# PECOS DISTRICT DRILLING OPERATIONS CONDITIONS OF APPROVAL

	Matador Production Company
LEASE NO.:	NMNM-7484
WELL NAME & NO.:	Coach Joe Fed Com 121H
<b>SURFACE HOLE FOOTAGE:</b>	0283' FNL & 0577' FWL
<b>BOTTOM HOLE FOOTAGE</b>	0240' FSL & 0332' FWL
LOCATION:	Section 09, T. 20 S., R 35 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

### **Communitization Agreement**

The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.

If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.

In addition, the well sign shall include the surface and bottom hole lease numbers. <u>When the Communitization Agreement number is known, it shall also be</u> on the sign.

### A. Hydrogen Sulfide

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- 1. Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, report measured amounts and formations to the BLM.
- 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 Water Basin:

After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least <u>8 hours</u>. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

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

- 1. The 13-3/8 inch surface casing shall be set at approximately 2049 feet (in a competent bed <u>below the Magenta Dolomite</u>, which is a <u>Member of the Rustler</u>, and if salt is encountered, set casing at least 25 feet above the salt) and cemented to the surface.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job 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.
- 2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing, which shall be set at approximately 4200 feet (top of the Seven Rivers Formation), is:

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

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

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- 3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
  - ☐ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. Excess calculates to 24% Additional cement may be required.

4. 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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be psi (**Operating is using a 5M multibowl BOP, testing to 2,000 psi**).
  - a. For surface casing only: If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.
- 4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8 intermediate casing shoe shall be psi (Operating is using a 5M multibowl BOP, testing to 3,000 psi).

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- 5. The appropriate BLM office shall be notified a minimum of hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
  - a. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
  - b. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
  - c. The results of the test shall be reported to the appropriate BLM office.
  - d. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
  - e. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

# C. DRILL STEM TEST

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

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# D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

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

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# **PECOS DISTRICT SURFACE USE CONDITIONS OF APPROVAL**

	Matador Production Company
LEASE NO.:	NMNM7484
WELL NAME & NO.:	122H-Coach Joe Fed Com
SURFACE HOLE FOOTAGE:	283'/N & 1897'/W
BOTTOM HOLE FOOTAGE	240'/S & 1872'/W
LOCATION:	Section 9, T.20 S., R.35 E., NMPM
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)

# **Wildlife**

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

Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

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

### **Range**

Any damage to fences, cattle guards, and pipelines or structures that provide water to livestock during construction, throughout the life of the project, and caused by its operation, must be immediately corrected by the Applicant. The Applicant must notify the private surface landowner or grazing allottee and the BLM-CFO (575-234-5972) if any damage occurs to pipelines or structures that provide water to livestock.

## Soils

The Applicant would apply water to disturbed areas to reduce soil blowing. Impacts to soil resources would be reduced by standard practices such as utilizing existing surface disturbances, minimizing the size of the well pads, minimizing vehicular use, placing parking and staging areas on caliche-surfaced areas, reclaiming the areas not necessary for production, and quickly establishing vegetation on the reclaimed areas.

Reclamation would be conducted on all disturbed areas not needed for active support of the well operations, and if caliche is used as a surfacing material on the well pads, it would be removed at the time of final reclamation to mitigate impacts to soil resources.

### **Vegetation**

Impacts to soil resources would be reduced by standard practices such as utilizing existing surface disturbances, minimizing vehicular use, placing parking and staging areas on caliche-surfaced areas, reclaiming the areas not necessary for production, and quickly establishing vegetation on the reclaimed areas.

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Reclamation would be conducted on all disturbed areas not needed for active support of the well operations, and if caliche is used as a surfacing material around the well pads, it would be removed at the time of final reclamation to mitigate impacts to vegetation resources.

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# 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)

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### **Exclosure Fencing**

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

# G. ON LEASE ACCESS ROADS

### **Road Width**

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

### Surfacing

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

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

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

#### Crowning

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

#### Ditching

Ditching shall be required on both sides of the road.

#### Turnouts

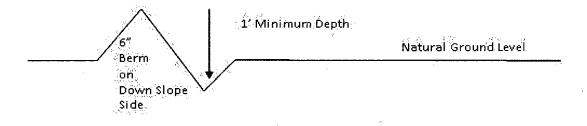
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

#### Drainage

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

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

### **Cross Section of a Typical Lead-off Ditch**



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

#### Formula for Spacing Interval of Lead-off Ditches

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

400 foot road with 4% road slope: 400' + 100' = 200' lead-off ditch interval 4%

### 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.

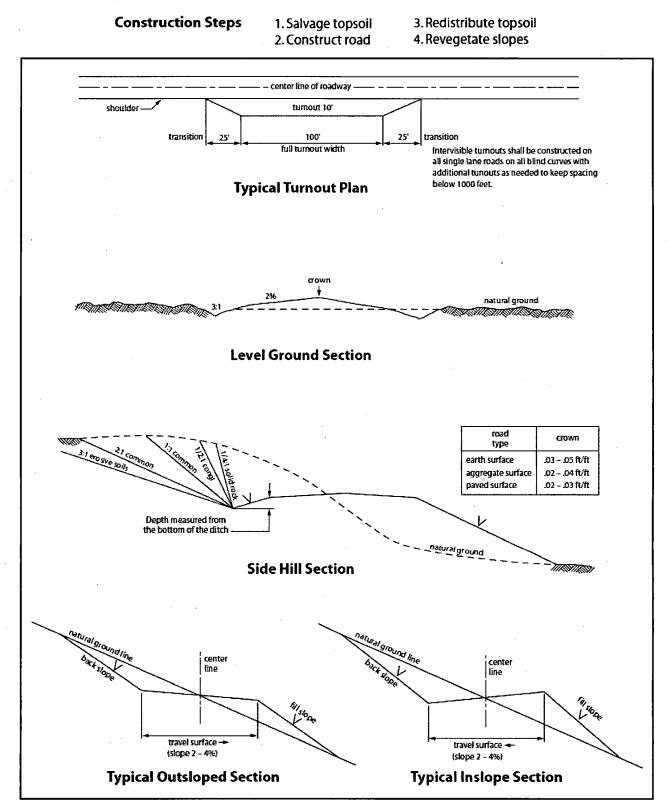
#### **Fence Requirement**

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.

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# 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**

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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.

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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.

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### 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 <u>no</u> 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:

ecies

<u>lb/acre</u>

5lbs/A 5lbs/A 3lbs/A 6lbs/A 2lbs/A 1lbs/A

Plains Bristlegrass
Sand Bluestem
Little Bluestem
Big Bluestem
Plains Coreopsis
Sand Dropseed

\*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 will cover the following:

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

#### 2 H2S Detection and Alarm Systems:

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

#### 3 Windsocks and Wind Streamers:

- Windsocks at mud pit area 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
  - o Green Flag Normal Safe Operation Condition
  - o 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 diagrams

#### 6 Communication:

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

# **Casing Design Criteria and Load Case Assumptions**

# **Production Casing**

Collapse: DF<sub>c</sub>=1.125

• Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.47 psi/ft). The effects of axial load on collapse will be considered.

• Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and mud gradient in which the casing will be run above that (0.47 psi/ft) and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF<sub>b</sub>=1.125

- Pressure Test: 8000 psi casing test with an external force equal to the mud gradient in which the casing will be run (0.47 psi/ft), which is a more conservative backup force than pore pressure.
- Injection Down Casing: 9500 psi surface injection pressure plus an internal pressure gradient of 0.65 psi/ft with an external force equal to the mud gradient in which the casing will be run (0.47 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF<sub>t</sub>=1.8

• Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (9.0 ppg).



# 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, then 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.

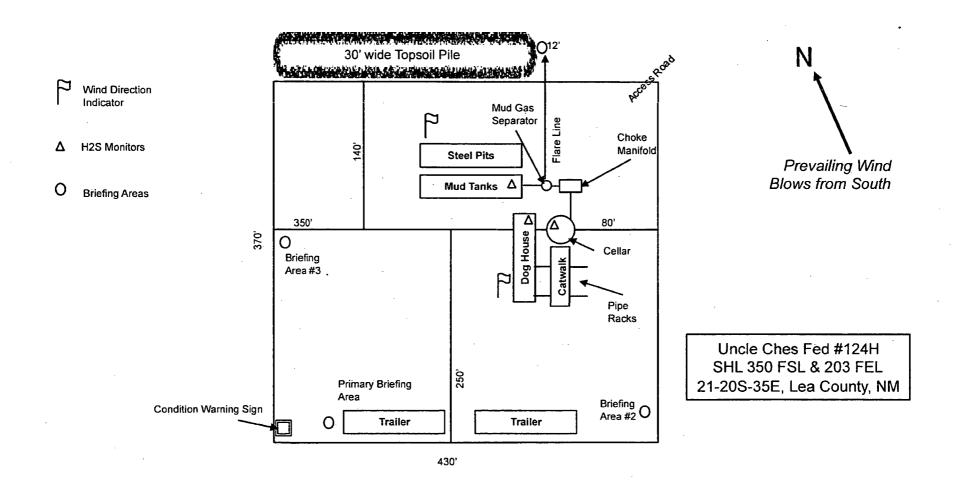
## 11 Emergency Contacts

• See following page

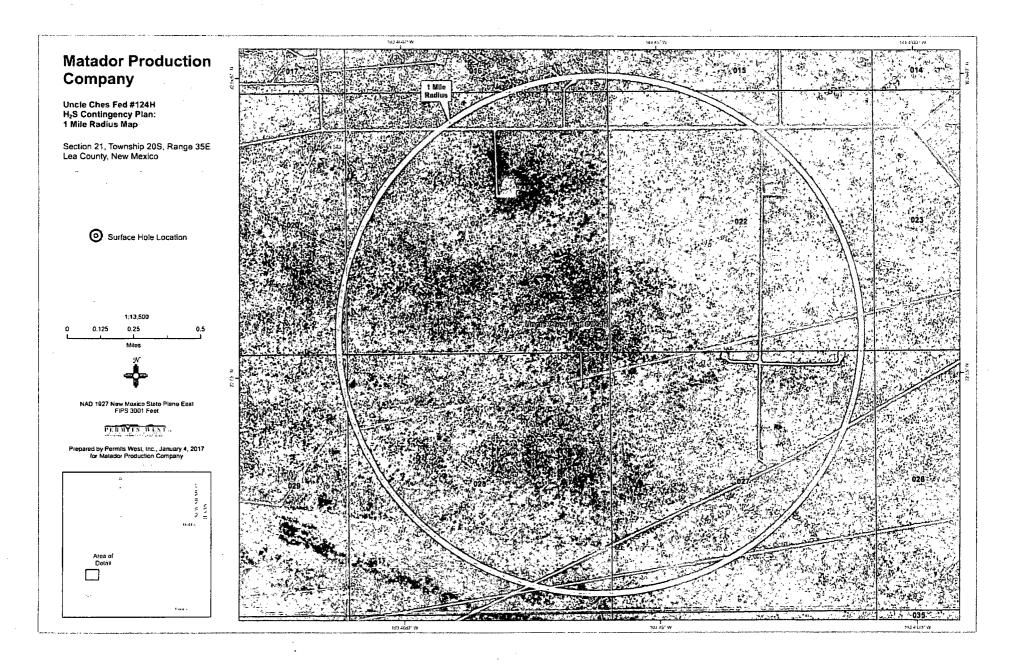
# H2S Contingency Plan Emergency Contacts Uncle Ches Fed 124H Matador Production Company UL: P, Sec. 21, T20S, R35E Lea County, NM

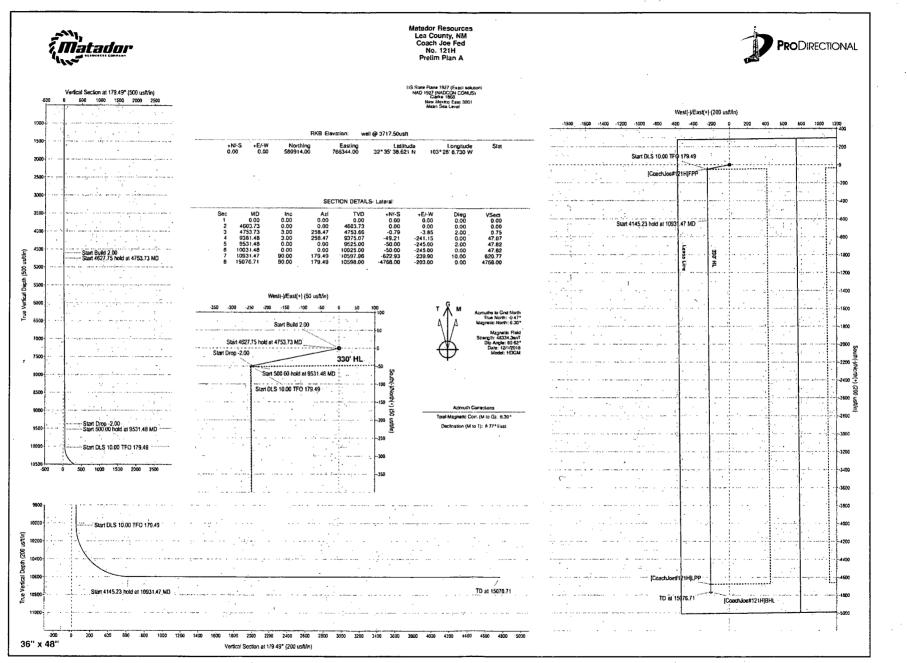
Company Office			
Matador Production Company	(972)-371-5200	·	
Key Personnel			
Name	Title	Office	Mobile
Billy Goodwin	Vice President Drilling	972-371-5210	817-522-2928
Gary Martin	Drilling Superintendent		601-669-1774
Dee Smith	Drilling Superintendent	972-371-5447	972-822-1010
Patrick Walsh	Drilling Engineer	972-371-5291	626-318-5808
Larry Seegers	<b>Construction Superintendent</b>		318-840-4364
Jimmy Benefield	<b>Construction Superintendent</b>		318-548-6659
Lea County			
Ambulance		911	
Nor Lea General Hospital (Hobbs)		575-397-0560	
State Police (Hobbs)		575-392-5580	
City Police (Hobbs)		575-397-9625	1
Sheriff's Office (Lovington)		575-396-3611	
Fire Marshall (Lovington)		575-391-2983	
Volunteer Fire Dept. (Monument)		575-393-4339	
Emergency Management (Lovingtor	n)	575-391-2983	
New Mexico Oil Conservation Division	on (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 C		505-476-9600	
New Mexico Emergency Response C	commission (Santa Fe) 24 hrs	505-827-9126	
New Mexico State Emergency Opera	ations Center	505-476-9635	
National			
National Emergency Response Center	er (Washington, D.C.)	800-424-8802	
Medical			
Flight for Life- 4000 24th St.; Lubboo	k, TX	806-743-9911	
Aerocare- R3, Box 49F; Lubbock, TX		806-747-8923	
Med Flight Air Amb- 2301 Yale Blvd		505-842-4433	
SB Air Med Service- 2505 Clark Carr	Loop S.E.; 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
Haliburton		575-746-2757	
B.J. Services		575-746-3569	

