NM OIL CONSERVATION
ARTESIA DISTRICT

SEP 23 2019

RECEIVED

Form 3160-3
(June 2015)

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM018613A

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.
NOEL HENSLEY FED COM
202H

9. API Well No.
30-015-46294

2. Name of Operator
MATADOR PRODUCTION COMPANY

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory
5400 LBJ Freeway, Suite 1500 Dallas TX 75240	(972)371-5200	WILDCAT WOLFCAMP

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface NENW / 250 FNL / 1491 FWL / LAT 32.2097395 / LONG -104.1306793

At proposed prod. zone SESW / 240 FSL / 2346 FWL / LAT 32.1965222 / LONG -104.1279146

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 19 / T24S / R28E / NMP

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State
	EDDY	NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
250 feet	760.24	320.32

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
1640 feet	9300 feet / 14144 feet	FED: NMB001079

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3099 feet	10/12/2019	30 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cade LaBolt / Ph: (972)629-2158	04/03/2019

Title
Associate Landman

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	09/19/2019

Title	Office
Assistant Field Manager Lands & Minerals	CARLSBAD

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

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

RWP 9-24-19

APPROVED WITH CONDITIONS

Approval Date: 09/19/2019

Need GCP.

(Continued on page 2)

*(Instructions on page 2)

INSTRUCTIONS

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

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

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

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

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

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

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

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160
PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.
ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.
EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM conects this information to anow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

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

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Additional Operator Remarks

Location of Well

1. SHL: NENW / 250 FNL / 1491 FWL / TWSP: 24S / RANGE: 28E / SECTION: 19 / LAT: 32.2097395 / LONG: -104.1306793 (TVD: 0 feet, MD: 0 feet)
   PPP: NENW / 330 FNL / 330 FEL / TWSP: 24S / RANGE: 28E / SECTION: 19 / LAT: 32.2095436 / LONG: -104.1279557 (TVD: 9300 feet, MD: 9700 feet)
   PPP: NENW / 1200 FNL / 330 FEL / TWSP: 24S / RANGE: 28E / SECTION: 19 / LAT: 32.1224848 / LONG: -104.7406111 (TVD: 9300 feet, MD: 10500 feet)
   BHL: SESW / 240 FSL / 2346 FWL / TWSP: 24S / RANGE: 28E / SECTION: 19 / LAT: 32.1965222 / LONG: -104.1279146 (TVD: 9300 feet, MD: 14144 feet)

BLM Point of Contact

Name: Ciji Methola
Title: GIS Support - Adjudicator
Phone: 5752345924
Email: cmethola@blm.gov

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Matador Production Company
LEASE NO.:	NMNM018613A
WELL NAME & NO.:	Noel Hensley Fed Com 202H
SURFACE HOLE FOOTAGE:	250'/N & 1491'/W
BOTTOM HOLE FOOTAGE	240'/S & 2346'/W
LOCATION:	Section 19, T.24 S., R.28 E., NMPM
COUNTY:	Eddy County, New Mexico

COA

H2S	○ Yes	◉ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	○ Low	◉ Medium	○ High
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	○ Multibowl	◉ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

A. HYDROGEN SULFIDE

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

B. CASING

Primary Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **400** feet (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

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

b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** inch 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 cave/karst or potash.**

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.
  Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

❖ In **Medium Cave/Karst Areas** if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

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

Option 1 (Single Stage):

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

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

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

4. The minimum required fill of cement behind the **5 1/2 x 41/2** inch production casing is:

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

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2.

Option 1:

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

Option 2:

1. 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 **5000 (5M)** 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. 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.
e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

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

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

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

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

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not

hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. The results of the test shall be reported to the appropriate BLM office.

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

NMK9192019

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Matador Production Company
WELL NAME & NO.:	Noel Hensley Fed Com 201H
SURFACE HOLE FOOTAGE:	250'/N & 1318'/W
BOTTOM HOLE FOOTAGE	240'/S & 330'/W
LOCATION:	Section 19, T.24 S., R.28 E., NMPM
COUNTY:	Eddy County, New Mexico

OPERATOR'S NAME:	Matador Production Company
WELL NAME & NO.:	Noel Hensley Fed Com 202H
SURFACE HOLE FOOTAGE:	250'/N & 1491'/W
BOTTOM HOLE FOOTAGE	240'/S & 2346'/W
LOCATION:	Section 19, T.24 S., R.28 E., NMPM
COUNTY:	Eddy County, New Mexico

OPERATOR'S NAME:	Matador Production Company
WELL NAME & NO.:	Noel Hensley Fed Com 215H
SURFACE HOLE FOOTAGE:	250'/N & 1461'/W
BOTTOM HOLE FOOTAGE	240'/S & 1310'/W
LOCATION:	Section 19, T.24 S., R.28 E., NMPM
COUNTY:	Eddy County, New Mexico

OPERATOR'S NAME:	Matador Production Company
WELL NAME & NO.:	Noel Hensley Fed Com 221H
SURFACE HOLE FOOTAGE:	280'/N & 1382'/W
BOTTOM HOLE FOOTAGE	240'/S & 330'/W
LOCATION:	Section 19, T.24 S., R.28 E., NMPM
COUNTY:	Eddy County, New Mexico

OPERATOR'S NAME:	Matador Production Company
WELL NAME & NO.:	Noel Hensley Fed Com 222H
SURFACE HOLE FOOTAGE:	280'/N & 1492'/W
BOTTOM HOLE FOOTAGE	240'/S & 2346'/W
LOCATION:	Section 19, T.24 S., R.28 E., NMPM
COUNTY:	Eddy County, New Mexico

Approval Date: 09/19/2019

TABLE OF CONTENTS

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

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)

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

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

BURIED/SURFACE LINE(S):
When crossing ephemeral drainages, the pipeline(s) will be buried to a minimum depth of 48 inches from the top of pipe to ground level. Erosion control methods such as gabions and/or rock aprons should be placed on both up and downstream sides of the pipeline crossing. In addition, curled (weed free) wood/straw fiber wattles/logs and/or silt fences should be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars should be placed within the ROW to divert and dissipate surface runoff. A pipeline access road is not permitted to cross these ephemeral drainages. Traffic should be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Prior to pipeline installation/construction a leak detection plan will be developed. The method(s) could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

ELECTRIC LINE(S):

Any water erosion that may occur due to the construction of overhead electric line and during the life of the power line will be quickly corrected and proper measures will be taken to prevent future erosion. A power pole should not be placed in drainages, playas, wetlands, riparian areas, or floodplains and must span across the features at a distance away that would not promote further erosion.

TEMPORARY USE FRESH WATER FRAC LINE(S):

Once the temporary use exceeds the timeline of 180 days and/or with a 90-day extension status; further analysis will be required if the applicant pursues to turn the temporary ROW into a permanent ROW.

Karst Resources:
Construction Mitigation

In order to mitigate the impacts from construction activities on cave and karst resources, the following Conditions of Approval will apply to this APD or project:

General Construction:

- No blasting
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction, and no additional construction shall occur until clearance has been issued by the Authorized Officer.
- All linear surface disturbance activities will avoid sinkholes and other karst features to lessen the possibility of encountering near surface voids during construction, minimize changes to runoff, and prevent untimely leaks and spills from entering the karst drainage system.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

Pad Construction:

- The pad will be constructed and leveled by adding the necessary fill and caliche – no blasting.
- The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.
- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g., caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised (i.e. an access road crossing the berm cannot be lower than the berm height).
- Following a rain event, all fluids will vacuumed off of the pad and hauled off-site and disposed at a proper disposal facility.

Road Construction:

- Turnout ditches and drainage leadoffs will not be constructed in such a manner as to alter the natural flow of water into or out of cave or karst features.
- Special restoration stipulations or realignment may be required if subsurface features are discovered during construction.

Buried Pipeline/Cable Construction:

- Rerouting of the buried line(s) may be required if a subsurface void is encountered during construction to minimize the potential subsidence/collapse of the feature(s) as well as the possibility of leaks/spills entering the karst drainage system.

Powerline Construction:

- Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems.
- Larger powerlines will adjust their pole spacing to avoid cave and karst features.
- Special restoration stipulations or realignment may be required if subsurface voids are encountered.

Surface Flowlines Installation:

- Flowlines will be routed around sinkholes and other karst features to minimize the possibility of leaks/spills from entering the karst drainage system.

Drilling Mitigation

Federal regulations and standard Conditions of Approval applied to all APDs require that adequate measures are taken to prevent contamination to the environment. Due to the extreme sensitivity of the cave and karst resources in this project area, the following additional Conditions of Approval will be added to this APD.

To prevent cave and karst resource contamination the following will be required:

- Closed loop system using steel tanks - all fluids and cuttings will be hauled off-site and disposed of properly at an authorized site
- Rotary drilling with fresh water where cave or karst features are expected to prevent contamination of freshwater aquifers.

- Directional drilling is only allowed at depths greater than 100 feet below the cave occurrence zone to prevent additional impacts resulting from directional drilling.
- Lost circulation zones will be logged and reported in the drilling report so BLM can assess the situation and work with the operator on corrective actions.
- Additional drilling, casing, and cementing procedures to protect cave zones and fresh water aquifers. See drilling COAs.

Production Mitigation
In order to mitigate the impacts from production activities and due to the nature of karst terrane, the following Conditions of Approval will apply to this APD:

- Tank battery locations and facilities will be bermed and lined with a 20 mil thick permanent liner that has a 4 oz. felt backing, or equivalent, to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.
- Development and implementation of a leak detection system to provide an early alert to operators when a leak has occurred.
- Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Residual and Cumulative Mitigation
The operator will perform annual pressure monitoring on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be taken to correct the problem to the BLM's approval.

Plugging and Abandonment Mitigation
Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Range Stipulations:
Cattleguards
Where a permanent cattlegaurd is approved, an appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattleguard(s) on the access road 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 cattleguard(s) that are in place and are utilized during lease operations. A gate shall be constructed on one side of the cattleguard and fastened securely to H-braces.

Fence Requirement
Where entry granted across a fence line, the fence must be braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Livestock Watering Requirement

Structures that provide water to livestock, such as windmills, pipelines, drinking troughs, and earthen reservoirs, will be avoided by moving the proposed action.

Special Status Plant Species (SSPS) Habitat Stipulations:

- Vehicles and equipment will be kept on existing roads and approved surfaces only, and will avoid travel across undisturbed surfaces; workers will be instructed not to park off the roads or ROW in undisturbed areas.
- Alterations to project design and additions of project components will require SSPS surveys and re-analysis of impacts if those project elements intersect SSPS suitable habitat.

VI. CONSTRUCTION

A. NOTIFICATION

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

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

B. TOPSOIL

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

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

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

F. EXCLOSURE FENCING (CELLARS & PITS)

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

G. ON LEASE ACCESS ROADS

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

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

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

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

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

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

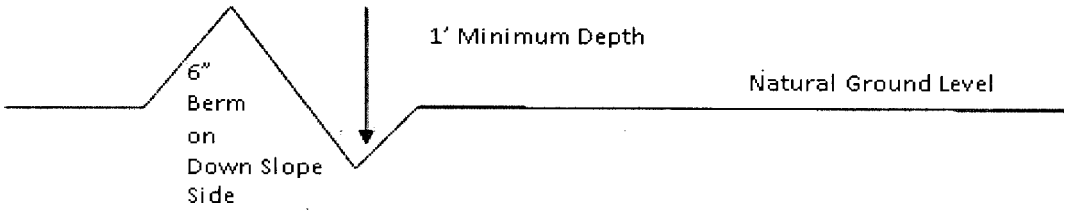
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Cattle guards

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

Fence Requirement

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

Public Access

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

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

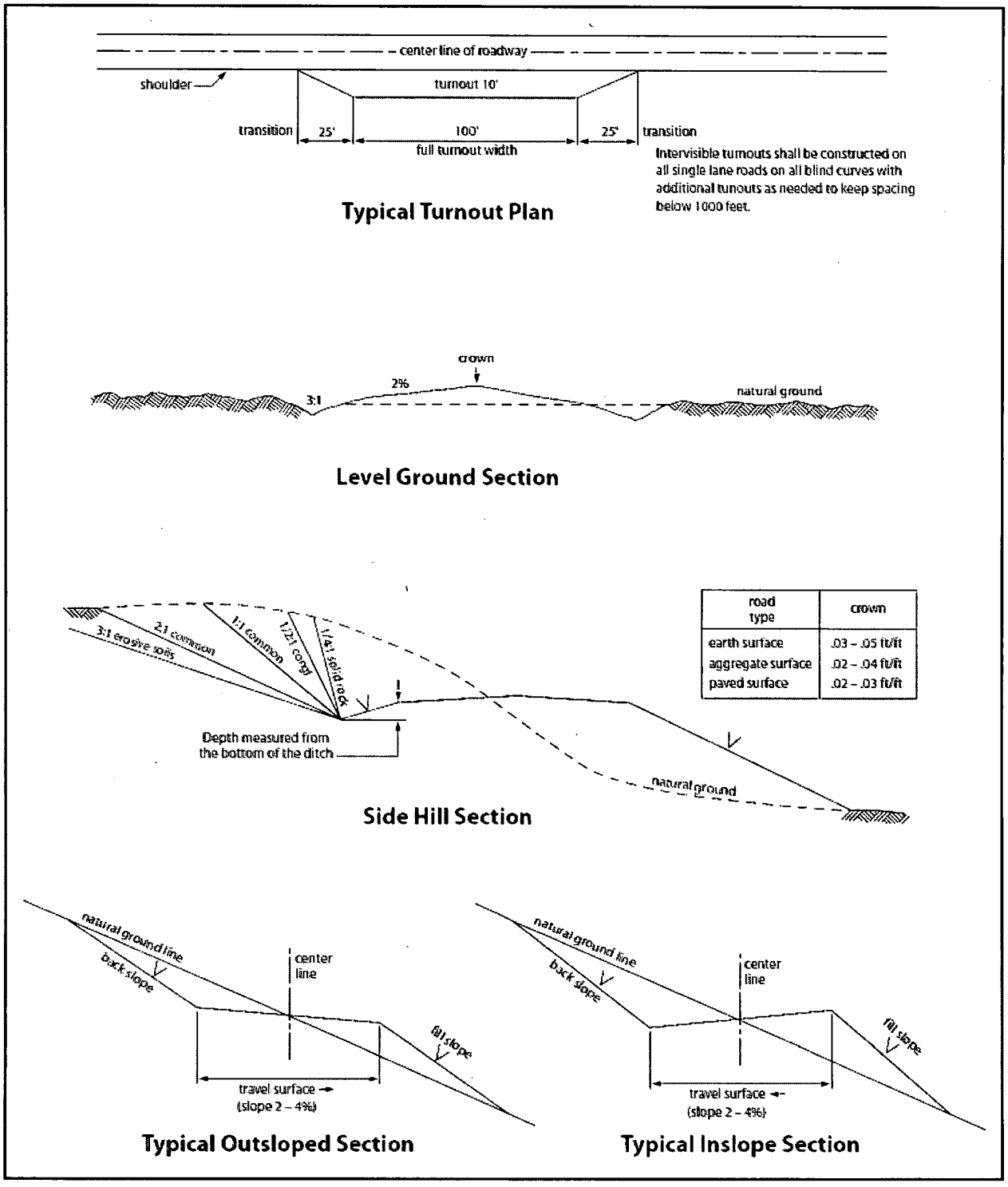


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

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

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

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

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

Containment Structures

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

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

B. PIPELINES

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the application (Grant, Sundry Notice, APD) and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies

without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.
b. Activities of other parties including, but not limited to:
    (1) Land clearing.
    (2) Earth-disturbing and earth-moving work.
    (3) Blasting.
    (4) Vandalism and sabotage.
c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

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

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

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

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

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

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

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

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

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

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed

is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

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

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

18. Special Stipulations:

Special Status Plant Species (SSPS) Habitat Stipulations:

- Vehicles and equipment will be kept on existing roads and approved surfaces only, and will avoid travel across undisturbed surfaces; workers will be instructed not to park off the roads or ROW in undisturbed areas.
- Alterations to project design and additions of project components will require SSPS surveys and re-analysis of impacts if those project elements intersect SSPS suitable habitat.

