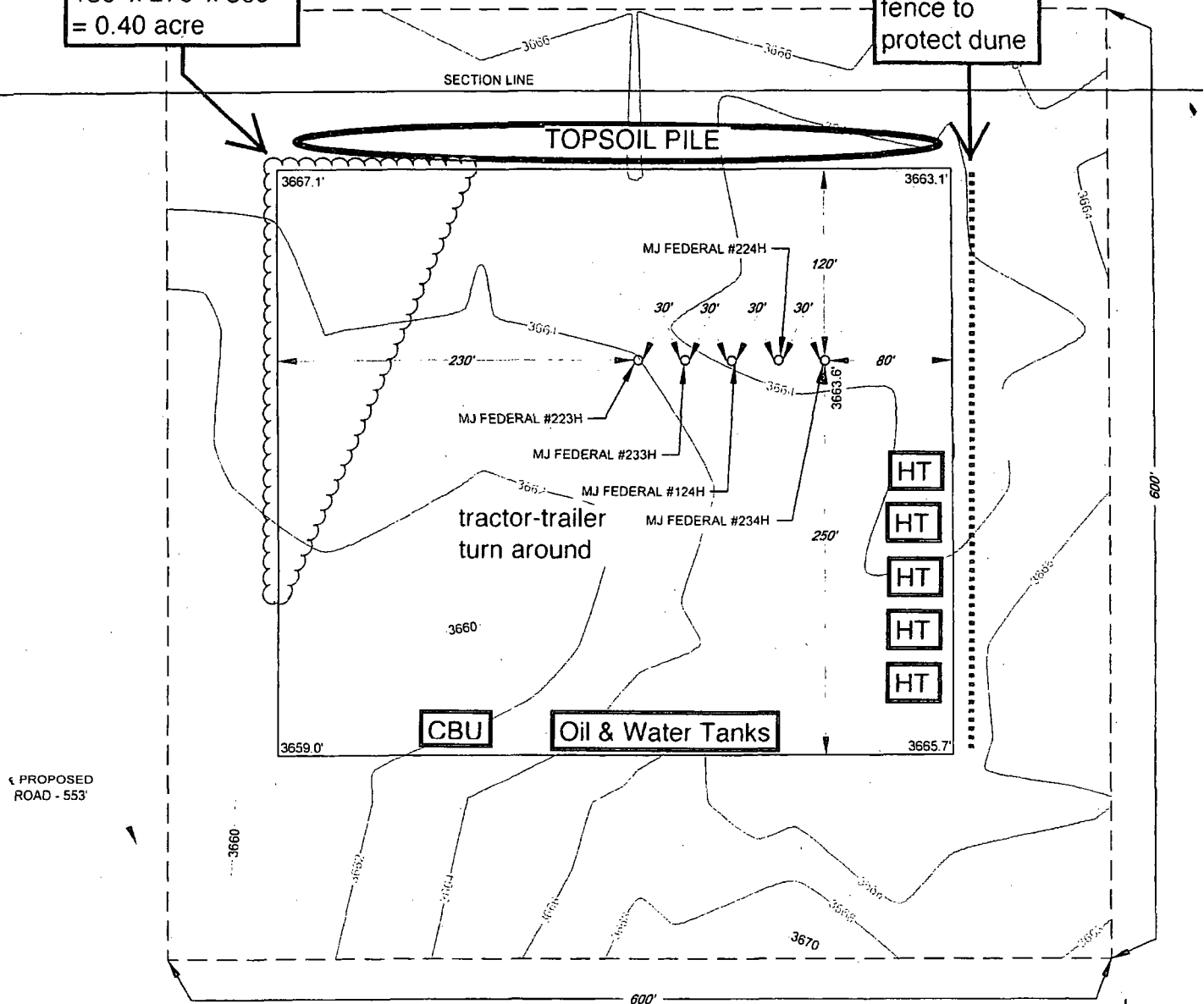


SECTION 23, TOWNSHIP 19-S, RANGE 33-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

interim reclaim
130' x 270' x 300'
= 0.40 acre

DETAIL VIEW
SCALE: 1" = 100'

fence to
protect dune



LEGEND

SECTION LINE
PROPOSED ROAD

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



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2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX: (432) 682-1743
WWW.TOPOGRAPHIC.COM

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID
BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE OF THE
NORTH AMERICAN DATUM 1983, 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.