# H2S Rig Diagram



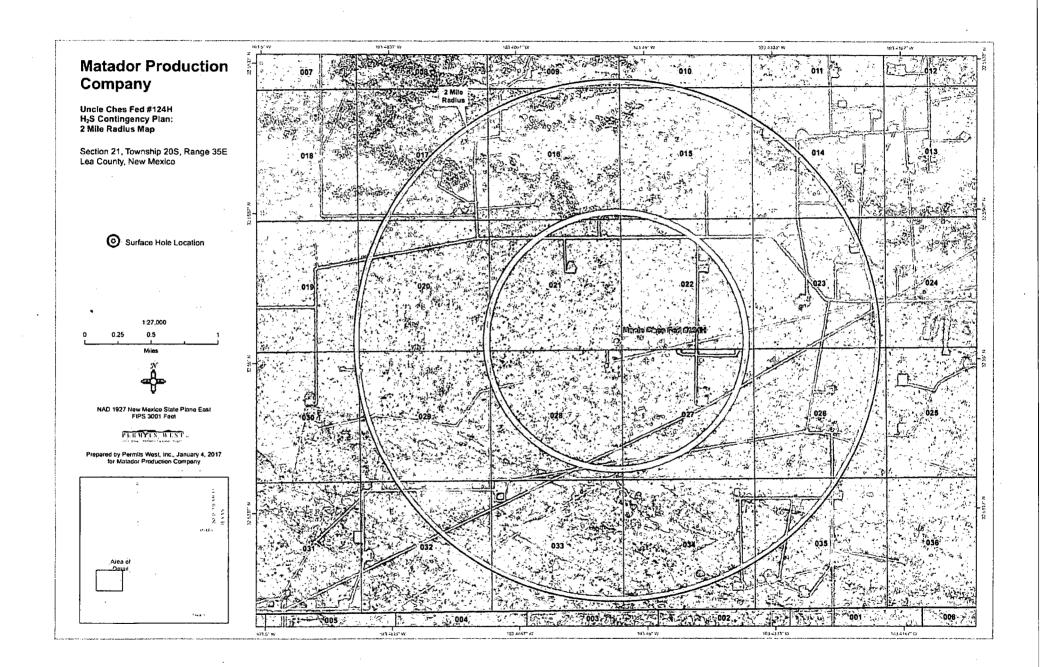






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ξ. <u>Matador</u>
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Survey Report



Company: Ma	tador Resources			Local Co-ordinate Referen	nce:	Well No. 121H	
	a County, NM			TVD Reference:		well @ 3717.50usft	
	ach Joe Fed			MD Reference:	÷	well @ 3717.50usft	
	. 121H		•	North Reference:		Grid	
Nellbore: OH	4			Survey Calculation Metho	d:	Minimum Curvature	
Design: Pro	elim Plan A			Database:		Well Planner	
	Lea County, NI		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·
Project	Lea County, N		•	•			
Map System:	US State Plane			System Datum:		Mean Sea Level	
Geo Datum:	NAD 1927 (NAD		)				
lap Zone:	New Mexico Eas	st 3001					
Site	Coach Joe Feo	1	· ·	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	
Site Position:			Northing:	580,914.00 usft	Latitude	·	32° 35' 38.621
From:	Мар		Easting:	766,344.00 usft	Longitu		103° 28' 6.730 \
Position Uncertainty:	•	0.00 usft	Slot Radius:	13-3/16 "		nvergence:	0.47 *
						·······	
Well	No. 121H			······································		**************************************	
Nell Position	+N/-S	0.00 usft	Northing:	580,914.0	0 usft	Latitude:	32° 35' 38.621
	+E/-W	0.00 usft	Easting:	766,344.0	0 usft	Longitude:	103° 28' 6.730 V
Position Uncertainty		0.00 usft	Wellhead Elev	vation:	usft	Ground Level:	3,689.00 us
********							
Wellbore	он			· · · ·			· · ·
Magnetics	Model Nan	ne	Sample Date	Declination		Dip Angle	Field Strength
			· · · · ·	(°)	-	(°)	(nT)
	. 1	HDGM	12/1/2016	6.77		60.62	48,334.30
Design	Prelim Plan A	······				·····	· · · · · · · · · · · · · · · · · · ·
Audit Notes:		,	1 - 1	1 A.			4
			<b>D</b> 4				
Version:			Phase:	PLAN TI	e On Dep	<b>in:</b>	0.00
Vertical Section:			rom (TVD) isft) 0.00		E/-W usft) 0.00	Direction (°)	179.49
			0.00	0.00	0.00		179.49

From То (usft) (usft) Survey (Wellbore) Tool Name Description . 0.00 MWD - OWSG MWD - OWSG 15,076.71 Prelim Plan A (OH) **Planned Survey** Measured Vertical Vertical Dogleg Build Turn Depth Depth Section Rate Inclination +N/-S Rate Rate Azimuth +E/-W (usft) (usft) (usft) `(°/100usft) (°/100usft) (°/100usft) (°) (°) (usft) (usft) 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 [CoachJoe#121H]LPP 100.00 0.00 0.00 100,00 0.00 0.00 0.00 0.00 0.00 0.00 200.00 0.00 0.00 200.00 0.00 0.00 0.00 0:00 0.00 0.00 300.00 0.00 0.00 300.00 0.00 0.00 0.00 0.00 0.00 0.00 400.00 0.00 0.00 400.00 0.00 0.00 0.00 0.00 0.00 0.00 500.00 0.00 0.00 500.00 0.00 0.00 0.00 0.00 0.00 0.00 600.00 0.00 0.00 600.00 0.00 0.00 0.00 0.00 0.00 0.00 700.00 0.00 0.00 700.00 0.00 0.00 0.00 0.00 0.00 0.00 800.00 0.00 0.00 800.00 0.00 0.00 0.00 0.00 0.00 0.00