Hydrology:

BURIED/SURFACE LINE(S):
When crossing ephemeral drainages, the pipeline(s) will be buried to a minimum depth of 48 inches from the top of pipe to ground level. Erosion control methods such as gabions and/or rock aprons should be placed on both up and downstream sides of the pipeline crossing. In addition, curled (weed free) wood/straw fiber wattles/logs and/or silt fences should be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars should be placed within the ROW to divert and dissipate surface runoff. A pipeline access road is not permitted to cross these ephemeral drainages. Traffic should be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Prior to pipeline installation/construction a leak detection plan will be developed. The method(s) could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

TEMPORARY USE FRESH WATER FRAC LINE(S):

Once the temporary use exceeds the timeline of 180 days and/or with a 90-day extension status; further analysis will be required if the applicant pursues to turn the temporary ROW into a permanent ROW.

Karst Stipulations

Surface Flowlines Installation:

- Flowlines will be routed around sinkholes and other karst features to minimize the possibility of leaks/spills from entering the karst drainage system.

C. ELECTRIC LINES

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

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

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the

Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:
    - For reclamation remove poles, lines, transformer, etc. and dispose of properly.
    - Fill in any holes from the poles removed.

Special Status Plant Species (SSPS) Habitat Stipulations:

- Vehicles and equipment will be kept on existing roads and approved surfaces only, and will avoid travel across undisturbed surfaces; workers will be instructed not to park off the roads or ROW in undisturbed areas.
- Alterations to project design and additions of project components will require SSPS surveys and re-analysis of impacts if those project elements intersect SSPS suitable habitat.
-

Hydrology:

ELECTRIC LINE(S):
Any water erosion that may occur due to the construction of overhead electric line and during the life of the power line will be quickly corrected and proper measures will be taken to prevent future erosion. A power pole should not be placed in drainages, playas, wetlands, riparian areas, or floodplains and must span across the features at a distance away that would not promote further erosion.

Karst:

Powerline Construction:

- Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems.
- Larger powerlines will adjust their pole spacing to avoid cave and karst features.

Special restoration stipulations or realignment may be required if subsurface voids are

D. OIL AND GAS RELATED SITES

STANDARD STIPULATIONS FOR OIL AND GAS RELATED SITES

A copy of the application (Grant/Sundry Notice) and attachments, including stipulations and map, will be on location during construction. BLM personnel may request to view a copy of your permit during construction to ensure compliance with all stipulations.

The holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer, BLM.

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant and for all response costs, penalties, damages, claims, and other costs arising from the provisions of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Chap. 82, Section 6901 et. seq., from the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. Chap. 109, Section 9601 et. seq., and from other applicable environmental statues.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et. seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized by this grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et. seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et. seq.) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the site or related pipeline(s), any oil or other pollutant should be discharged from site facilities, the pipeline(s) or from containers or vehicles impacting Federal lands, the control and total removal, disposal, and cleanup of such oil of other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages to Federal lands resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

5. Sites shall be maintained in an orderly, sanitary condition at all times. Waste materials, both liquid and solid, shall be disposed of promptly at an appropriate, authorized waste disposal facility in accordance with all applicable State and Federal

laws. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, petroleum products, brines, chemicals, oil drums, ashes, and equipment.

6. The operator will notify the Bureau of Land Management (BLM) authorized officer and nearest Fish and Wildlife Service (FWS) Law Enforcement office within 24 hours, if the operator discovers a dead or injured federally protected species (i.e., migratory bird species, bald or golden eagle, or species listed by the FWS as threatened or endangered) in or adjacent to a pit, trench, tank, exhaust stack, or fence. (If the operator is unable to contact the FWS Law Enforcement office, the operator must contact the nearest FWS Ecological Services office.)

7. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for this project is **Shale Green**, Munsell Soil Color Chart Number 5Y 4/2.

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

9. A sales contract for removal of mineral material (caliche, sand, gravel, fill dirt) from an authorized pit, site, or on location must be obtained from the BLM prior to commencing construction. There are several options available for purchasing mineral material: contact the BLM office (575-234-5972).

10. 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.

11. Once the site is no longer in service or use, the site must undergo final abandonment. At final abandonment, the site 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 the abandonment of the site. All pads and 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. 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).

12. The holder shall stockpile an adequate amount of topsoil where blading occurs. The topsoil to be stripped is approximately ___6___ inches in depth. The topsoil will be segregated from other spoil piles. The topsoil will be used for final reclamation.

13. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

(X) seed mixture 1	( ) seed mixture 3
( ) seed mixture 2	( ) seed mixture 4
( ) seed mixture 2/LPC	( ) Aplomado Falcon Mixture

14. In those areas where erosion control structures are required to stabilize soil conditions, the holder shall install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound management practices. Any earth work will require prior approval by the Authorized Officer.

15. Open-topped Tanks - 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

16. 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.

17. 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.

18. 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.

19. Special Stipulations:

- The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and after interim reclamation has been completed.
- Any water erosion that may occur due to the construction of the well pad during the life of the well will be corrected within two weeks and proper measures will be taken to prevent future erosion.
-

Special Status Plant Species (SSPS) Habitat Stipulations:

- Vehicles and equipment will be kept on existing roads and approved surfaces only, and will avoid travel across undisturbed surfaces; workers will be instructed not to park off the roads or ROW in undisturbed areas.
- Alterations to project design and additions of project components will require SSPS surveys and re-analysis of impacts if those project elements intersect SSPS suitable habitat.

Hydrology:

The entire well pad(s) will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a

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

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

BURIED/SURFACE LINE(S):
When crossing ephemeral drainages, the pipeline(s) will be buried to a minimum depth of 48 inches from the top of pipe to ground level. Erosion control methods such as gabions and/or rock aprons should be placed on both up and downstream sides of the pipeline crossing. In addition, curled (weed free) wood/straw fiber wattles/logs and/or silt fences should be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars should be placed within the ROW to divert and dissipate surface runoff. A pipeline access road is not permitted to cross these ephemeral drainages. Traffic should be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Prior to pipeline installation/construction a leak detection plan will be developed. The method(s) could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

ELECTRIC LINE(S):
Any water erosion that may occur due to the construction of overhead electric line and during the life of the power line will be quickly corrected and proper measures will be taken to prevent future erosion. A power pole should not be placed in drainages, playas, wetlands, riparian areas, or floodplains and must span across the features at a distance away that would not promote further erosion.

TEMPORARY USE FRESH WATER FRAC LINE(S):

Once the temporary use exceeds the timeline of 180 days and/or with a 90-day extension status; further analysis will be required if the applicant pursues to turn the temporary ROW into a permanent ROW.

Karst:

Construction Mitigation

In order to mitigate the impacts from construction activities on cave and karst resources, the following Conditions of Approval will apply to this APD or project:

General Construction:

- No blasting
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction, and no additional construction shall occur until clearance has been issued by the Authorized Officer.
- All linear surface disturbance activities will avoid sinkholes and other karst features to lessen the possibility of encountering near surface voids during construction, minimize changes to runoff, and prevent untimely leaks and spills from entering the karst drainage system.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

Pad Construction:

- The pad will be constructed and leveled by adding the necessary fill and caliche – no blasting.
- The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.
- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g., caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.

- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised (i.e. an access road crossing the berm cannot be lower than the berm height).
- Following a rain event, all fluids will vacuumed off of the pad and hauled off-site and disposed at a proper disposal facility.

Road Construction:

- Turnout ditches and drainage leadoffs will not be constructed in such a manner as to alter the natural flow of water into or out of cave or karst features.
- Special restoration stipulations or realignment may be required if subsurface features are discovered during construction.

Buried Pipeline/Cable Construction:

- Rerouting of the buried line(s) may be required if a subsurface void is encountered during construction to minimize the potential subsidence/collapse of the feature(s) as well as the possibility of leaks/spills entering the karst drainage system.

Powerline Construction:

- Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems.
- Larger powerlines will adjust their pole spacing to avoid cave and karst features.
- Special restoration stipulations or realignment may be required if subsurface voids are encountered.

Surface Flowlines Installation:

- Flowlines will be routed around sinkholes and other karst features to minimize the possibility of leaks/spills from entering the karst drainage system.

Drilling Mitigation

Federal regulations and standard Conditions of Approval applied to all APDs require that adequate measures are taken to prevent contamination to the environment. Due to the extreme sensitivity of the cave and karst resources in this project area, the following additional Conditions of Approval will be added to this APD.

To prevent cave and karst resource contamination the following will be required:

- Closed loop system using steel tanks - all fluids and cuttings will be hauled off-site and disposed of properly at an authorized site
- Rotary drilling with fresh water where cave or karst features are expected to prevent contamination of freshwater aquifers.
- Directional drilling is only allowed at depths greater than 100 feet below the cave occurrence zone to prevent additional impacts resulting from directional drilling.
- Lost circulation zones will be logged and reported in the drilling report so BLM can assess the situation and work with the operator on corrective actions.

- Additional drilling, casing, and cementing procedures to protect cave zones and fresh water aquifers. See drilling COAs.

Production Mitigation
In order to mitigate the impacts from production activities and due to the nature of karst terrane, the following Conditions of Approval will apply to this APD:

- Tank battery locations and facilities will be bermed and lined with a 20 mil thick permanent liner that has a 4 oz. felt backing, or equivalent, to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.
- Development and implementation of a leak detection system to provide an early alert to operators when a leak has occurred.
- Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Residual and Cumulative Mitigation
The operator will perform annual pressure monitoring on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be taken to correct the problem to the BLM's approval.

Plugging and Abandonment Mitigation
Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

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).

Seed Mixture 1 for Loamy Sites

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

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

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

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

*Pounds of pure live seed:

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

AFMSS

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

Operator Certification Data Report

09/19/2019

Operator Certification

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

NAME: Cade LaBolt **Signed on:** 04/03/2019

Title: Associate Landman

Street Address: 5400 LBJ Freeway, Suite 1500

City: Dallas **State:** TX **Zip:** 75240

Phone: (972)629-2158

Email address: cade.labolt@matadorresources.com

Field Representative

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

AFMSS

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

Application Data Report

09/19/2019

APD ID: 10400040329 **Submission Date:** 04/03/2019

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM **Well Number:** 202H

Well Type: CONVENTIONAL GAS WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400040329 **Tie to previous NOS?** N **Submission Date:** 04/03/2019

BLM Office: CARLSBAD **User:** Cade LaBolt **Title:** Associate Landman

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMNM018613A **Lease Acres:** 760.24

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? NO **Federal or Indian agreement:**

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO **APD Operator:** MATADOR PRODUCTION COMPANY

Operator letter of designation:

Operator Info

Operator Organization Name: MATADOR PRODUCTION COMPANY

Operator Address: 5400 LBJ Freeway, Suite 1500 **Zip:** 75240

Operator PO Box:

Operator City: Dallas **State:** TX

Operator Phone: (972)371-5200

Operator Internet Address: amonroe@matadorresources.com

Section 2 - Well Information

Well in Master Development Plan? NO **Master Development Plan name:**

Well in Master SUPO? NO **Master SUPO name:**

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: NOEL HENSLEY FED COM **Well Number:** 202H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** WILDCAT WOLFCAMP **Pool Name:**

Is the proposed well in an area containing other mineral resources? OTHER,NATURAL GAS,CO2,OIL

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM **Well Number:** 202H

Is the proposed well in an area containing other mineral resources? OTHER,NATURAL GAS,CO2,OIL

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** NO **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** NOEL HENSLEY SLOT **Number:** 1&2

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: CONVENTIONAL GAS WELL

Describe Well Type:

Well sub-Type: CONFIRMATION

Describe sub-type:

Distance to town: **Distance to nearest well:** 1640 FT **Distance to lease line:** 250 FT

Reservoir well spacing assigned acres Measurement: 320.32 Acres

Well plat: Noel_Hensley_Fed_Com_202H_C102__Signed_20190326152939.pdf

Well work start Date: 10/12/2019 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: **Reference Datum:**

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	250	FNL	1491	FWL	24S	28E	19	Aliquot NENW	32.2097395	-104.1306793	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 018613A	3099	0	0
KOP Leg #1	210	FNL	330	FEL	24S	28E	19	Aliquot NENW	32.2103131	-104.1279553	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 018613A	-5679	8850	8778
PPP Leg #1	330	FNL	330	FEL	24S	28E	19	Aliquot NENW	32.2095436	-104.1279557	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 018613A	-6201	9700	9300