ORIGINAL DOCUMENT SIZE: 8.5" X 11"

S:\SURVEY\MATADOR_RESOURCES\MJ_FEDERAL_234H\FINAL_PRODUCTS\ILO_MJ_FEDERAL_234H_REV2.DWG 7/17/2017 11:54:33 AM ccaston

Matador Production Company
MJ Federal 224H
SHL 169' FNL & 2151' FEL
BHL 240' FSL & 1980' FEL
Sec. 23, T. 19 S., R. 33 E., Lea County, NM

SURFACE PLAN PAGE 1

HOBBS OCD
FEB 06 2018

Surface Use Plan

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

From the junction of US 285 and US 62/180 in Carlsbad...
Go E 26.6 miles on US 62/180 to NM 243
Then turn left and go N and NE 3.7 miles on paved NM 243
Then turn left and go N 6.1 miles on paved County Road 126
Then turn right and go ENE 5.1 miles on a caliche road
Then turn left and go N 0.15 miles on a caliche road.
Then turn right and go ESE 4.1 miles on a caliche road
Then turn left and go N 0.8 miles on a caliche road
Then turn right and go E 0.4 mile on a caliche road to SE corner of Legacy's pad
Then turn left and go E 300' on the slot 2 road
Then bear left and go NE 553' cross-country to the proposed 233H et al 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 MAP 5)

The 553' of new 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. Upgrading will consist of patching potholes with caliche.

3. EXISTING WELLS (See MAP 3)

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

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SURFACE PLAN PAGE 2

4. PROPOSED PRODUCTION FACILITIES

No pipeline or power line plans have been finalized at this time. No flare will be installed on the pad. Instead, a CBU will be used.

5. WATER SUPPLY (See MAP 6)

Water will be trucked from existing water stations on private land. Sonny's water station (L 07431A) is in NENE 5-19s-36e. Berry's water station (CP 00802) is in SWNE 2-21s-33e.

6. CONSTRUCTION MATERIALS & METHODS (See MAPS 6 & 7)

NM One Call (811) will be notified before construction starts. A fence will be built east of the pad to protect dunes (wildlife habitat). Top ~6" of soil and brush will be stockpiled north of the pad. V-door will face north. Closed loop drilling system will be used. Caliche will be hauled from existing caliche pits on private land. Caviness pit is in SWNE 9-18s-33e. Berry pit is in SENE 35-20s-34e.

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 Hobbs wastewater treatment plant.

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SURFACE PLAN PAGE 3

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 7)

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 MAPS 8 & 9)

Interim reclamation will be completed within 6 months of completing the well. Interim reclamation will consist of shrinking the pad $\approx 11\%$ (0.40 acre) by removing caliche and reclaiming the northwest corner (130' x 270' x 300'). This will leave 3.25 acres for the production equipment (e. g., tank battery, heater-treaters, CBU), 5 pump jacks, and tractor-trailer turn around. Disturbed areas will be contoured to match pre-construction grades. Soil and brush will be evenly spread over disturbed areas and harrowed on the contour. Disturbed areas will be seeded in accordance with the surface owner's requirements.

Enough stockpiled topsoil will be retained to cover the remainder of the pad when the well is plugged. Once the well is plugged, then the rest of the pad and 553' of new road will be similarly reclaimed within 6 months of plugging. Noxious weeds will be controlled. Land use:

$$\begin{aligned} &553' \times 30' \text{ road} = 0.38 \text{ acre} \\ &+ 370' \times 430' \text{ pad} = 3.65 \text{ acres} \\ &4.03 \text{ acres short term} \\ &- 0.4 \text{ acre interim reclamation} \\ &3.63 \text{ acres long term (0.38 ac. road} + 3.25 \text{ ac. pad)} \end{aligned}$$

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Sec. 23, T. 19 S., R. 33 E., Lea County, NM

SURFACE PLAN PAGE 4

11. SURFACE OWNER

All construction will be on BLM.

12. OTHER INFORMATION

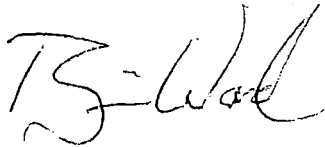
On site inspection was held with Vance Wolf (BLM) on April 20, 2017. Lone Mountain will inspect and file an archaeology report.

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SURFACE PLAN PAGE 5

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 10th day of August, 2017.



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



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

PWD Data Report

02/01/2018

Section 1 - General

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

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

23

SCALE: 1" = 1000'

0' 500' 1000'