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Survey Report



Matador Resources	Local Co-ordinate Reference: We	ell No. 121H
Lea County, NM	TVD Reference: we	ll @ 3717.50usft
Coach Joe Fed	MD Reference: we	II @ 3717.50usft
No. 121H	North Reference: Gri	d
OH	Survey Calculation Method: Mir	nimum Curvature
Prelim Plan A	Database: We	ell Planner
	Lea County, NM Coach Joe Fed No. 121H OH	Matador ResourcesLocal Co-ordinate Reference:WeLea County, NMTVD Reference:weCoach Joe FedMD Reference:weNo. 121HNorth Reference:GriOHSurvey Calculation Method:Min

Planned Survey

Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.Ò0
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0,00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	. 0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	Ô.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0:00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	.0.00
4,603.73	0.00	0.00	4,603.73	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	1.93	258.47	4,699.98	-0.32	-1.58	0.31	2.00	2.00	0.00
4,753.73	3.00	258.47	4,753.66	-0.79	-3.85	0.75	2.00	2.00	0.00
4,800.00	3.00	258.47	4,799.87	-1.27	-6.22	1.21	0.00	0.00	0.00
4,900.00	3.00	258.47	4,899.73	-2.32	-11.35	2.21	0.00	0.00	0.00
5,000.00	3.00	258.47	4,999.59	-3.36	-16.48	3.22	0.00	0.00	0.00
5,100.00	3.00	258.47	5,099.46	-4.41	-21.60	4.22	0.00	0.00	0.00

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#### Survey Report



Company: Matador Resources					Local Co-o	rdinate Refer	ence:	Well No. 121H	ell No. 121H		
Project:	Lea	County, NM			TVD Refere	nce:	•	<sup>;</sup> well @ 3717.50	)usft		
Site:	Coa	ach Joe Fed			MD Referer	nce:	· · · ·	well @ 3717.50	lusft		
Nell:	., No.	121H			North Refe	rence:		Grid			
Vellbore:	<sup>: 2</sup> он				Survey Cal	culation Met	nod:	Minimum Curva	ature		
Design:	Pre	lim Plan A			Database:	n an		Well Planner	Marchine and a second state of	the state of the state of the	
Planned Survey				·····	. 1 4, 7 2 11 1		1511 (m.2) . YvP	· · · · · · ·			
						· · ·		· 11.	· · · · · · · · · · · · · · · · · · ·		
Measure	ėd			Vertical			Vertical	Dogleg	Build	Turn	
Depth (usft)		Inclination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Section (usft)	Rate (*/100usft)	Rate (°/100usft)	Rate (°/100usft)	
5,200	0.00	3.00	258.47	5,199.32	-5.46	-26.73	5.22	0.00	0.00	0.00	
5,300	0.00	3.00	258.47	5,299.18	-6.50	-31.86	6.22	0.00	0.00	0.00	
5,400	0.00	3.00	258.47	5,399.05	-7.55	-36.99	7.22	0.00	0.00	0.00	
5,500	0.00	3.00	258.47	5,498.91	-8.59	-42.11	8.22	0.00	0.00	0.00	
5,600	0.00	3.00	258.47	5,598.77	-9.64	-47.24	9.22	0.00	0.00	0.00	
5,700	0.00	3.00	258.47	5,698.63	-10.69	-52.37	10.22	0.00	0.00	0.00	
5,800	0.00	3.00	258.47	5,798.50	-11.73	-57.50	11.22	0.00	0.00	0.00	
5,900	0.00	3.00	258.47	5,898.36	-12.78	-62.63	12.22	0.00	0.00	0.00	
6,000	0.00	3.00	258.47	5,998.22	-13.83	-67.75	13.22	0.00	0.00	0.00	
6,100	0.00	3.00	258.47	6,098.09	-14.87	-72.88	14.22	0.00	0.00	0.00	
6,200	0.00	3.00	258.47	6,197.95	-15.92	-78.01	15.23	0.00	0.00	0.00	

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6,697.26

6,797.13

6,896.99

6,996.85

7,096.72

7.196.58

7,296.44

7,396.31

7,496.17

7,596.03

7,695.89

7,795.76

7,895.62

7,995.48

8,095.35

8,195.21

8,295.07

8,394.93

8,494.80

8,594.66

8,694.52

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8,894.25

8,994.11

9,093.98

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12/1/2016 9:30:55AM

Matador

Survey Report



Matador Resources	Local Co-ordinate Reference:	Weil No. 121H
Lea County, NM	TVD Reference:	well @ 3717.50usft
Coach Joe Fed	MD Reference:	well @ 3717.50usft
No. 121H	North Reference:	Grid
ОН	Survey Calculation Method:	Minimum Curvature
Prelim Plan A	Database:	Well Planner
	Lea County, NM Coach Joe Fed No. 121H OH	Lea County, NMTVD Reference:Coach Joe FedMD Reference:No. 121HNorth Reference:OHSurvey Calculation Method:

.