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM **Well Number:** 202H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
PPP Leg #1	1200	FNL	330	FEL	24S	28E	19	Aliquot NENW	32.1224848	-104.740611	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	-6201	10500	9300
EXIT Leg #1	330	FSL	330	FEL	24S	28E	19	Aliquot SESW	32.1967696	-104.1279154	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	-6201	14000	9300
BHL Leg #1	240	FSL	2346	FWL	24S	28E	19	Aliquot SESW	32.1965222	-104.1279146	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	-6201	14144	9300

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S St Francis Dr, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources
Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

FORM C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ **AMENDED REPORT**

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1]API Number	[2]Pool Code	[3]Pool Name

[4]Property Code	[5]Property Name	[6]Well Number
	NOEL HENSLEY FED COM	202H
[7]OGRID No.	[8]Operator Name	[9]Elevation
	MATADOR PRODUCTION COMPANY	3099'

[10]Surface Location

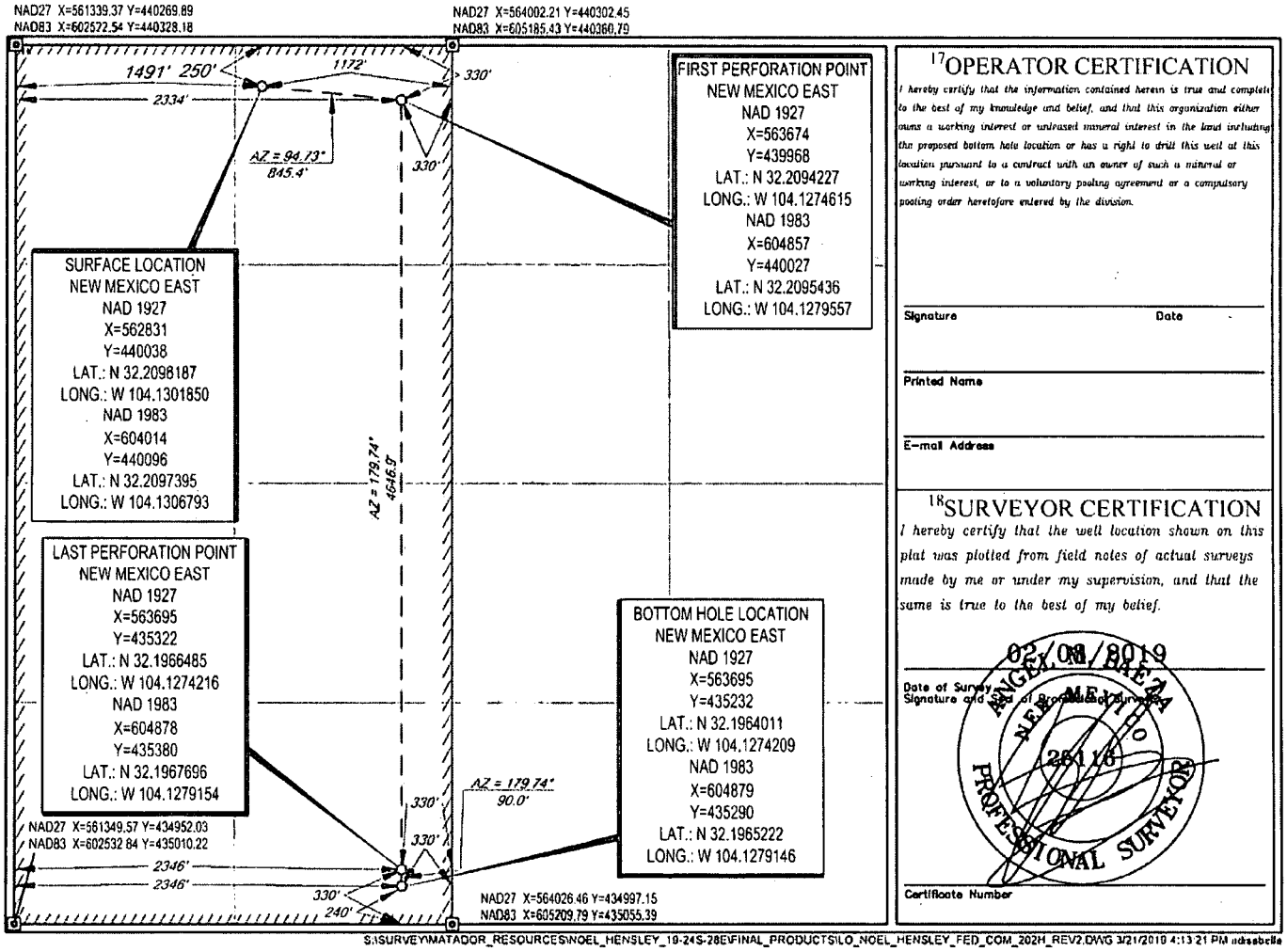
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	19	24-S	28-E	-	250'	NORTH	1491'	WEST	EDDY

[11]Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	19	24-S	28-E	-	240'	SOUTH	2346'	WEST	EDDY

[12]Dedicated Acres	[13]Joint or Infill	[14]Consolidation Code	[15]Order No.
320.32			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



[17]OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature Date

Printed Name

E-mail Address

[18]SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true to the best of my belief.

02/08/2019

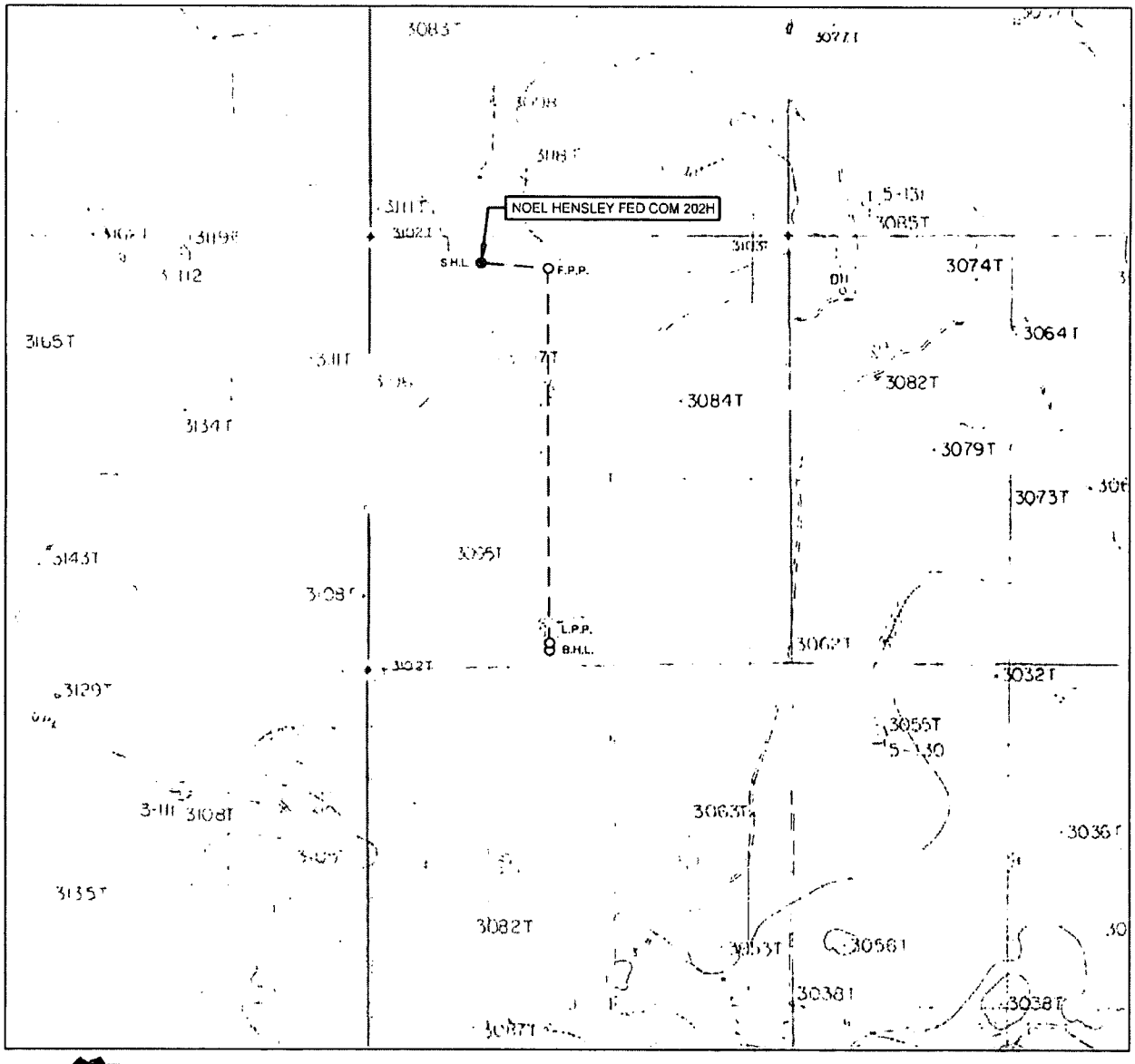
Date of Survey
Signature and Seal of Professional Surveyor

NEW MEXICO 25116 PROFESSIONAL SURVEYOR

Certificate Number

S:\SURVEY\MATADOR_RESOURCES\NOEL_HENSLEY_19-24S-28E\FINAL_PRODUCTS\LO_NOEL_HENSLEY_FED_COM_202H_REV2.DWG 3/21/2019 4:13:21 PM adsabella

LOCATION & ELEVATION VERIFICATION MAP



LEASE NAME & WELL NO.: NOEL HENSLEY FED COM 202H

SECTION 19 TWP 24-S RGE 28-E SURVEY N.M.P.M.
COUNTY EDDY STATE NM ELEVATION 3099'
DESCRIPTION 250' FNL & 1491' FWL

LATITUDE N 32.2097395 LONGITUDE W 104.1306793

SCALE: 1" = 2000'

0' 1000' 2000'

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.

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

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 146 · FT. WORTH, TEXAS 76140
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2903 NORTH BIG SPRING · MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 · FAX (432) 682-1743
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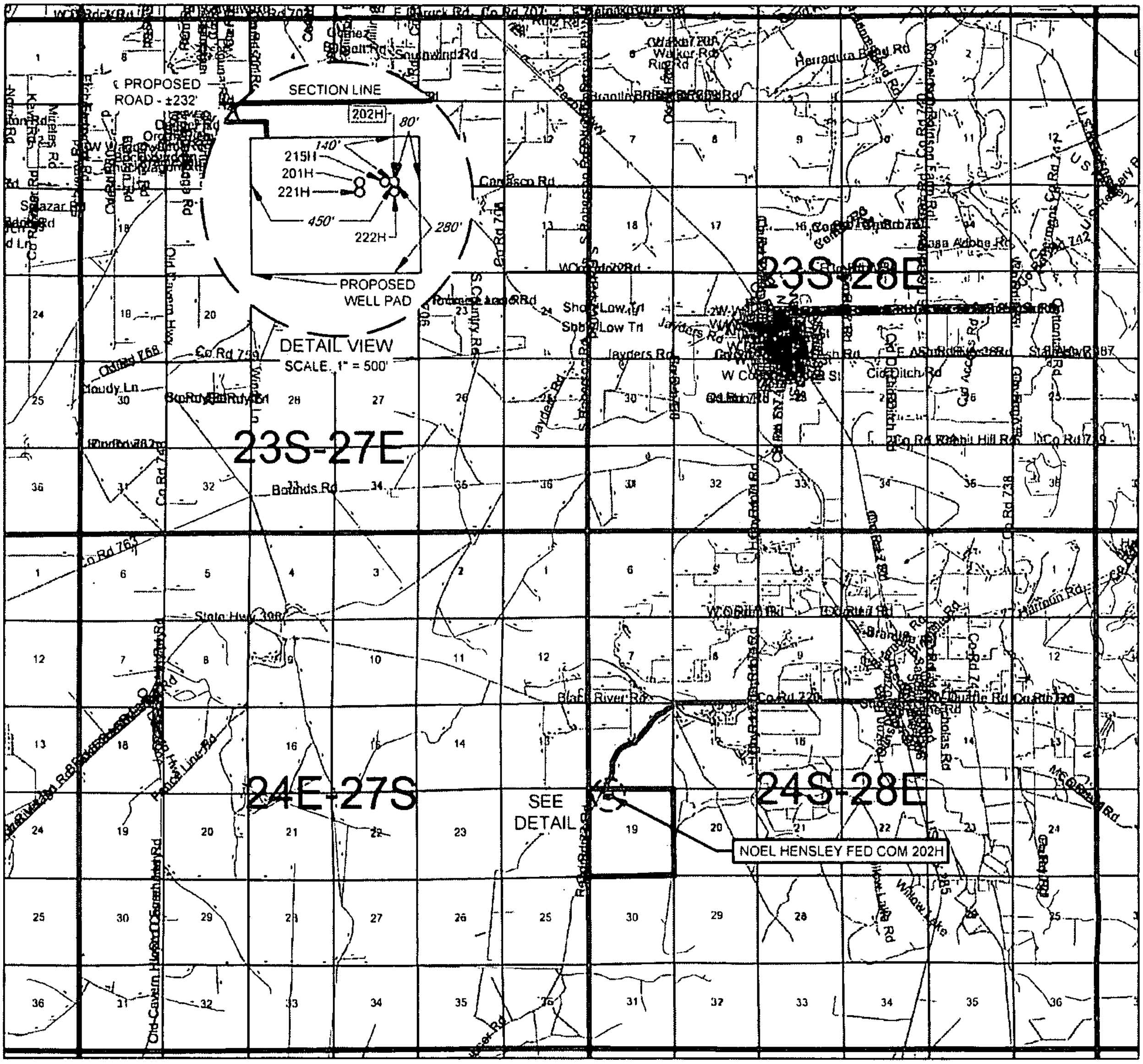
VICINITY MAP



LEASE NAME & WELL NO.: NOEL HENSLEY FED COM 202H

SECTION 19 TWP 24-S RGE 28-E SURVEY N.M.P.M.
COUNTY EDDY STATE NM
DESCRIPTION 250' FNL & 1491' FWL

DISTANCE & DIRECTION
FROM INT. OF PECOS HWY. & BLACK RIVER VILLAGE RD., GO WEST ON BLACK RIVER VILLAGE RD. ±2.7 MILES, THENCE SOUTHWEST (LEFT) ON ROADRUNNER RD. ±1.4 MILES, THENCE EAST (LEFT) ON A PROPOSED RD. ±232 FEET TO A POINT ±424 FEET NORTHWEST OF THE LOCATION.