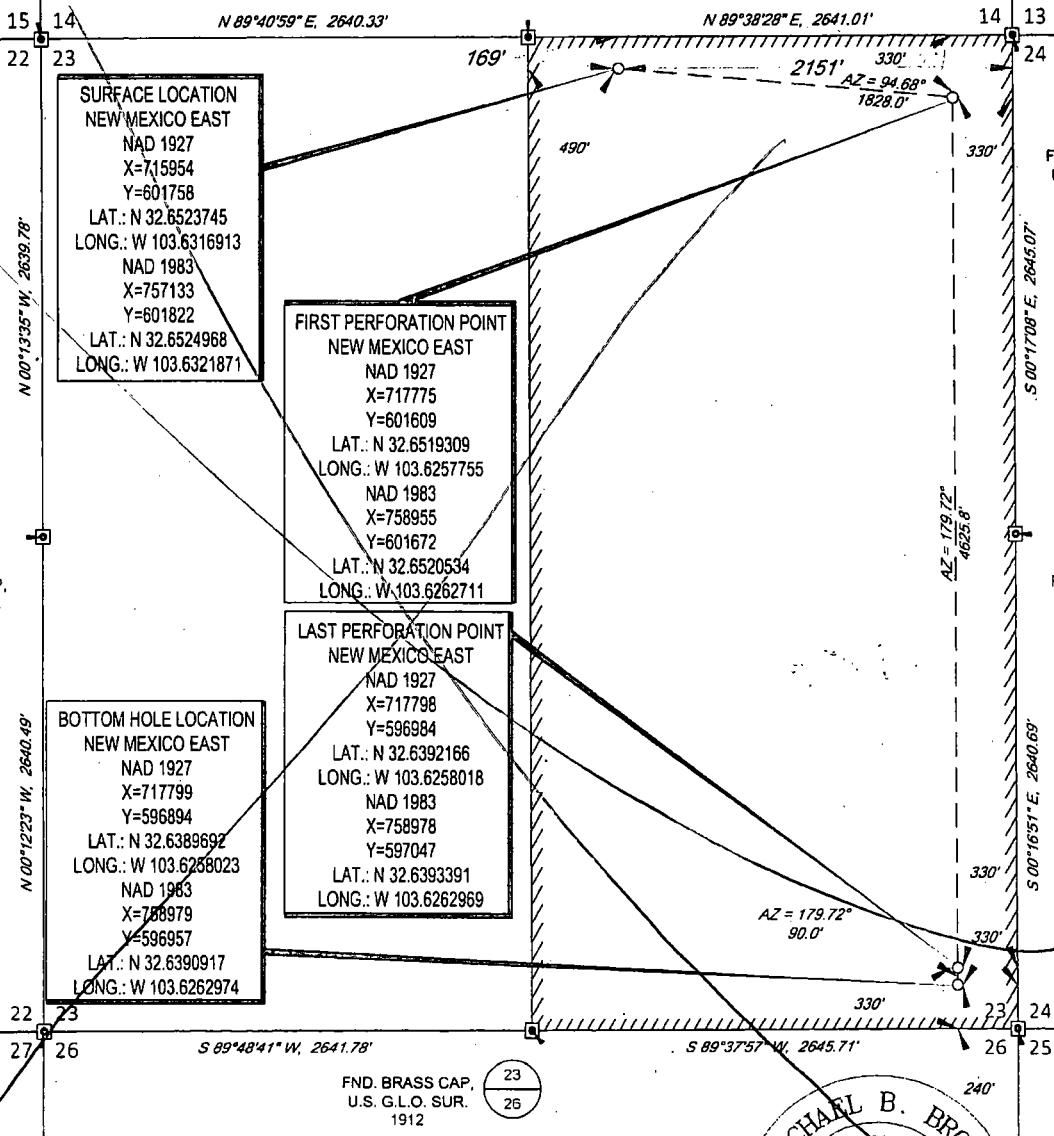
SECTION 23, TOWNSHIP 19-S, RANGE 33-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

FND. BRASS CAP.
U.S. G.L.O. SUR.
1912

15 14
22 23

14
23

FND. BRASS CAP.
U.S. G.L.O. SUR.
1912



FND. BRASS CAP.
U.S. G.L.O. SUR.
1912

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1912

FND. BRASS CAP.
U.S. G.L.O. SUR.
1912

LEASE NAME & WELL NO.: MJ FEDERAL #224H

SECTION 23 TWP 19-S RGE 33-E SURVEY N.M.P.M.

COUNTY LEA STATE NM

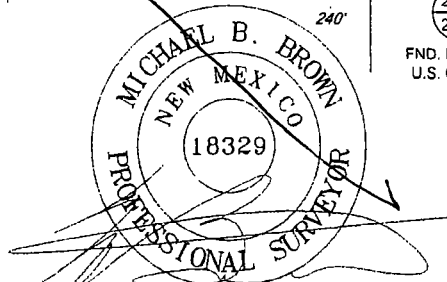
DESCRIPTION 169' FNL & 2151' FEL

DISTANCE & DIRECTION

FROM INT. OF NM-176 W. & US-180 E/US-62 E. GO NORTHEAST ON US-180 E/US-62 E ±7.6 MILES. THENCE NORTHWEST (LEFT) ON SMITH RANCH ROAD ±2.2 MILES. THENCE WEST (LEFT) ON LEASE ROAD ±2.5 MILES. THENCE EAST (RIGHT) ON A PROPOSED ROAD ±2941 FEET TO A POINT ±400 FEET SOUTHEAST OF THIS LOCATION.

ALL BEARINGS, DISTANCES AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE OF THE NORTH AMERICAN DATUM 1983, U.S. SURVEY FEET. THIS EASEMENT/SERVITUDE 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.

AS OF THE DATE OF SURVEY, ALL ABOVE GROUND APPURTENANCES WITHIN 300' OF THE STAKED LOCATION ARE SHOWN HEREON.



Michael Blake Brown, P.S. No. 18329
APRIL 26, 2017



TOPOGRAPHIC
LOYALTY INNOVATION LEGACY

1400 EVERMAN PARKWAY, Ste. 197 • FT. WORTH, TEXAS 76140
TELEPHONE (817) 744-7512 • FAX (817) 744-7548
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
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