Planned Survey

fleasured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate	
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(%100usft)	(°/100usft)	(°/100usft)	
9,400.00	2.63	258.47	9,393.57	-49.40	-242.04	47.24	2.00	-2.00	0.00	
9,500.00	0.63	258.47	9,493.52	-49.97	-244.83	47.78	2.00	-2.00	0.00	
9,531.48	0.00	0.00	9,525.00	-50.00	-245.00	47.82	2.00	-2.00	0.00	
9,600.00	0.00	0.00	9,593.52	-50.00	-245.00	47.82	0.00	0.00	0.00	
9,700.00	0.00	0.00	9,693.52	-50.00	-245.00	47.82	0.00	0.00	0.00	
9,800.00	0.00	0.00	9,793.52	-50.00	-245.00	, 47.82	0.00	0.00	0.00	
9,900.00	0.00	0.00	9,893.52	-50.00	-245.00	47.82	0.00	0.00	0.00	
10,000.00	0.00	0.00	9,993.52	-50.00	-245.00	47.82	0.00	0.00	0.00	
10,031.48	0.00	0.00	10,025.00	-50.00	-245.00	47.82	0.00	0.00	0.00	
[CoachJoe#1	21H]FPP							,		
10,050.00	1.85	179.49	10,043.52	-50.30	-245.00	48.12	10.00	10.00	0.00	
10,100.00	6.85	179.49	10,093.36	-54.09	-244.96	51.91	10.00	10.00	0.00	
10,150.00	11.85	179.49	10,142.68	-62.21	-244.89	60.03	10.00	10.00	0.00	
10,200.00	16.85	179.49	10,191.10	-74.60	-244.78	72.42	10.00	10.00	0.00	
10,250.00	21.85	179.49	10,238.26	-91.17	-244.63	88.99	10.00	10.00	0.00	
10,300.00	26.85	179.49	10,283.80	-111.78	-244.45	109.60	10.00	10.00	0.00	
10,350.00	31.85	179.49	10,327.37	-136.28	-244.23	134.10	10.00	10.00	0.00	
10,400.00	36.85	179.49	10,368.63	-164.48	-243.98	162.30	10.00	10.00	0.00	
10,450.00	41.85	179.49	10,407.28	-196.17	-243.70	194.00	10.00	10.00	0.00	
10,500.00	46.85	179.49	10,443.02	-231.11	-243.39	228.94	10.00	10.00	0.00	
10,550.00	51.85	179.49	10,475.58	-269.04	-243.05	266.86	10.00	10.00	0.00	
10,600.00	56.85	179.49	10,504.72	-309.65	-242.69	307.48	10,00	10.00	0.00	
10,650.00	61.85	179.49	10,530.20	-352.65	-242.31	350.48	10.00	10.00	0.00	
10,700.00	66.85	179.49	10,551.83	-397.71	-241.90	395.54	10.00	10.00	0.00	
10,750.00	71.85	179.49	10,569.46	-444.48	-241.49	442.32	10.00	10:00	0.00	
10,800.00	76.85	179.49	10,582.94	-492.61	-241.06	490.45	10.00	10.00	0.00	
10,850.00	81.85	179,49	10,592.17	-541.73	-240.62	539.57	10.00	10.00	0.00	
10,900.00	86.85	179.49	10,597.09	-591.47	-240.18	589.31	10.00	10.00	0.00	
10,931.47	90.00	179.49	10,597.96	-622.93	-239.90	620.77	10.00	10.00	0.00	
11,000.00	90.00	179.49	10,597.96	-691.45	-239.29	689.30	0.00	0.00	0.00	
11,100.00	90.00	179.49	10,597.96	-791.45	-238.40	789.30	0.00	0.00	0.00	
11,200.00	90.00	179.49	10,597.96	-891.45	-237.51	889.30	0.00	0.00	0.00	
11,300.00	90.00	179.49	10,597.96	-991.44	-236.62	989.30	0.00	0.00	0.00	
11,400.00	90.00	179.49	10,597.96	-1,091.44	-235.73	1,089.30	0.00	0.00	0.00	
11,500.00	90.00	179.49	10,597.96	-1,191.43	-234.84	1,189.30	0.00	0.00	0.00	•
11,600.00	90.00	179.49	10,597.96	-1,291.43	-233.95	1,289.30	0.00	0.00	0.00	
11,700.00	90.00	179.49	10,597.97	-1,391.43	-233.06	1,389.30	0.00	0.00	0.00	
11,800.00	90.00	179.49	10,597.97	-1,491.42	-232.17	1,489.30	0.00	0.00	0.00	
11,900.00	90.00	179.49	10,597.97	-1,591.42	-231.28	1,589.30	0.00	0.00	Q.00	
12,000.00	90.00	179.49	10,597.97	-1,691.41	-230.39	1,689.30	0.00	0.00	0.00	
12,100.00	90.00	179.49	10,597.97	-1,791.41	-229.50	1,789.30	0.00	0.00	0.00	
12,200.00	90.00	179.49	10,597.97	-1,891.41	-228.61	1,889.30	0.00	0.00	0.00	
12,300.00	90.00	179.49	10,597.97	-1,991.40	-227.72	1,989.30	0.00	0.00	0.00	
12,400.00	90.00	179.49	10,597.97	-2,091.40	-226.83	2,089.30	0.00	0.00	0.00	

12/1/2016 9:30:55AM



**Planned Survey** 

#### Survey Report



Company:	Matador Resources	Local Co-ordinate Reference:	Well No. 121H
Project:	Lea County, NM	TVD Reference:	well @ 3717.50usft
Site:	Coach Joe Fed	MD Reference:	well @ 3717.50usft
Well:	No. 121H	North Reference:	Grid
Wellbore:	ОН	Survey Calculation Method:	Minimum Curvature
Design:	Prelim Plan A	Database:	Well Planner
		and the second secon	and the second

Measured Vertical Vertical Build Dogleg Turn Depth Inclination Azimuth Depth +N/-S +E/-W Section Rate Rate Rate (\*/100usft) (usft) (usft) (usft) (\*/100usft) (\*/100usft) (°) (°) (usft) (usft) 12.500.00 90.00 179.49 10.597.97 -2,191.39 -225.94 2,189.30 0.00 0.00 Ó.00 12,600.00 90.00 179.49 10.597.98 -2.291.39-225.05 2.289.30 0.00 0.00 0.00 90.00 12,700.00 179.49 10,597.98 -2,391.39 -224.16 2,389.30 0.00 0.00 0.00 12,800.00 90.00 179.49 10,597.98 -2,491.38 -223.27 2,489.30 0.00 0.00 0.00 12,900.00 90.00 179.49 10,597.98 -2,591.38-222.38 2,589.30 0.00 0.00 0.00 13,000.00 90.00 179.49 10,597.98 -2,691.37 -221.49 2,689.30 0.00 0.00 0.00 13,100.00 90.00 179.49 10,597.98 -2,791.37 -220.60 2,789.30 0.00 0.00 0.00 90.00 13,200.00 179.49 10,597.98 -2,891.37 -219.71 2.889.30 0.00 0.00 0.00 13,300.00 90.00 179.49 10,597.98 -2,991.36 -218.82 2,989.30 0.00 0.00 0.00 13,400.00 90.00 179.49 10,597.98 -3,091.36 -217.93 3,089.30 0.00 0.00 0.00 13,500.00 90.00 179.49 10,597.98 -3,191.35 -217.04 3,189.30 0.00 0.00 0.00 13,600.00 90.00 179.49 10,597.99 -3,291.35 -216.15 3,289.30 0.00 0.00 0.00 13,700.00 90.00 179.49 10,597.99 -3,391.35 -215.26 3,389.30 0.00 0.00 0.00 13,800.00 90.00 10,597.99 -3,491.34 3,489.30 0.00 179.49 -214.36 0.00 0.00 13,900.00 90.00 179.49 10,597.99 -3,591.34 -213.47 3,589.30 0.00 0.00 0.00 14,000.00 90.00 179.49 10,597.99 -3,691.33 -212.58 3,689.30 0.00 0.00 0.00 14,100.00 90.00 179.49 10,597.99 -3,791.33 -211.69 3,789,30 0.00 0.00 0.00 14,200.00 90.00 179.49 10,597.99 -3,891.33 -210.80 3,889.30 0.00 0.00 0.00 14,300.00 90.00 179.49 10,597.99 -3,991.32 -209.91 3,989.30 0.00 0.00 0.00 14,400.00 90.00 179.49 10,597.99 -4,091.32 -209.02 4,089.30 0.00 0.00 0.00 14,500.00 90.00 179.49 10,597.99 -4,191.31 4,189.30 -208.13 0.00 0.00 0.00 14,600.00 90.00 179 49 10.598.00 -4,291.31 -207.24 4.289.30 0.00 0.00 0.00 -4,391.31 14,700.00 90.00 179.49 10,598.00 -206.35 4.389.30 0.00 0.00 0.00 14,800.00 90.00 179.49 10,598.00 -4,491.30 -205.46 4,489.30 0.00 0.00 0.00 14,900.00 90.00 179.49 10,598.00 -4,591.30 -204.57 4,589.30 0.00 0.00 0.00 15,000.00 90.00 179.49 10,598.00 -4,691.29 -203.68 4,689.30 0.00 0.00 0.00 15,076.71 90.00 179.49 10,598.00 -4,768.00 -203.00 4,766.00 0.00 0.00 0.00 [CoachJoe#121H]BHL