SCALE: 1" = 10000'
0' 5000' 10000'

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.

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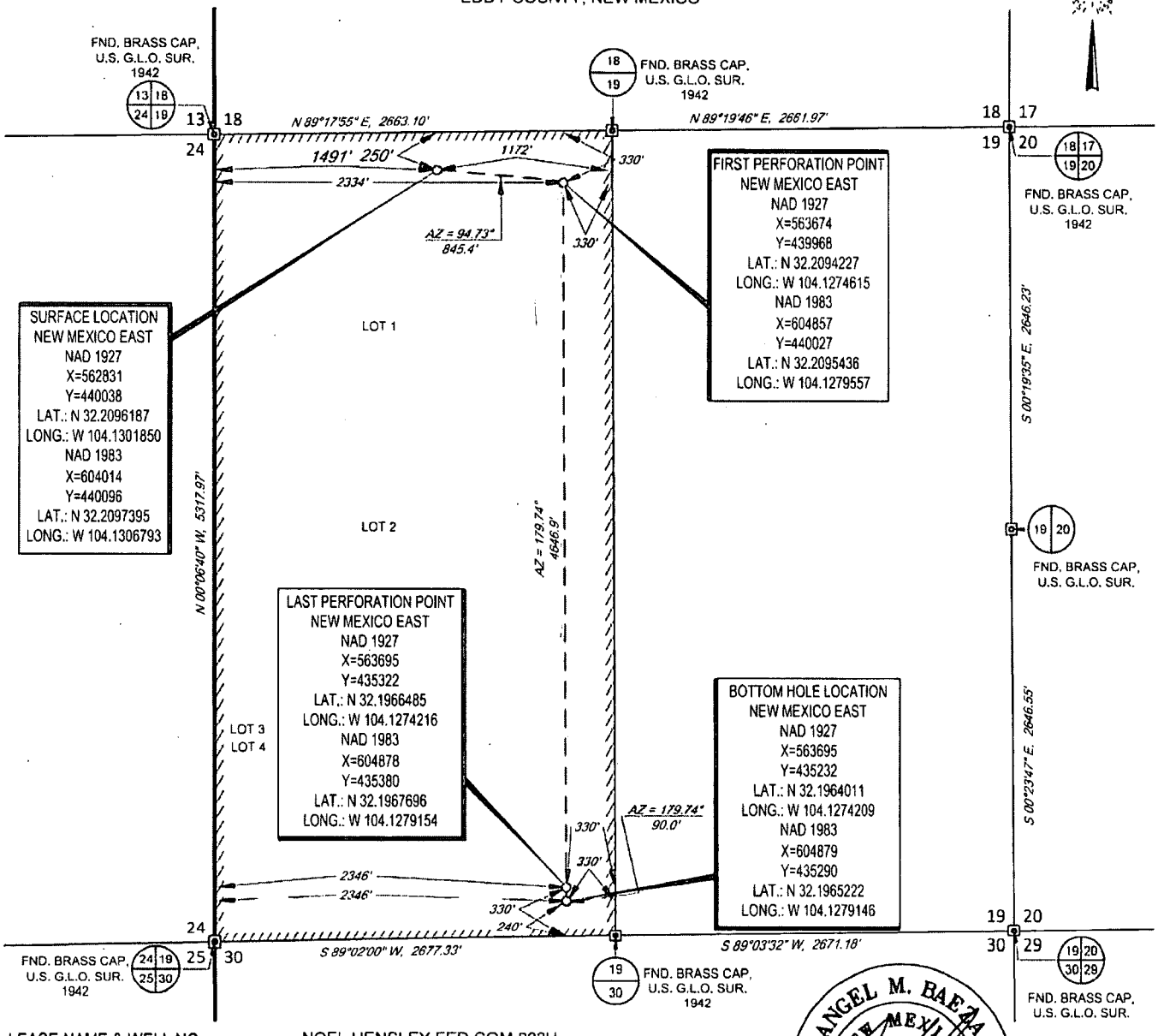
SCALE: 1" = 1000'

0' 500' 1000'

Matador PRODUCTION COMPANY

SECTION 19, TOWNSHIP 24-S, RANGE 28-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



LEASE NAME & WELL NO.: NOEL HENSLEY FED COM 202H

SECTION 19 TWP 24-S RGE 28-E SURVEY N.M.P.M.

COUNTY EDDY STATE NM

DESCRIPTION 250' FNL & 1491' FWL

DISTANCE & DIRECTION

FROM INT. OF PECOS HWY. & BLACK RIVER VILLAGE RD., GO WEST ON BLACK RIVER VILLAGE RD. ±2.7 MILES, THENCE SOUTHWEST (LEFT) ON ROADRUNNER RD. ±1.4 MILES, THENCE EAST (LEFT) ON A PROPOSED RD. ±232 FEET TO A POINT ±424 FEET NORTHWEST OF THE LOCATION.

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

THIS 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.

ANGEL M. BAEZA NEW MEXICO 25116 PROFESSIONAL SURVEYOR

Angel M. Baeza, P.S. No. 25116
MARCH 21, 2019

TOPOGRAPHIC
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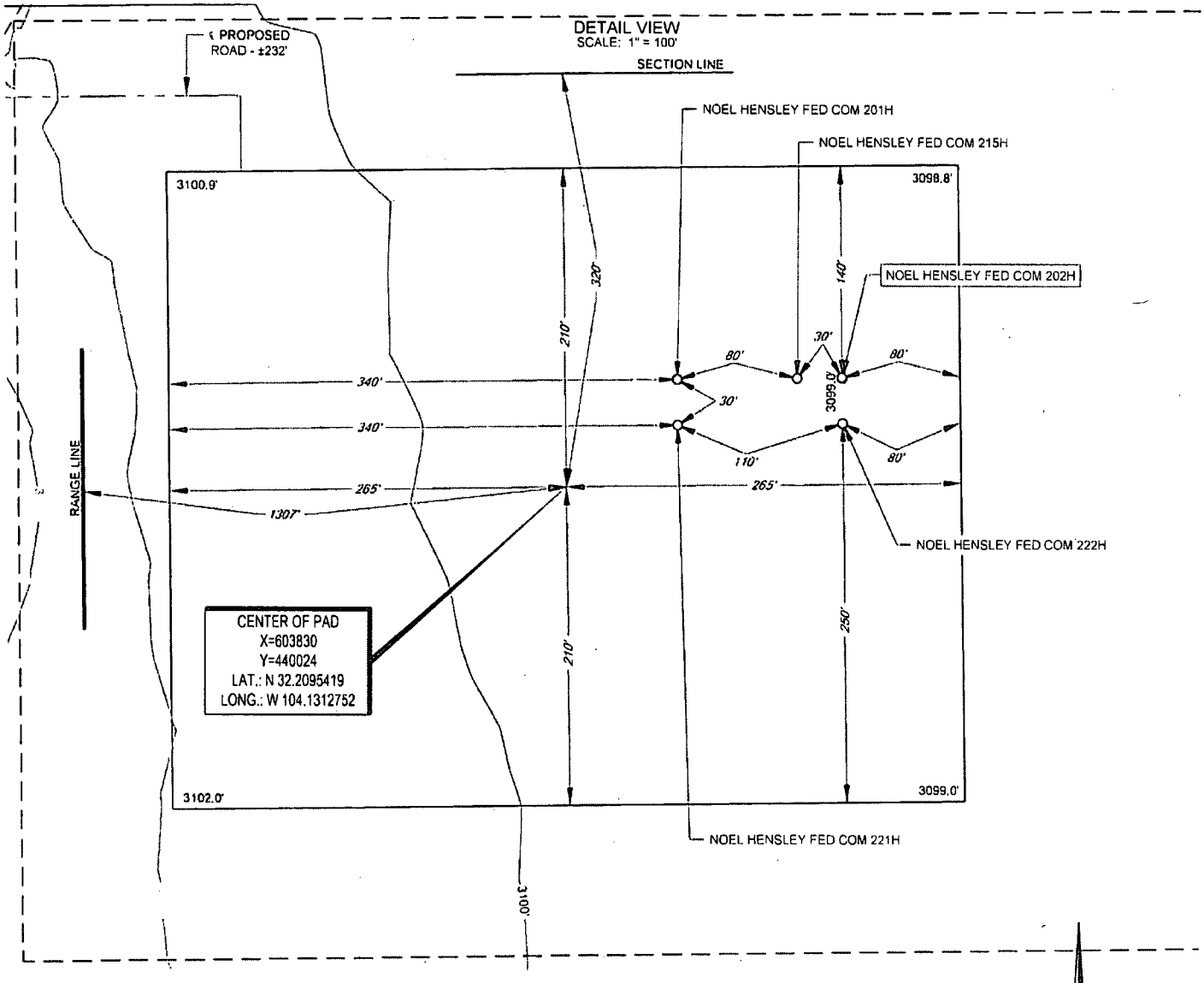
S:\SURVEY\MATADOR_RESOURCES\NOEL_HENSLEY_16-24S-28E\FINAL_PRODUCTS\LO_NOEL_HENSLEY_FED_COM_202H_REV2.DWG 3/21/2019 4:13:25 PM adeabeita

Matador PRODUCTION COMPANY

SECTION 19, TOWNSHIP 24-S, RANGE 28-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



LEASE NAME & WELL NO.: NOEL HENSLEY FED COM 202H

202H LATITUDE N 32.2097395 202H LONGITUDE W 104.1306793

CENTER OF PAD IS 320' FNL & 1307' FWL

LEGEND

PROPOSED ROAD
RANGE LINE
SECTION LINE

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

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

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

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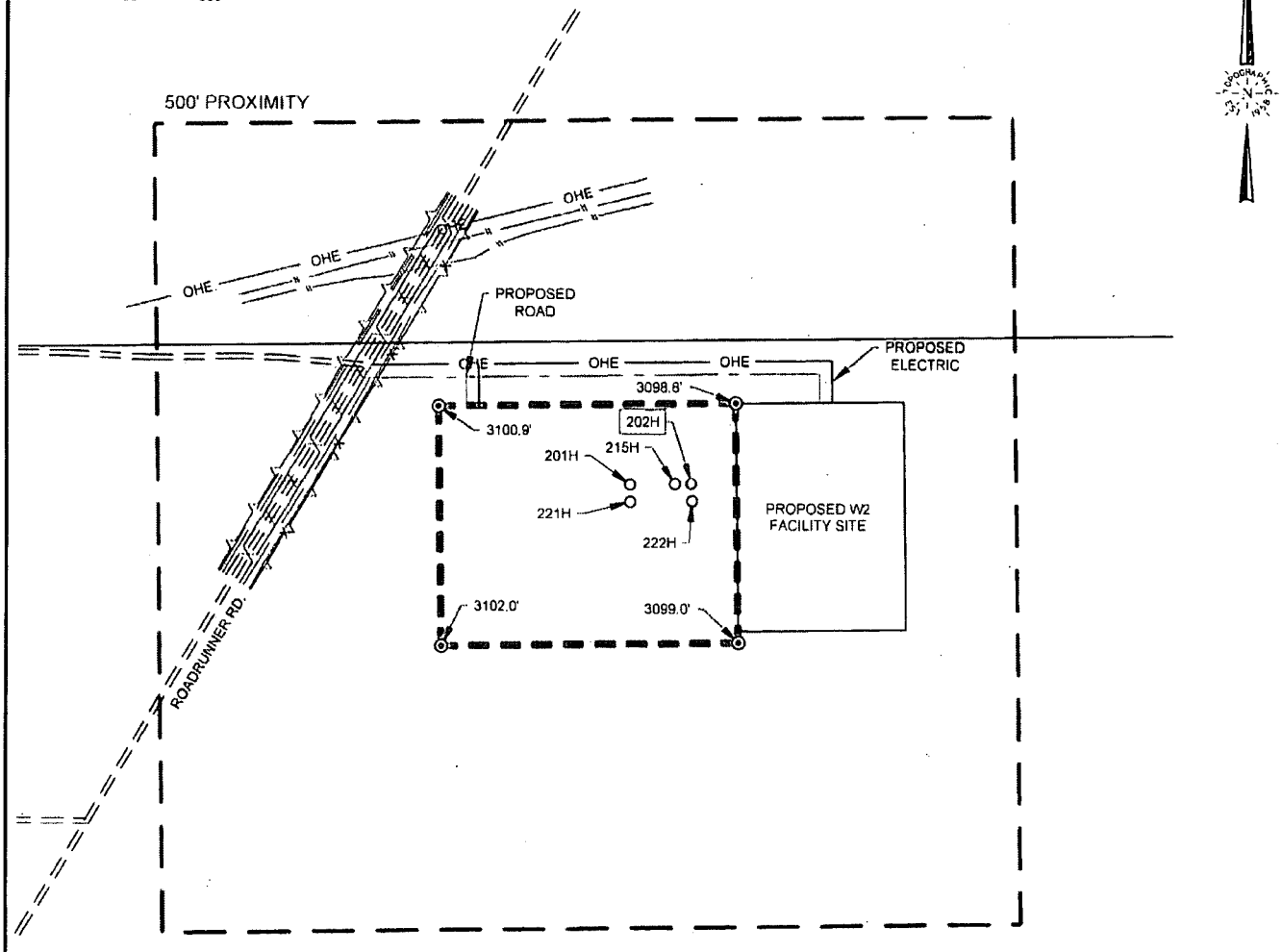
ORIGINAL DOCUMENT SIZE: 8.5" X 11"

SCALE: 1" = 300'

0' 150' 300'

SECTION 19, TOWNSHIP 24-S, RANGE 28-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



LEGEND

- PROPOSED SITE
- 500' PROXIMITY
- PROPOSED ROAD
- SECTION LINE
- OHE — OVERHEAD ELECTRIC
- FENCE LINE
- EXISTING PIPELINE
- TOE OF DITCH
- TOP OF DITCH
- OHE — PROPOSED ELECTRIC
- PROPOSED FLOWLINE
- IRON ROD SET

ANGEL M. BAEZA
NEW MEXICO
25116
PROFESSIONAL SURVEYOR

Matador PRODUCTION COMPANY

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY

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Angel M. Baeza, P.S. No. 25116
MARCH 21, 2019

NOEL HENSLEY FED COM 202H PROXIMITY MAP	REVISION:	
	EAH	03/21/19
DATE: 03/06/19		
FILE: LO_NOEL_HENSLEY_FED_COM_202H_REV2		
DRAWN BY: MML		
SHEET : 7 OF 7		

NOTES:
1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"
2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.
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 PRODUCTION 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.
4. ADJOINER INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.