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Survey Report



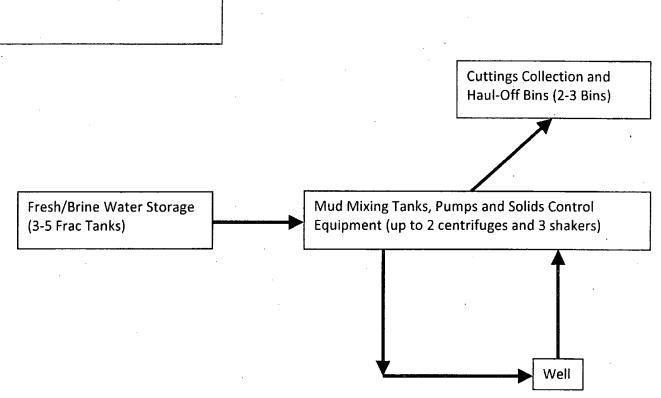
Company:	Matador	Resources			Ļ	ocal Co-ordin	ate Reference:	Well No. 121H	4	
Project: Lea County, NM						VD Reference	:	well @ 3717.	50usft	
Site:	Coach Jo	e Fed			· N	ID Reference:	e st ren er	well @ 3717.	50usft	
Well:	No. 121H				, N	orth Reference	æ:	Grid		
Wellbore:	ОН			÷	S	iurvey Calcula	tion Method:	Minimum Cur	vature	
Design:	Prelim Pi	an A			0	atabase:	· · · · ·	Well Planner	·	· .
Design Targets							· · · · · · · · · · · · · · · · · · ·			
Target Name			,		-		-			
- hit/miss targ	et D	ip Angle	Dio Dir.	TVD	+N/-S	+E/-W	Northing	Easting		
• Shape	<u>.</u>	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)	Latitude	Longitude
[CoachJoe#121H - plan misses - Point		0.00 Iter by 4682	0.00 2.45usft at 0	0.00 .00usft MD (	-4,678.00 0.00 TVD, 0.0	-204.00 IO N, 0.00 E)	576,236.00	766,140.00	32° 34' 52.350 N	103° 28' 9.559 W
(CoachJoe#121H	)FPP	0.00	0.00	10,025.0 0	-50.00	-245.00	580,864.00	766,099.00	32° 35' 38.146 N	103° 28' 9.599 W
- plan hits tar - Point	get center									
(CoachJoe#121H	]BHL	0.00	0.00	10,598.0 0	-4,768.00	-203.00	576,146.00	766,141.00	32° 34' 51.459 N	103° 28' 9.556 W
<ul> <li>plan hits tar</li> </ul>	get center									

ескеа ву

Арр ву Date

# **Closed-Loop System**

Coach Joe Fed Com #121H Matador Production Company 9-20S-35E Lea County, NM

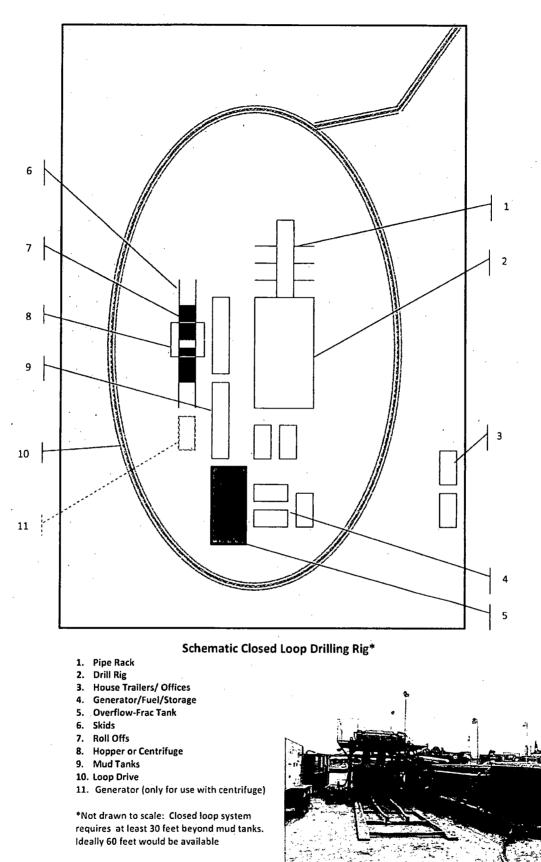


#### **Operating and Maintenance Plan:**

During drilling operations, third party service companies will use solids control equipment to remove cuttings from the drilling fluids and collect it in haul-off bins. Equipment will be closely monitored at all times while drilling by the derrick man and the service company employees.

### **Closure Plan:**

During drilling operations, third party service companies will haul off drill solids and fluids to an approved disposal facility. At the end of the well, all closed loop equipment will be removed from the location.



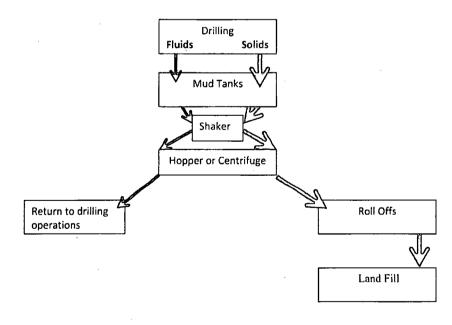


Above: Centrifugal Closed Loop System

3 Δ ş,

Closed Loop Drilling System: Mud tanks to right (1) Hopper in air to settle out solids (2) Water return pipe (3) Shaker between hopper and mud tanks (4) Roll offs on skids (5)

Flow Chart for Drilling Fluids and Solids



Photos Courtesy of Gandy Corporation Oil Field Service



Matador Production Company Uncle Ches Fed 124H SHL 350' FSL & 203' FEL BHL 330' FSL & 240' FWL Sec. 21, T. 20 S., R. 35 E., Lea County, NM

# **Drilling Program**

# 1. ESTIMATED TOPS

Formation Name	TVD	MD	Bearing
Quaternary	000'	000′	water
Rustler	1983'	1983'	anhydrite
Salado	2100'	2100'	salt
Fletcher	3397'	3397'	anhydrite
Tansill	3586'	3586'	sandsone
Yates	3766'	3766'	gypsum
Seven Rivers	4101'	4101'	dolomite
Queen	4962'	4962′	sandstone
Brushy Canyon Sand	7322'	7322′	hydrocarbons
Bone Spring Lime	8430′	8430'	hydrocarbons
1 <sup>st</sup> Bone Spring Sand	9705'	9705′	hydrocarbons
2 <sup>nd</sup> Bone Spring Carbonate	10057′	10057'	hydrocarbons
2 <sup>nd</sup> Bone Spring Sand	10343′	10347'	hydrocarbons & goal
TD	10724′	15322′	hydrocarbons

# 2. NOTABLE ZONES

Second Bone Spring sand is the goal for this well. Hole will extend west of the last perforation point to allow for pump installation. All perforations will be  $\geq$ 330' from the dedication perimeter. Closest water well (CP 00489) is 3.29 miles southwest. Depth to water is 95' in this 125' deep well.