AFMSS

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

Drilling Plan Data Report

09/19/2019

APD ID: 10400040329 **Submission Date:** 04/03/2019

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM **Well Number:** 202H

Well Type: CONVENTIONAL GAS WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	TOP SALT	2299	800	800	SALT	NONE	N
2	CASTILE	1293	1006	1006	SALT	NONE	N
3	LAMAR	-138	2437	2437	LIMESTONE,DOLOMITE	NONE	N
4	BELL CANYON	-237	2536	2536	SANDSTONE	NATURAL GAS,OIL	N
5	CHERRY CANYON	-987	3286	3286	SANDSTONE	NATURAL GAS,OIL	N
6	BRUSHY CANYON	-2187	4486	4486	SANDSTONE	NATURAL GAS,OIL	N
7	BONE SPRING LIME	-3717	6016	6016	LIMESTONE	NATURAL GAS,OIL	N
8	BONE SPRING 1ST	-4654	6953	6953	SANDSTONE	NATURAL GAS,OIL	N
9	BONE SPRING 2ND	-4922	7221	7221	OTHER : Carbonate	NATURAL GAS,OIL	N
10	BONE SPRING 2ND	-5408	7707	7707	SANDSTONE	NATURAL GAS,OIL	N
11	BONE SPRING 3RD	-5614	7913	7913	OTHER : Carbonate	NATURAL GAS,OIL	N
12	BONE SPRING 3RD	-6579	8878	9000	SANDSTONE	NATURAL GAS,OIL	N
13	WOLFCAMP	-6941	9240	9500	SHALE	NATURAL GAS,OIL	Y

Section 2 - Blowout Prevention

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM **Well Number:** 202H

Pressure Rating (PSI): 5M **Rating Depth:** 12000

Equipment: A 12,000' 5000-psi BOP stack consisting of 3 rams with 2 pipe rams, 1 blind ram, and one annular preventer will be utilized below surface casing to TD. See attachments for BOP and choke manifold diagrams. An accumulator complying with Onshore Order #2 requirements for the pressure rating of the BOP stack will be present. A rotating head will also be installed as needed.

Requesting Variance? YES

Variance request: Matador requests a variance to have the option of running a speed head for setting the Intermediate 1, Intermediate 2, and Production Strings. The BOPs will not be tested again unless any flanges are separated. 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. The hose is not required by the manufacturer to be anchored. If the specific hose is not available, then one of equal or higher rating will be used. Matador requests a variance to have the option of batch drilling this well with other wells on the same pad. In the event that this well is batch drilled, the wellbore will be secured with a blind flange of like pressure. When the rig returns to this well and BOPs are installed, the operator will perform a full BOP test.

Testing Procedure: BOP will be inspected and operated as required in Onshore Order #2. Kelly cock and sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position. A third party company will test the BOPs. After setting surface casing, a minimum 5M BOPE system will be installed. Test pressures will be 250 psi low and 5000 psi high with the annular being tested to 250 psi low and 2500 psi high before drilling below surface shoe. In the event that the rig drills multiple wells on the pad and any seal subject to test pressures are broken, a full BOP test will be performed when the rig returns and the 5M BOPE system is re-installed.

Choke Diagram Attachment:

Noel_Hensley_Fed_Com__202H_5M_Choke_Manifold_Arrangement_20190401150554.pdf

Noel_Hensley_Fed_Com__202H_Co_Flex_Certs_20190401150647.pdf

BOP Diagram Attachment:

Noel_Hensley_Fed_Com__202H_5M_BOP_20190401150611.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	400	0	400			400	J-55	54.5	BUTT	1.125	1.125	BUOY	1.8	BUOY	1.8
2	INTERMEDIATE	8.75	7.625	NEW	API	Y	0	2236	0	2236			2236	P-110	29.7	BUTT	1.125	1.125	BUOY	1.8	BUOY	1.8
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	2536	0	2536			2536	J-55	40	BUTT	1.125	1.125	BUOY	1.8	BUOY	1.8
4	PRODUCTION	6.75	5.5	NEW	API	Y	0	9500	0	9213			9500	P-110	20	OTHER - DWC/C-IS MS	1.125	1.125	BUOY	1.8	BUOY	1.8
5	INTERMEDIATE	8.75	7.625	NEW	API	Y	2236	9600	2236	9239			7364	P-110	29.7	OTHER - VAM HTF-NR	1.125	1.125	BUOY	1.8	BUOY	1.8

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM **Well Number:** 202H

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
6	PRODUCTION	6.75	4.5	NEW	API	Y	9500	14144	9213	9302			4644	P-110	13.5	OTHER - DWC/C-IS HT	1.125	1.125	BUOY	1.8	BUOY	1.8

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Noel_Hensley_Fed_Com__202H_BLM_Casing_Design_Assumptions_4_string_20190401150930.pdf

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Noel_Hensley_Fed_Com__202H_Tapered_String_Spec_20190401153931.pdf

Casing Design Assumptions and Worksheet(s):

Noel_Hensley_Fed_Com__202H_BLM_Casing_Design_Assumptions_4_string_20190401154125.pdf

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM **Well Number:** 202H

Casing Attachments

Casing ID: 3 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Noel_Hensley_Fed_Com__202H_BLM_Casing_Design_Assumptions_4_string_20190401154136.pdf

Casing ID: 4 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Noel_Hensley_Fed_Com__202H_BLM_Casing_Design_Assumptions_4_string_20190402103856.pdf
Noel_Hensley_Fed_Com__202H_Casing_Specs_5.5in_20lb_VAM_DWCC_IS_MS_20190402110446.PDF

Casing Design Assumptions and Worksheet(s):

Noel_Hensley_Fed_Com__202H_BLM_Casing_Design_Assumptions_4_string_20190402104232.pdf

Casing ID: 5 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Noel_Hensley_Fed_Com__202H_Casing_Specs_7.625in_29.7lb_VAM_HTF_NR_20190402110545.pdf
Noel_Hensley_Fed_Com__202H_Tapered_String_Spec_20190401154033.pdf

Casing Design Assumptions and Worksheet(s):

Noel_Hensley_Fed_Com__202H_BLM_Casing_Design_Assumptions_4_string_20190401154114.pdf

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM **Well Number:** 202H

Casing Attachments

Casing ID: 6 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Noel_Hensley_Fed_Com__202H_Casing_Specs_4.5in_13.5lb_VAM_DWCC_IS_HT_20190402110620.PDF

Noel_Hensley_Fed_Com__202H_Tapered_String_Spec_20190402104145.pdf

Casing Design Assumptions and Worksheet(s):

Noel_Hensley_Fed_Com__202H_BLM_Casing_Design_Assumptions_4_string_20190402104206.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	100	100	1.72	12.5	176	50	Class C	5% NaCl + LCM
SURFACE	Tail		100	400	250	1.38	14.8	347	50	Class C	5% NaCl + LCM
INTERMEDIATE	Lead		0	2029	460	2.13	12.6	983	50	Class C	Bentonite + 1% CaCL2 + 8% NaCl + LCM
INTERMEDIATE	Tail		2029	2536	200	1.38	14.8	272	50	Class C	5% NaCl + LCM
INTERMEDIATE	Lead		2236	8600	410	2.13	11	863	35	Class TXI	Fluid Loss + dispersant + Retarder + LCM
INTERMEDIATE	Tail		8600	9600	110	1.46	13.2	156	35	Class TXI	Fluid Loss + dispersant + Retarder + LCM
INTERMEDIATE	Lead		2236	8600	410	2.13	11	863	35	Class TXI	Fluid Loss + Dispersant + Retarder + LCM
INTERMEDIATE	Tail		8600	9600	110	1.46	13.2	156	35	Class TXI	Fluid Loss + Dispersant + Retarder + LCM
PRODUCTION	Lead		9100	14144	640	1.17	14.5	754	10	Class H	Fluid Loss + Dispersant + Retarder + LCM

PRODUCTION	Lead		9100	14144	640	1.17	14.5	754	10	Class H	Fluid Loss + Dispersant + Retarder + LCM

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM **Well Number:** 202H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: An electronic Pason mud monitoring system complying with Onshore Order 2 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.
Describe the mud monitoring system utilized: An electronic Pason mud monitoring system complying with Onshore Order 2 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.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
400	2536	OTHER : Brine Water	9.5	10.2							
2536	9600	OTHER : FW/Cut Brine	8.4	9.4							
9600	14144	OIL-BASED MUD	11.5	12.5							
0	400	SPUD MUD	8.4	8.8							

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM **Well Number:** 202H

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

No core or drill stem test is planned

A 2-person mud logging program will be used from the intermediate 2 Casing shoe 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 top of curve.

List of open and cased hole logs run in the well:

MUDLOG

Coring operation description for the well:

No core test is planned at this time

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 6046 **Anticipated Surface Pressure:** 4000

Anticipated Bottom Hole Temperature(F): 155

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? NO

Hydrogen sulfide drilling operations plan:

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Noel_Hensley_Fed_Com__202H_Directional_AC_Report_v1_20190402110040.pdf

Noel_Hensley_Fed_Com__202H_Directional_Well_Plan_v1_20190402110055.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

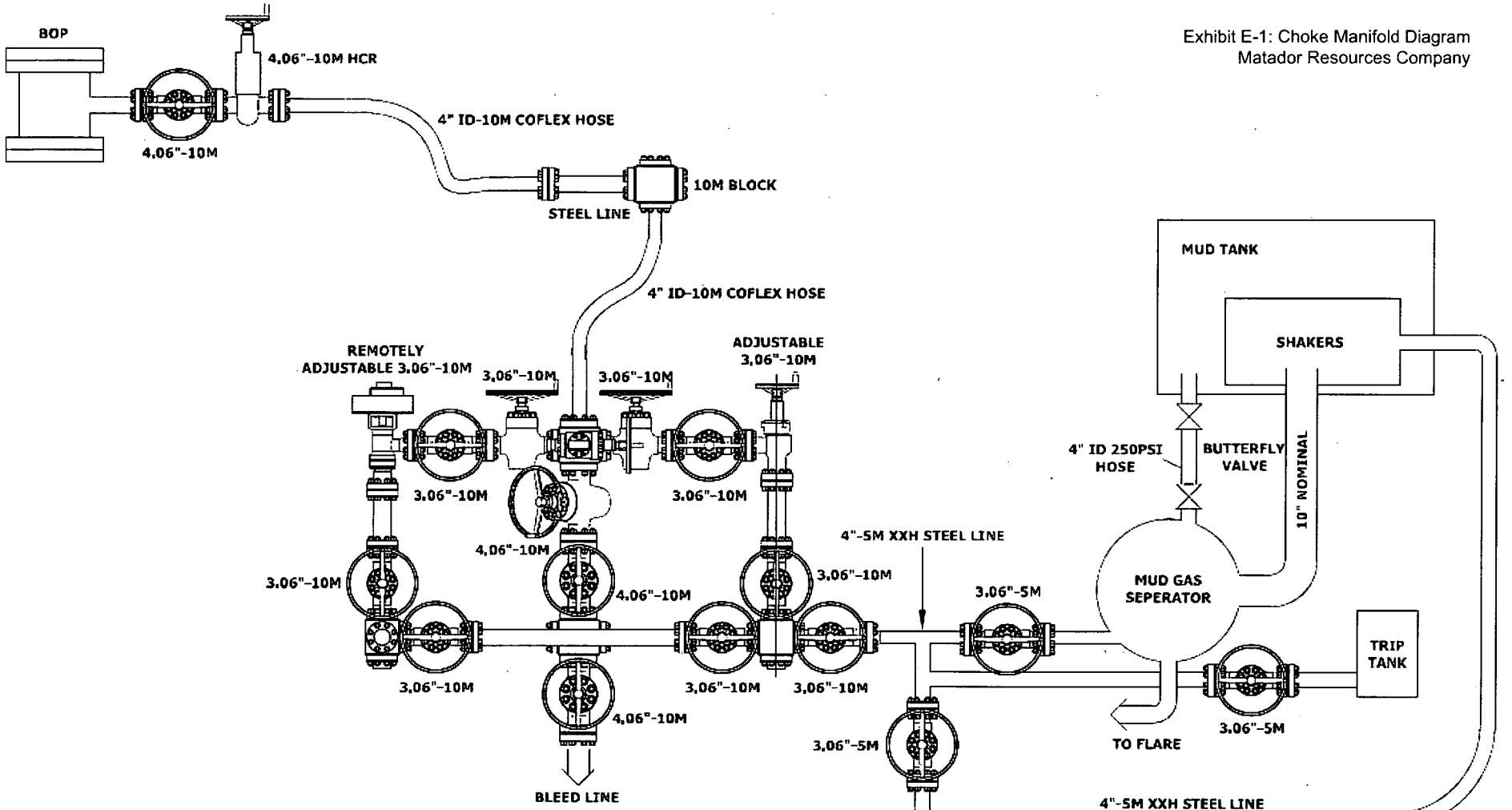
Noel_Hensley_Fed_Com__202H_4_String_Wellhead_Diagram_20190402140604.pdf

Variance_Request_20190402141544.pdf

Noel_Hensley_Fed_Com__202H_Drill_Plan_20190828083843.pdf

Other Variance attachment:

Exhibit E-1: Choke Manifold Diagram
Matador Resources Company



WELDING NOTE & TOLERANCES UNLESS OTHERWISE SPECIFIED,

GENERAL WELDING NOTE:
ALL ACCESSIBLE CONTACT SURFACES SHALL BE JOINED WITH CONTINUOUS 45 DEGREE FILLET WELDS, WELD SIZE TO BE 1/16 INCH SMALLER THAN THINNER MEMBER JOINED UP TO 5/16 INCH THICKNESS AND 1/8 INCH SMALLER THAN THINNER MEMBER JOINED UP TO 3/4 INCH THICKNESS. WELDMENT TOLERANCES ± 1/16

MACHINING TOLERANCES
1 PLACE DECIMAL ± .1
2 PLACE DECIMAL ± .03
3 PLACE DECIMAL ± .015
FRACTIONAL TOLERANCES ± 1/64
INSIDE MACHINED CORNER RADII ± .01
CHAMFER OUTSIDE CORNERS .03 X 45 DEG
ANGLE TOLERANCES ± 1 DEGREE
MACHINED SURFACE FINISH 125 RMS
ALL UNSPECIFIED DIMENSIONS ARE IN INCHES

REV	DATE	DESCRIPTION	DRAWN BY	CHK BY	APVD ENG.
02	8-2-16	ISSUED FOR INFORMATION	CP	CSL	
01	4-8-16	ISSUED FOR INFORMATION	CSL		

PATTERSON-UTI DRILLING COMPANY LLC

CHOKE MANIFOLD
10M CHOKE ARRANGEMENT
RIG 257

DWG No. R0297-D.001.LAY.09

SHT 1 OF 1 REV 02

Midwest Hose & Specialty, Inc.