# 3. PRESSURE CONTROL

Matador Production Company Uncle Ches Fed 124H SHL 350' FSL & 203' FEL BHL 330' FSL & 240' FWL Sec. 21, T. 20 S., R. 35 E., Lea County, NM

A 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 and choke manifold diagrams.

An accumulator complying with Onshore Order 2 requirements 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.

Surface casing will be pressure tested to 250 psi low and 2000 psi high. Intermediate casing pressure tests will be made to 250 psi low and 3000 psi high. Annular preventer will be tested to 250 psi low and 2500 psi high on the surface casing and tested to 250 psi low and 2500 psi high on the intermediate casing. In the case of running a speed head with landing mandrel for 9-5/8" casing, initial surface casing test pressures will be 250 psi low and 3000 psi high, with wellhead seals tested to 5000 psi once the 9-5/8" casing has been landed and cemented. Matador is requesting a variance to use a speed head. Speed head diameter range is 13.375" x 9.625" x 5.5" x 2.875".

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.

Hole O. D.	Set MD	Set TVD	Casing O. D.	Weight (lb/ft)	Grade	Joint	Collapse	Burst	Tension
20"	0′ - 2008'	0′ - 2008'	Surface 13.375"	54.5	J-55	BTC	1.125	1.125	1.8
12.25"	0′ - 5900'	0′ - 5900'	Inter. 9.625"	40	J-55	втс	1.125	1.125	1.8

Matador Production Company Uncle Ches Fed 124H SHL 350' FSL & 203' FEL BHL 330' FSL & 240' FWL Sec. 21, T. 20 S., R. 35 E., Lea County, NM

8.75"	0′ - 1532		0' – 0724'		duct. .5"		20	P-:	110	DW	IC/C	1.125	1.125	1.8
Casing N	lame	Туре	Sac	ks	Yield	d	Cu. I	t.	Wei	ght		В	lend	
Surfac	ce	Lead	22	13	1.75	5	387	2	13	.5		Class C + 39	% NaCl +	LCM
		Tail	70	3	1.38	3	97(	כ	14	.8	(	Class C + 59	% NaCl +	LCM
то	C = GL			1	00% E>	ces	is			Cer	ntralizers per Onshore Order 2			ler 2
Intermed	Intermediate Le		140	03	1.81	Ĺ	2539		13	13.5 Class C + Bentonite + 1% C 8% NaCl + LCM		. –		
		Tail	45	4	1.38	3	620	5	14	.8	Class C + 5% NaCl + LCM		LCM	
то	TOC = GL 100% Excess			S		2 or	n btrr	n jt, 1 o	on 2nd jt, 1	every 4t	h jt to GL			
Produc	tion	Lead	60	9	2.25	5	137	0	11	11.5 TXI + Fluid Loss + Dis Retarder + L		-		
		Tail	15	25	1.38	3	210	4	13	.2 <sup>.</sup>	TXI + Fluid Loss + Dispersant Retarder + LCM			
TOC = 4900'				35% Excess				2 on btm jt, 1 on 2nd jt, 1 every other jt to top of tail cement (1000' above TOC)				•		

# 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.

Туре	Interval	lb/gal	Viscosity	Fluid Loss
fresh water spud	0' - 2008'	8.4	28	NC
brine water	2008' - 5900'	10.0	30-32	NC
fresh water & cut brine	5900' - 15322'	9.0	30-32	NC

# 6. <u>CORES, TESTS, & LOGS</u>

No core or drill stem test is planned.

Matador Production Company Uncle Ches Fed 124H SHL 350' FSL & 203' FEL BHL 330' FSL & 240' FWL Sec. 21, T. 20 S., R. 35 E., Lea County, NM

A 2-person mud-logging program will be used from ≈2008' to TD.

No electric logs are 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.

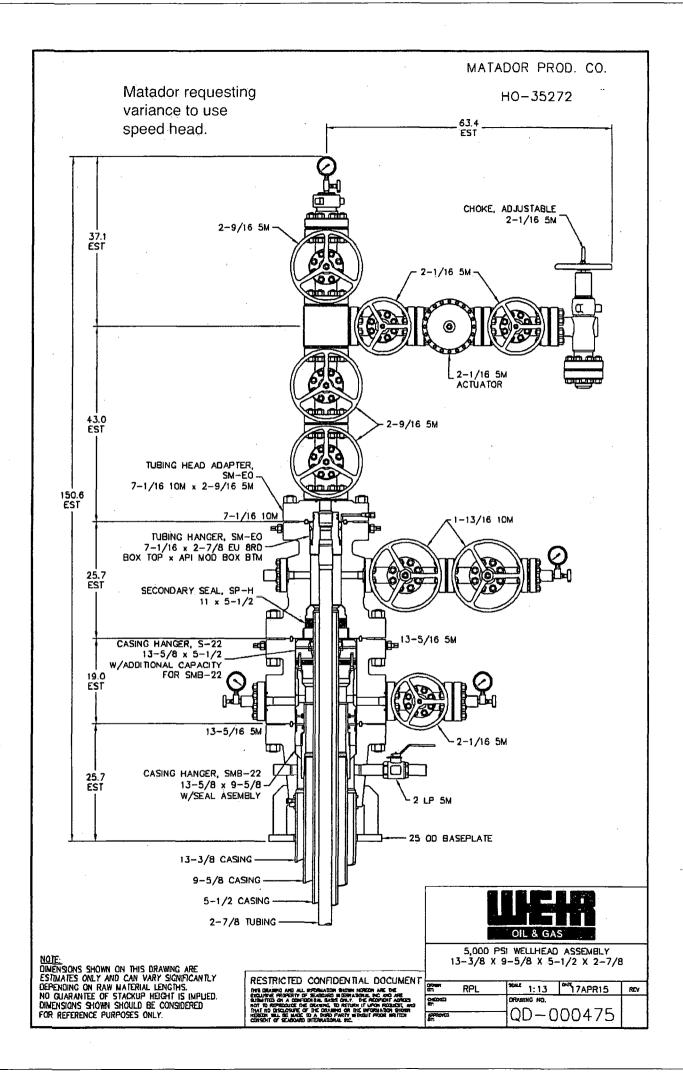
# 7. DOWN HOLE CONDITIONS

No abnormal pressure or temperature is expected. Maximum expected bottom hole pressure is ≈5350 psi. Expected bottom hole temperature is ≈135° 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 the BLM's minimum requirements for the submission of 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.

### 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 Coach Joe Fed Com 121H SHL 283' FNL & 577' FWL BHL 240' FSL & 332' FWL Sec. 9, T. 20 S., R. 35 E., Lea County, NM

# Surface Use Plan

# 1. <u>ROAD DIRECTIONS & DESCRIPTIONS</u> (See MAPS 1 – 4)

From the junction of NM 18 & US 62 in Hobbs, NM... Go West & SW 20.1 miles on US 62 to the equivalent of Mile Post 84.99 Then turn left onto caliche County Road 37 (Willow Tree) and go SE 1.1 mile Then bear right and go S 0.2 mile on a caliche road Then turn right and go W 0.3 mile on a caliche road Then turn left and go S 1/3 mile on a caliche road Then turn left and go E 0.15 mile on a caliche road Then turn right and go SSW 1.0 mile on a caliche road to a cattle guard Cross the cattle guard and go SE 75 yards on a caliche road Then turn right and go SW 100 yards to a junction Then bear left and continue SW 0.4 mile on a narrower caliche road\* Then turn left and go S 1/3 mile on a caliche road Then turn left and go S 1.5 on a caliche road Then turn right and go W 0.2 mile on a caliche road Then turn right and go W 0.2 mile on a caliche road

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. Caliche will be hauled from existing caliche pits on private land in NWSE 1-24s-28e and NWSW 6-24s-29e.

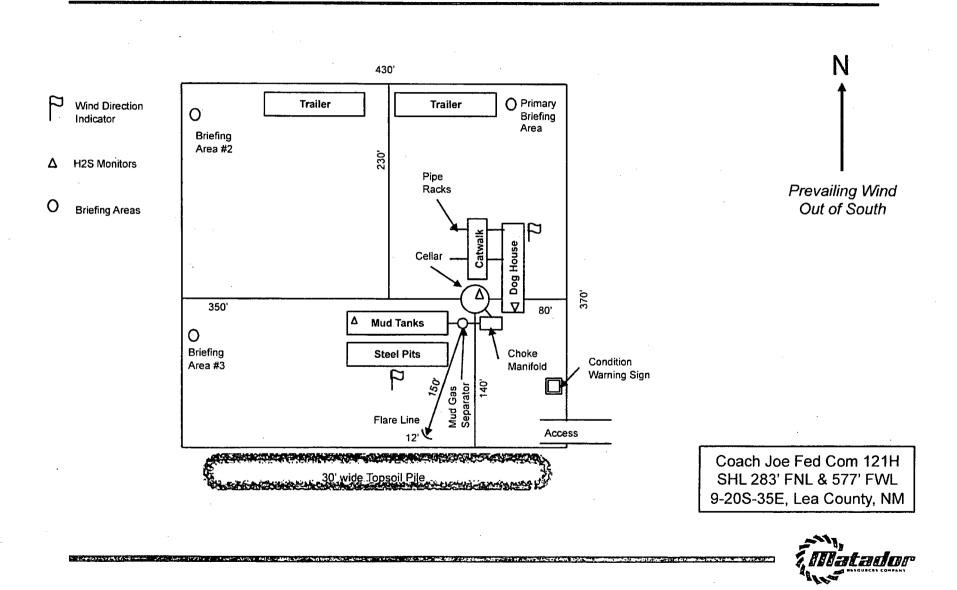
# 2. <u>ROAD TO BE BUILT OR UPGRADED</u> (See MAPS 1 - 4)

No new road will be built. Pad overlaps an existing oilfield road.

Upgrading will include pushing back encroaching sand on the narrow segment\* of road on State land in E2NE4 33-19s-35e and NWNW 34-19s-35e and patching potholes throughout with caliche. Road will have a 14' wide driving

INC. PROVIDING PERMITS for LAND USERS

# **Rig Diagram**



Matador Production Company Coach Joe Fed Com 121H SHL 283' FNL & 577' FWL BHL 240' FSL & 332' FWL Sec. 9, T. 20 S., R. 35 E., Lea County, NM

surface. Maximum disturbed width = 20'. Maximum grade = 1%. Maximum cut or fill = 1'. No new cattle guard, culvert, or vehicle turn out is needed.

# 3: EXISTING WELLS (See MAP 3)

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

# 4. PROPOSED PRODUCTION FACILITIES

Oil tanks, water tanks, meter runs, separators, and a flare will be installed on the north and west side of the pad (see preceding diagram). No gas line or power line plans have been finalized.

5. <u>WATER SUPPLY</u> (See MAPS 2-4)

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-32e).

### 6. <u>CONSTRUCTION MATERIALS & METHODS</u> (see MAPS 2-4)

NM One Call (811) will be notified before construction starts. Top  $\approx$ 6" of soil and brush will be stockpiled south of the pad. Pipe racks will be to the north. A closed loop drilling system will be used. Caliche will be hauled from existing caliche pits on private land. Klein pit is in SWNW 27-19s-35e. Berry pit is in E2NE4 35-20s-34e. Existing road on south side of pad will be kept open on the east and west sides. Old South Pearl Queen Unit 25 reserve pit will not be excavated to avoid exposing its contents.



Matador Production Company Coach Joe Fed Com 121H SHL 283' FNL & 577' FWL BHL 240' FSL & 332' FWL Sec. 9, T. 20 S., R. 35 E., Lea County, NM

# 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 CRI's state approved (NM-01-0006) disposal site. Human waste will be disposed of in chemical toilets and hauled to the Hobbs wastewater treatment plant.

# 8. ANCILLARY FACILITIES

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

# 9. WELL SITE LAYOUT

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

### 10. <u>RECLAMATION</u>

Interim reclamation will be completed within 6 months of completing the well. Interim reclamation will consist of shrinking the pad  $\approx 30\%$  (1.1 acres) by removing caliche and reclaiming the north (80') and west (50') sides. This will leave 2.55 acres for the production equipment (e. g., tank battery, heatertreater, separator), pump jack, 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 BLM'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 will



Matador Production Company Coach Joe Fed Com 121H SHL 283' FNL & 577' FWL BHL 240' FSL & 332' FWL Sec. 9, T. 20 S., R. 35 E., Lea County, NM

be similarly reclaimed within 6 months of plugging. Existing road on south side of pad will be left open for the public after reclamation.

Noxious weeds will be controlled. None were found during a December 21, 2016 inspection by botanist Robyn Tierney.

# 11. SURFACE OWNER

All pad construction will be on BLM. Some roadwork will occur on NM State Land Office land for which Matador will be filing a road right-of-way application. NM State Land Office address is P. O. Box 1148, Santa Fe, NM 87504. Their phone number is 505-827-5710.

12. OTHER INFORMATION

On site inspection was held with Vance Wolf (BLM) on November 16, 2016.

Lone Mountain filed archaeology report NMCRIS-137312 on January 4, 2017.



**AFMSS** 

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

# **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: 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: Decribe 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:

**PWD disturbance (acres):** 

PWD Data Report

02/02/2018