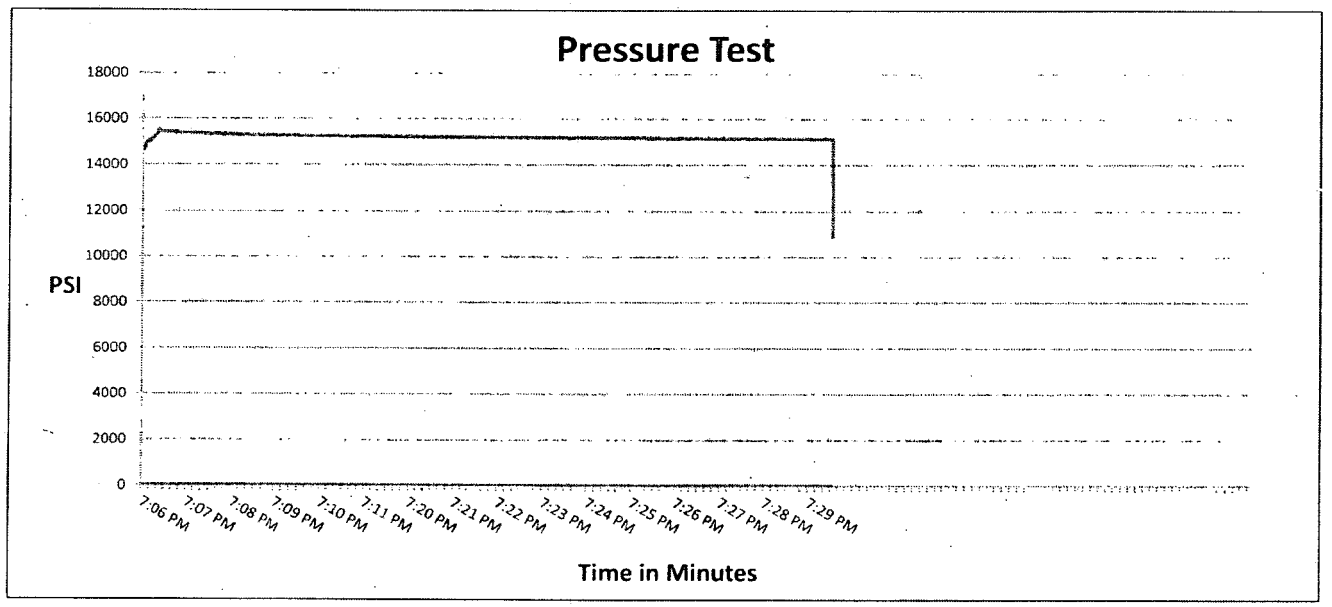
Internal Hydrostatic Test Graph

December 8, 2014

Customer: Patterson

Pick Ticket #: 284918

Hose Specifications		Verification	
Hose Type	**Length**	**Type of Fitting**	**Coupling Method**
Ck	10'	4-1/16 10K	Swage
I.D.	**O.D.**	**Die Size**	**Final O.D.**
3"	4.79"	5.37"	5.37"
Working Pressure	**Burst Pressure**	**Hose Serial #**	**Hose Assembly Serial #**
10000 PSI	Standard Safety Multiplier Applies	10490	284918-2



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	15 2/4 Minutes		15732 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: *Tyler Hill*

x

Approved By: *Ryan Adams*

x

Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Certificate

General Information		Hose Specifications	
Customer	PATTERSON B&E	Hose Assembly Type	Choke & Kill
MWH Sales Representative	AMY WHITE	Certification	API 7K
Date Assembled	12/8/2014	Hose Grade	MUD
Location Assembled	OKC	Hose Working Pressure	10000
Sales Order #	236404	Hose Lot # and Date Code	10490-01/13
Customer Purchase Order #	260471	Hose I.D. (Inches)	3"
Assembly Serial # (Pick Ticket #)	287918-2	Hose O.D. (Inches)	5.30"
Hose Assembly Length	10'	Armor (yes/no)	YES

Fittings

End A		End B	
Stem (Part and Revision #)	R3.0X64WB	Stem (Part and Revision #)	R3.0X64WB
Stem (Heat #)	91996	Stem (Heat #)	91996
Ferrule (Part and Revision #)	RF3.0	Ferrule (Part and Revision #)	RF3.0
Ferrule (Heat #)	37DA5631	Ferrule (Heat #)	37DA5631
Connection (Part #)	4 1/16 10K	Connection (Part #)	4 1/16 10K
Connection (Heat #)		Connection (Heat #)	
Dies Used	5.37	Dies Used	5.37

Hydrostatic Test Requirements

Test Pressure (psi)	15,000	***Hose assembly was tested with ambient water temperature.***
Test Pressure Hold Time (minutes)	15 1/2	

Date Tested	Tested By	Approved By
12/8/2014		

Midwest Hose
& Specialty, Inc.

Certificate of Conformity

Customer: **PATTERSON B&E**	*Customer P.O.#* **260471**
Sales Order # **236404**	*Date Assembled:* **12/8/2014**

Specifications

Hose Assembly Type:	**Choke & Kill**		
Assembly Serial #	**287918-2**	*Hose Lot # and Date Code*	**10490-01/13**
Hose Working Pressure (psi)	**10000**	*Test Pressure (psi)*	**15000**

We hereby certify that the above material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards.

Supplier:
Midwest Hose & Specialty, Inc.
3312 S I-35 Service Rd
Oklahoma City, OK 73129

Comments:

Approved By	***Date***
	12/9/2014

Midwest Hose & Specialty, Inc.

Internal Hydrostatic Test Graph

December 9, 2014

Customer: Patterson

Pick Ticket #: 284918

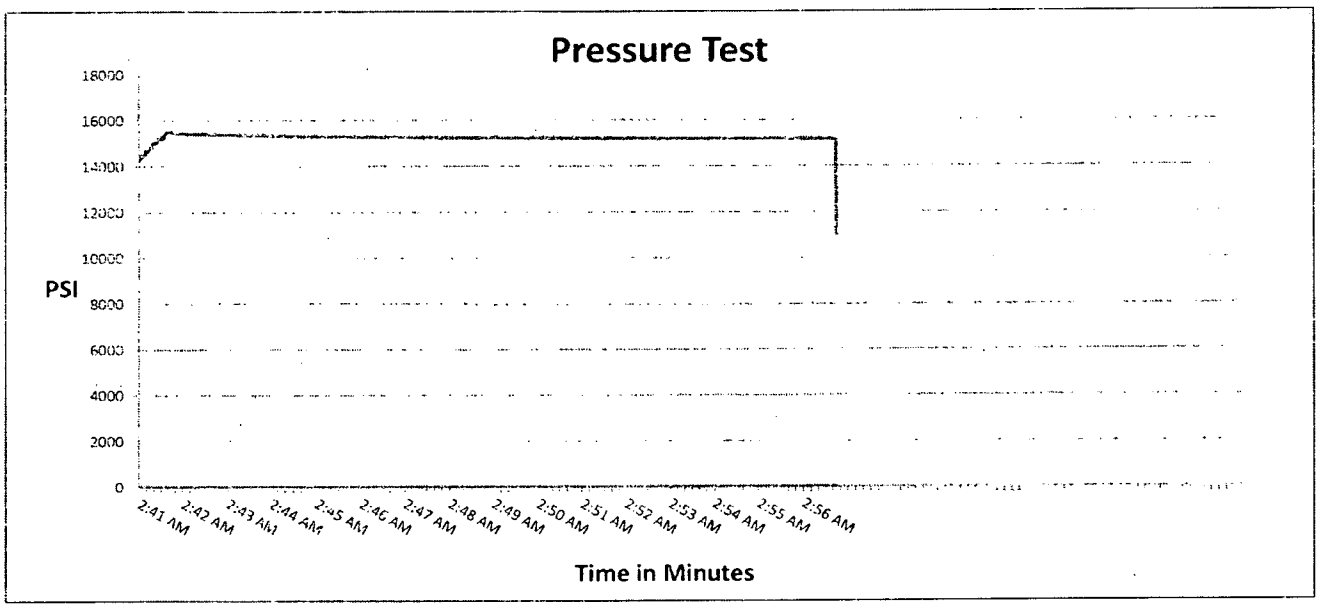
R29X

Hose Specifications

Hose Type	Length
Ck	20'
I.D.	**O.D.**
3"	4.77"
Working Pressure	**Burst Pressure**
10000 PSI	Standard Safety Multiplier Applies

Verification

Type of Fitting	Coupling Method
4-1/16 10K	Swage
Die Size	**Final O.D.**
5.37"	5.40"
Hose Serial #	**Hose Assembly Serial #**
10490	284918-1



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	15 2/4 Minutes		15893 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: *Tyler Hill*

Approved By: *Ryan Adams*

Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Certificate

General Information		Hose Specifications	
Customer	PATTERSON B&E	Hose Assembly Type	Choke & Kill
MWH Sales Representative	AMY WHITE	Certification	API 7K
Date Assembled	12/8/2014	Hose Grade	MUD
Location Assembled	OKC	Hose Working Pressure	10000
Sales Order #	236404	Hose Lot # and Date Code	10490-01/13
Customer Purchase Order #	260471	Hose I.D. (Inches)	3"
Assembly Serial # (Pick Ticket #)	287918-1	Hose O.D. (Inches)	5.30"
Hose Assembly Length	20'	Armor (yes/no)	YES

Fittings			
End A		End B	
Stem (Part and Revision #)	R3.0X64WB	Stem (Part and Revision #)	R3.0X64WB
Stem (Heat #)	A141420	Stem (Heat #)	A141420
Ferrule (Part and Revision #)	RF3.0	Ferrule (Part and Revision #)	RF3.0
Ferrule (Heat #)	37DA5631	Ferrule (Heat #)	37DA5631
Connection (Part #)	4 1/16 10K	Connection (Part #)	4 1/16 10K
Connection (Heat #)	V3579	Connection (Heat #)	V3579
Dies Used	5.37	Dies Used	5.37

Hydrostatic Test Requirements		
Test Pressure (psi)	15,000	***Hose assembly was tested with ambient water temperature.***
Test Pressure Hold Time (minutes)	15 1/2	

Date Tested	Tested By	Approved By
12/9/2014		

Midwest Hose
& Specialty, Inc.

Certificate of Conformity

Customer: **PATTERSON B&E**	*Customer P.O.#* **260471**
Sales Order # **236404**	*Date Assembled:* **12/8/2014**

Specifications

Hose Assembly Type:	**Choke & Kill**		
Assembly Serial #	**287918-1**	*Hose Lot # and Date Code*	**10490-01/13**
Hose Working Pressure (psi)	**10000**	*Test Pressure (psi)*	**15000**

We hereby certify that the above material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards.

Supplier:
Midwest Hose & Specialty, Inc.
3312 S I-35 Service Rd
Oklahoma City, OK 73129

Comments:

Approved By	*Date*
Ryan Adams	**12/9/2014**

Midwest Hose & Specialty, Inc.

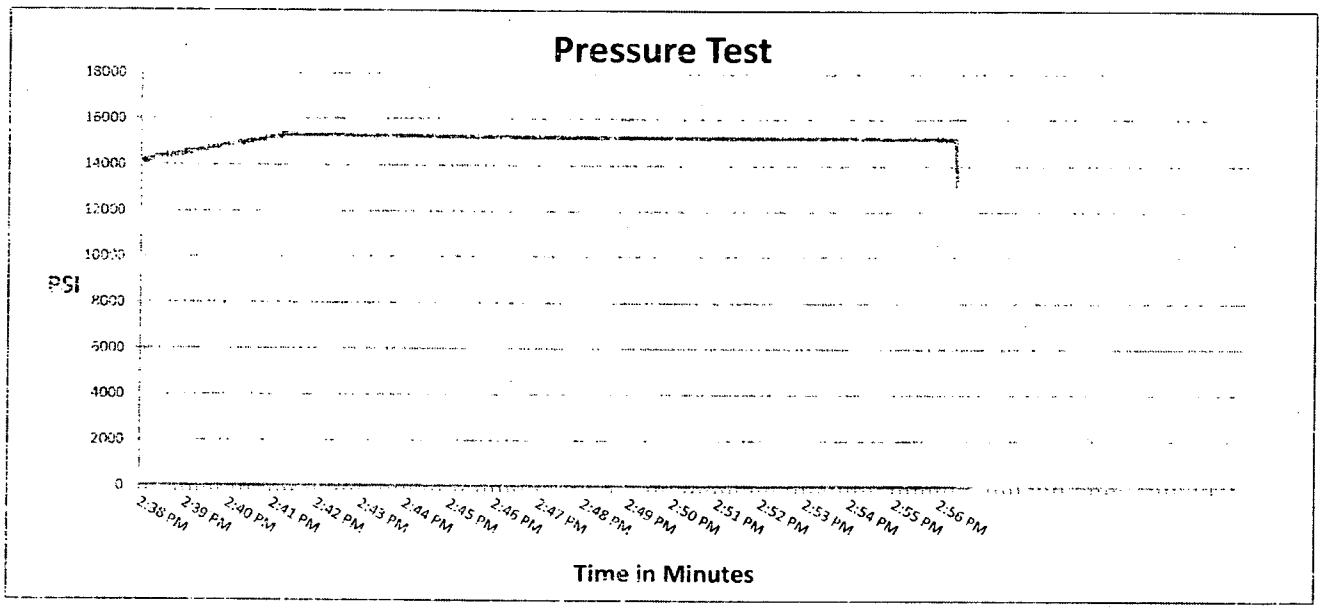
Internal Hydrostatic Test Graph

December 9, 2014

Customer: Patterson

Pick Ticket #: 284918

Hose Specifications		Verification	
Hose Type	**Length**	**Type of Fitting**	**Coupling Method**
Mud	70'	4 1/16 10K	Swage
I.D.	**O.D.**	**Die Size**	**Final O.D.**
3"	4.79"	5.37"	5.37"
Working Pressure	**Burst Pressure**	**Hose Serial #**	**Hose Assembly Serial #**
10000 PSI	Standard Safety Multiplier Applies	10490	284918-3



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	16 3/4 Minutes		15410 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: *Tyler Hill*

Approved By: *Ryan Adams*

Midwest Hose & Specialty, Inc.

Internal Hydrostatic Test Certificate

General Information		Hose Specifications	
Customer	PATTERSON B&E	Hose Assembly Type	Choke & Kill
MWH Sales Representative	AMY WHITE	Certification	API 7K
Date Assembled	12/8/2014	Hose Grade	MUD
Location Assembled	OKC	Hose Working Pressure	10000
Sales Order #	236404	Hose Lot # and Date Code	10490-01/13
Customer Purchase Order #	260471	Hose I.D. (Inches)	3"
Assembly Serial # (Pick Ticket #)	287918-3	Hose O.D. (Inches)	5.23"
Hose Assembly Length	70'	Armor (yes/no)	YES

Fittings			
End A		End B	
Stem (Part and Revision #)	R3.0X64WB	Stem (Part and Revision #)	R3.0X64WB
Stem (Heat #)	A141420	Stem (Heat #)	A141420
Ferrule (Part and Revision #)	RF3.0	Ferrule (Part and Revision #)	RF3.0
Ferrule (Heat #)	37DA5631	Ferrule (Heat #)	37DA5631
Connection (Part #)	4 1/16 10K	Connection (Part #)	4 1/16 10K
Connection (Heat #)		Connection (Heat #)	
Dies Used	5.37	Dies Used	5.37

Hydrostatic Test Requirements		
Test Pressure (psi)	15,000	*Hose assembly was tested with ambient water temperature.*
Test Pressure Hold Time (minutes)	16 3/4	

Date Tested	Tested By	Approved By
12/9/2014		

Midwest Hose
& Specialty, Inc.

Certificate of Conformity

Customer: **PATTERSON B&E**	*Customer P.O.#* **260471**
Sales Order # **236404**	*Date Assembled:* **12/8/2014**

Specifications

Hose Assembly Type:	**Choke & Kill**		
Assembly Serial #	**287918-3**	*Hose Lot # and Date Code*	**10490-01/13**
Hose Working Pressure (psi)	**10000**	*Test Pressure (psi)*	**15000**

We hereby certify that the above material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards.

Supplier:
Midwest Hose & Specialty, Inc.
3312 S I-35 Service Rd
Oklahoma City, OK 73129

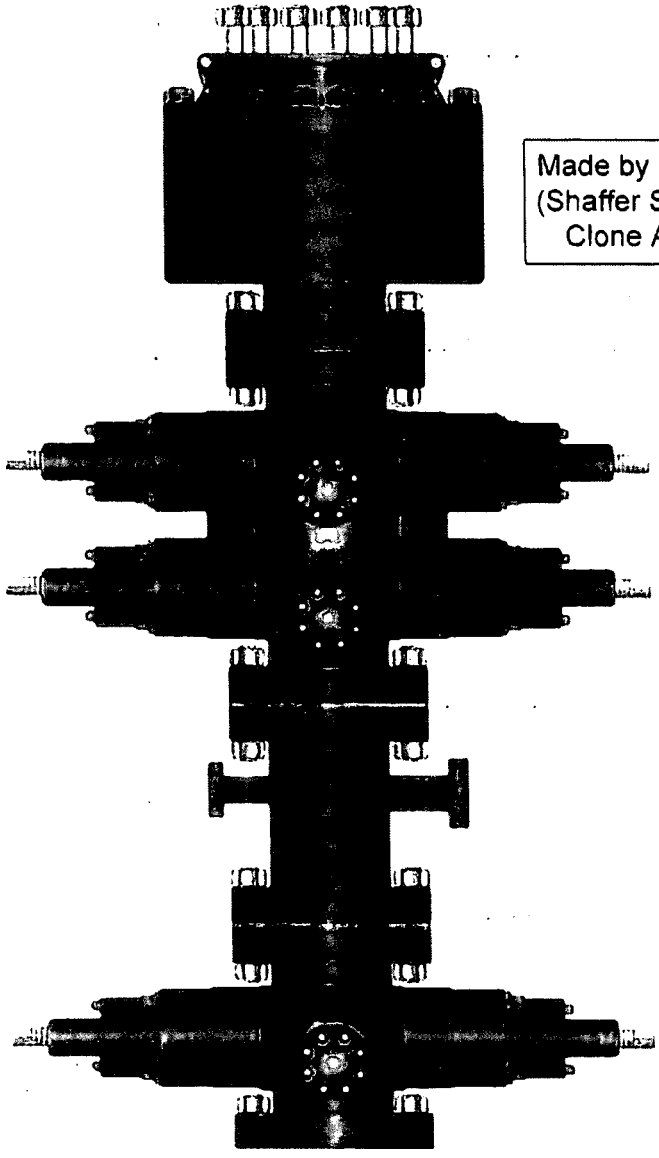
Comments:

Approved By	*Date*
Ryan Adams	**12/9/2014**

Exhibit E-1: BOP
Matador Resources Company

PATTERSON-UTI
Well Control

RIG: 297



Made by Cameron
(Shaffer Spherical)
Clone Annular

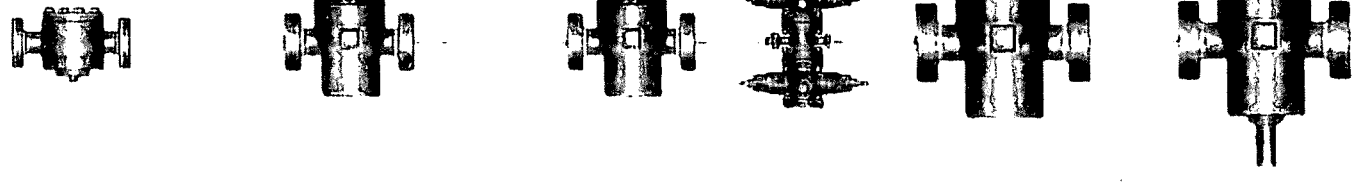
PATTERSON-UTI # PS2-628
STYLE: New Shaffer Spherical
BORE 13 5/8" **PRESSURE** 5,000
HEIGHT: 48 ½" **WEIGHT:** 13,800 lbs

PATTERSON-UTI # PC2-128
STYLE: New Cameron Type U
BORE 13 5/8" **PRESSURE** 10,000
RAMS: TOP 5" Pipe **BTM** Blinds
HEIGHT: 66 5/8" **WEIGHT:** 24,000 lbs

Length 40" **Outlets** 4" 10M
DSA 4" 10M x 2" 10M

PATTERSON-UTI # PC2-228
STYLE: New Cameron Type U
BORE 13 5/8" **PRESSURE** 10,000
RAMS: 5" Pipe
HEIGHT: 41 5/8" **WEIGHT:** 13,000 lbs

WING VALVES



2" Check Valve | 2" Manual Valve | 2" Manual Valve | 4" Manual Valve | 4" Hydraulic Valve

Tapered String Specification Sheet

Noel Hensley Fed Com #202H
SHL: 250' FNL & 1491' FWL Section 19
BHL: 240' FSL & 2346' FWL Section 19
Township/Range: 24S 28E
Elevation Above Sea Level: 3099'

String	Hole Size (in)	Set MD (ft)	Set TVD (ft)	Casing Size (in)	Wt. (lb/ft)	Grade	Joint	Collapse	Burst	Tension
Surface	17.5	0 - 400	0 - 400	13.375	54.5	J-55	BUTT	1.125	1.125	1.8
Intermediate 1	12.25	0 - 2536	0 - 2536	9.625	40	J-55	BUTT	1.125	1.125	1.8
Intermediate 2 Top	8.75	0 - 2236	0 - 2236	7.625	29.7	P-110	BUTT	1.125	1.125	1.8
Intermediate 2 Bottom	8.75	2236 - 9600	2236 - 9239	7.625	29.7	P-110	VAM HTF-NR	1.125	1.125	1.8
Production Top	6.75	0 - 9500	0 - 9213	5.5	20	P-110	DWC/C-IS MS	1.125	1.125	1.8
Production Bottom	6.75	9500 - 14144	9500 - 9302	4.5	13.5	P-110	DWC/C-IS HT	1.125	1.125	1.8

Tapered String Specification Sheet

Noel Hensley Fed Com #202H
SHL: 250' FNL & 1491' FWL Section 19
BHL: 240' FSL & 2346' FWL Section 19
Township/Range: 24S 28E
Elevation Above Sea Level: 3099'

String	Hole Size (in)	Set MD (ft)	Set TVD (ft)	Casing Size (in)	Wt. (lb/ft)	Grade	Joint	Collapse	Burst	Tension
Surface	17.5	0 - 400	0 - 400	13.375	54.5	J-55	BUTT	1.125	1.125	1.8
Intermediate 1	12.25	0 - 2536	0 - 2536	9.625	40	J-55	BUTT	1.125	1.125	1.8
Intermediate 2 Top	8.75	0 - 2236	0 - 2236	7.625	29.7	P-110	BUTT	1.125	1.125	1.8
Intermediate 2 Bottom	8.75	2236 - 9600	2236 - 9239	7.625	29.7	P-110	VAM HTF-NR	1.125	1.125	1.8
Production Top	6.75	0 - 9500	0 - 9213	5.5	20	P-110	DWC/C-IS MS	1.125	1.125	1.8
Production Bottom	6.75	9500 - 14144	9500 - 9302	4.5	13.5	P-110	DWC/C-IS HT	1.125	1.125	1.8

Issued on: 12 Janv. 2017 by T. DELBOSCO

VRCC 16-1177 Rev02 for Houston Field Service

DATA ARE INFORMATIVE ONLY.
BASED ON SI_PD-101836 P&B

VAM® HTF-NR™
Connection Data Sheet

OD	Weight	Wall Th.	Grade	API Drift	Connection
7 5/8 in.	29.70 lb/ft	0.375 in.	P110 EC	6.750 in.	VAM® HTF NR

PIPE PROPERTIES

Nominal OD	7.625 in.
Nominal ID	6.875 in.
Nominal Cross Section Area	8.541 sqin.
Grade Type	Enhanced API
Min. Yield Strength	125 ksi
Max. Yield Strength	140 ksi
Min. Ultimate Tensile Strength	135 ksi
Tensile Yield Strength	1 068 klb
Internal Yield Pressure	10 760 psi
Collapse pressure	7 360 psi

CONNECTION PROPERTIES

Connection Type	Premium Integral Flush
Connection OD (nom)	7.701 in.
Connection ID (nom)	6.782 in.
Make-Up Loss	4.657 in.
Critical Cross Section	4.971 sqin.
Tension Efficiency	58 % of pipe
Compression Efficiency	72.7 % of pipe
Compression Efficiency with Sealability	34.8 % of pipe
Internal Pressure Efficiency	100 % of pipe
External Pressure Efficiency	100 % of pipe

CONNECTION PERFORMANCES

Tensile Yield Strength	619 klb
Compression Resistance	778 klb
Compression with Sealability	372 klb
Internal Yield Pressure	10 760 psi
External Pressure Resistance	7 360 psi
Max. Bending	44 °/100ft
Max. Bending with Sealability	17 °/100ft

TORQUE VALUES

Min. Make-up torque	9 600 ft.lb
Opti. Make-up torque	11 300 ft.lb
Max. Make-up torque	13 000 ft.lb
Max. Torque with Sealability	58 500 ft.lb
Max. Torsional Value	73 000 ft.lb

VAM® HTF™ (High Torque Flush) is a flush OD integral connection providing maximum clearance along with torque strength for challenging applications such as extended reach and slim hole wells, drilling liner / casing, liner rotation to acheive better cementation in highly deviated and critical High Pressure / High Temperature wells.

Looking ahea on the outcoming testing industry standards, VAM® decided to create an upgraded design and launch on the market the VAM® HTF-NR as the new standard version of VAM® extreme high torque flush connection. The VAM® HTF-NR has extensive tests as per API RP 5C5:2015 CAL II which include the gas sealability having load points with bending, internal pressure and high temperature at 135°C.

Do you need help on this product? - Remember no one knows VAM® like VAM®

canada@vamfieldservice.com *uk@vamfieldservice.com* *china@vamfieldservice.com*
usa@vamfieldservice.com *dubai@vamfieldservice.com* *baku@vamfieldservice.com*
mexico@vamfieldservice.com *nigeria@vamfieldservice.com* *singapore@vamfieldservice.com*
brazil@vamfieldservice.com *angola@vamfieldservice.com* *australia@vamfieldservice.com*

Over 180 VAM® Specialists available worldwide 24/7 for Rig Site Assistance

Other Connection Data Sheets are available at www.vamservices.com

Vallourec Group

vallourec

Casing Design Criteria and Load Case Assumptions

Surface Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.43 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 an internal force equal to mud gradient of displacement fluid (0.52 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.43 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=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 (8.3 ppg).

Intermediate #1 Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.52 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 an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 50 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.47 psi/ft). External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft) which is a more conservative backup force than pore pressure.

Tensile: DF_t=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 (10.0 ppg).

Intermediate #2 Casing

Collapse: DF_C=1.125

- Partial 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. Internal force equal to gas gradient over half of setting depth and mud gradient with which the next hole section will be run below that (0.65 psi/ft).

- 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_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 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.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 100 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.65 psi/ft). External force will be 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.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be 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_t=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).

Production Casing

Collapse: DF_c=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.65 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 (0.65 psi/ft) and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: 8000 psi casing test with an external force equal to the mud gradient in which the casing will be run (0.65 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 (0.65 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=1.8

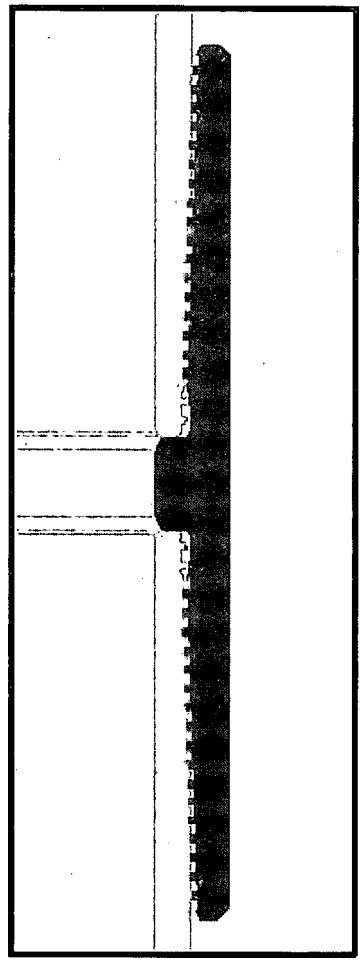
- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string utilizing the effects of buoyancy (12.5 ppg).

Technical Specifications

Connection Type:	Size(O.D.):	Weight (Wall):	Grade:
DWC/C-IS MS Casing	5-1/2 in	20.00 lb/ft (0.361 in)	VST P110 EC
standard			

	Material
VST P110 EC	Grade
125,000	Minimum Yield Strength (psi)
135,000	Minimum Ultimate Strength (psi)
	Pipe Dimensions
5.500	Nominal Pipe Body O.D. (in)
4.778	Nominal Pipe Body I.D.(in)
0.361	Nominal Wall Thickness (in)
20.00	Nominal Weight (lbs/ft)
19.83	Plain End Weight (lbs/ft)
5.828	Nominal Pipe Body Area (sq in)
	Pipe Body Performance Properties
729,000	Minimum Pipe Body Yield Strength (lbs)
12,090	Minimum Collapse Pressure (psi)
14,360	Minimum Internal Yield Pressure (psi)
13,100	Hydrostatic Test Pressure (psi)
	Connection Dimensions
6.115	Connection O.D. (in)
4.778	Connection I.D. (in)
4.653	Connection Drift Diameter (in)
4.13	Make-up Loss (in)
5.828	Critical Area (sq in)
100.0	Joint Efficiency (%)
	Connection Performance Properties
729,000	Joint Strength (lbs)
26,040	Reference String Length (ft) 1.4 Design Factor
728,000	API Joint Strength (lbs)
729,000	Compression Rating (lbs)
12,090	API Collapse Pressure Rating (psi)
14,360	API Internal Pressure Resistance (psi)
104.2	Maximum Uniaxial Bend Rating [degrees/100 ft]
	Appoximated Field End Torque Values
16,100	Minimum Final Torque (ft-lbs)
18,600	Maximum Final Torque (ft-lbs)
21,100	Connection Yield Torque (ft-lbs)

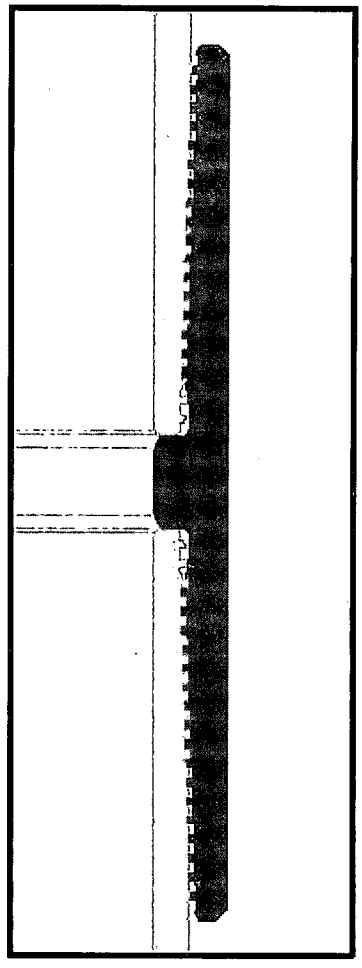
VAM USA
4424 W. Sam Houston Pkwy. Suite 150
Houston, TX 77041
Phone: 713-479-3200
Fax: 713-479-3234
E-mail: VAMUSAsales@vam-usa.com



For detailed information on performance properties, refer to DWC Connection Data Notes on following page(s).

DWC Connection Data Notes:

1. DWC connections are available with a seal ring (SR) option.
2. All standard DWC/C connections are interchangeable for a give pipe OD. DWC connections are interchangeable with DWC/C-SR connections of the same OD and wall.
3. Connection performance properties are based on nominal pipe body and connection dimensions.
4. DWC connection internal and external pressure resistance is calculated using the API rating for buttress connections. API Internal pressure resistance is calculated from formulas 31, 32, and 35 in the API Bulletin 5C3.
5. DWC joint strength is the minimum pipe body yield strength multiplied by the connection critical area.
6. API joint strength is for reference only. It is calculated from formulas 42 and 43 in the API Bulletin 5C3.
7. Bending efficiency is equal to the compression efficiency.
8. The torque values listed are recommended. The actual torque required may be affected by field conditions such as temperature, thread compound, speed of make-up, weather conditions, etc.
9. Connection yield torque is not to be exceeded.
10. Reference string length is calculated by dividing the joint strength by both the nominal weight in air and a design factor (DF) of 1.4. These values are offered for reference only and do not include load factors such as bending, buoyancy, temperature, load dynamics, etc.
11. DWC connections will accommodate API standard drift diameters.



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Tapered String Specification Sheet

Noel Hensley Fed Com #202H
SHL: 250' FNL & 1491' FWL Section 19
BHL: 240' FSL & 2346' FWL Section 19
Township/Range: 24S 28E
Elevation Above Sea Level: 3099'

String	Hole Size (in)	Set MD (ft)	Set TVD (ft)	Casing Size (in)	Wt. (lb/ft)	Grade	Joint	Collapse	Burst	Tension
Surface	17.5	0 - 400	0 - 400	13.375	54.5	J-55	BUTT	1.125	1.125	1.8
Intermediate 1	12.25	0 - 2536	0 - 2536	9.625	40	J-55	BUTT	1.125	1.125	1.8
Intermediate 2 Top	8.75	0 - 2236	0 - 2236	7.625	29.7	P-110	BUTT	1.125	1.125	1.8
Intermediate 2 Bottom	8.75	2236 - 9600	2236 - 9239	7.625	29.7	P-110	VAM HTF-NR	1.125	1.125	1.8
Production Top	6.75	0 - 9500	0 - 9213	5.5	20	P-110	DWC/C-IS MS	1.125	1.125	1.8
Production Bottom	6.75	9500 - 14144	9213 - 9302	4.5	13.5	P-110	DWC/C-IS HT	1.125	1.125	1.8

Casing Design Criteria and Load Case Assumptions

Surface Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.43 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 an internal force equal to mud gradient of displacement fluid (0.52 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.43 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=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 (8.3 ppg).

Intermediate #1 Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.52 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 an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 50 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.47 psi/ft). External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft) which is a more conservative backup force than pore pressure.

Tensile: DF_t=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 (10.0 ppg).

Intermediate #2 Casing

Collapse: DF_C=1.125

- Partial 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. Internal force equal to gas gradient over half of setting depth and mud gradient with which the next hole section will be run below that (0.65 psi/ft).

- 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_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 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.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 100 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.65 psi/ft). External force will be 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.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be 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_t=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).

Production Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.65 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 (0.65 psi/ft) and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: 8000 psi casing test with an external force equal to the mud gradient in which the casing will be run (0.65 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 (0.65 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=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 (12.5 ppg).

Casing Design Criteria and Load Case Assumptions

Surface Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.43 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 an internal force equal to mud gradient of displacement fluid (0.52 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.43 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=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 (8.3 ppg).

Intermediate #1 Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.52 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 an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 50 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.47 psi/ft). External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft) which is a more conservative backup force than pore pressure.

Tensile: DF_t=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 (10.0 ppg).

Intermediate #2 Casing

Collapse: DF_C=1.125

- Partial 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. Internal force equal to gas gradient over half of setting depth and mud gradient with which the next hole section will be run below that (0.65 psi/ft).

- 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_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 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.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 100 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.65 psi/ft). External force will be 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.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be 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_t=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).

Production Casing

Collapse: DF_c=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.65 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 (0.65 psi/ft) and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: 8000 psi casing test with an external force equal to the mud gradient in which the casing will be run (0.65 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 (0.65 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=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 (12.5 ppg).

Casing Design Criteria and Load Case Assumptions

Surface Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.43 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 an internal force equal to mud gradient of displacement fluid (0.52 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.43 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=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 (8.3 ppg).

Intermediate #1 Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.52 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 an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 50 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.47 psi/ft). External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft) which is a more conservative backup force than pore pressure.

Tensile: DF_t=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 (10.0 ppg).

Intermediate #2 Casing

Collapse: DF_C=1.125

- Partial 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. Internal force equal to gas gradient over half of setting depth and mud gradient with which the next hole section will be run below that (0.65 psi/ft).

- 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_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 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.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 100 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.65 psi/ft). External force will be 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.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be 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_t=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).

Production Casing

Collapse: DF_c=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.65 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 (0.65 psi/ft) and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: 8000 psi casing test with an external force equal to the mud gradient in which the casing will be run (0.65 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 (0.65 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=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 (12.5 ppg).

Casing Design Criteria and Load Case Assumptions

Surface Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.43 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 an internal force equal to mud gradient of displacement fluid (0.52 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.43 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=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 (8.3 ppg).

Intermediate #1 Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.52 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 an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 50 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.47 psi/ft). External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft) which is a more conservative backup force than pore pressure.

Tensile: DF_t=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 (10.0 ppg).

Intermediate #2 Casing

Collapse: DF_C=1.125

- Partial 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. Internal force equal to gas gradient over half of setting depth and mud gradient with which the next hole section will be run below that (0.65 psi/ft).

- 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_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 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.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 100 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.65 psi/ft). External force will be 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.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be 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_t=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).

Production Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.65 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 (0.65 psi/ft) and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: 8000 psi casing test with an external force equal to the mud gradient in which the casing will be run (0.65 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 (0.65 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=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 (12.5 ppg).

Casing Design Criteria and Load Case Assumptions

Surface Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.43 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 an internal force equal to mud gradient of displacement fluid (0.52 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.43 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=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 (8.3 ppg).

Intermediate #1 Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.52 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 an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 50 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.47 psi/ft). External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft) which is a more conservative backup force than pore pressure.

Tensile: DF_t=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 (10.0 ppg).

Intermediate #2 Casing

Collapse: DF_C=1.125

- Partial 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. Internal force equal to gas gradient over half of setting depth and mud gradient with which the next hole section will be run below that (0.65 psi/ft).

- 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_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 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.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 100 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.65 psi/ft). External force will be 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.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be 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_t=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).

Production Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.65 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 (0.65 psi/ft) and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: 8000 psi casing test with an external force equal to the mud gradient in which the casing will be run (0.65 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 (0.65 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=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 (12.5 ppg).

Casing Design Criteria and Load Case Assumptions

Surface Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.43 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 an internal force equal to mud gradient of displacement fluid (0.52 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.43 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=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 (8.3 ppg).

Intermediate #1 Casing

Collapse: DF_C=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.52 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 an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 50 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.47 psi/ft). External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft), which is a more conservative backup force than pore pressure.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be run (0.52 psi/ft) which is a more conservative backup force than pore pressure.

Tensile: DF_t=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 (10.0 ppg).

Intermediate #2 Casing

Collapse: DF_C=1.125

- Partial 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. Internal force equal to gas gradient over half of setting depth and mud gradient with which the next hole section will be run below that (0.65 psi/ft).

- 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_b=1.125

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 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.
- Gas Kick Profile: Internal burst force at the shoe will be Fracture Pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 100 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be run above that (0.65 psi/ft). External force will be 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.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be Fracture Pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be 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_t=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).

Production Casing

Collapse: DF_c=1.125

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be run (0.65 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 (0.65 psi/ft) and an internal force equal to mud gradient of displacement fluid (0.43 psi/ft).

Burst: DF_b=1.125

- Pressure Test: 8000 psi casing test with an external force equal to the mud gradient in which the casing will be run (0.65 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 (0.65 psi/ft), which is a more conservative backup force than pore pressure.

Tensile: DF_t=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 (12.5 ppg).

Matador Production Company

Rustler Breaks
Noel Hensley
Noel Hensley Fed Com #202H

Wellbore #1
BLM Plan #1

Anticollision Report

28 March, 2019

Anticollision Report

Company:	Matador Production Company	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Project:	Rustler Breaks	**TVD Reference:**	KB @ 3127.5usft
Reference Site:	Noel Hensley	**MD Reference:**	KB @ 3127.5usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.14 Single User Db
Reference Design:	BLM Plan #1	**Offset TVD Reference:**	Offset Datum

Reference	BLM Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 100.0usft	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0 usft	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 3/28/2019

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	14,144.2	BLM Plan #1 (Wellbore #1)	MWD	OWSG MWD - Standard

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Noel Hensley						
Noel Hensely Fed Com #201H - Wellbore #1 - BLM Plan	1,800.0	1,800.0	110.1	97.6	8.847	CC
Noel Hensely Fed Com #201H - Wellbore #1 - BLM Plan	1,900.0	1,898.8	110.5	97.3	8.400	ES
Noel Hensely Fed Com #201H - Wellbore #1 - BLM Plan	2,200.0	2,192.7	121.4	106.2	7.979	SF
Noel Hensley Fed Com #215H - Wellbore #1 - BLM Plan	2,000.0	2,000.0	30.1	16.2	2.167	CC
Noel Hensley Fed Com #215H - Wellbore #1 - BLM Plan	2,100.0	2,099.7	30.6	16.0	2.095	ES, SF
Noel Hensley Fed Com #221H - Wellbore #1 - BLM Plan	2,500.0	2,500.0	114.1	96.6	6.532	CC, ES
Noel Hensley Fed Com #221H - Wellbore #1 - BLM Plan	2,800.0	2,800.1	121.9	102.3	6.226	SF
Noel Hensley Fed Com #222H - Wellbore #1 - BLM Plan	2,500.0	2,500.0	30.0	12.5	1.717	CC
Noel Hensley Fed Com #222H - Wellbore #1 - BLM Plan	2,600.0	2,600.0	30.2	12.0	1.661	ES
Noel Hensley Fed Com #222H - Wellbore #1 - BLM Plan	2,700.0	2,700.0	31.0	12.1	1.641	SF

Offset Design Noel Hensley - Noel Hensely Fed Com #201H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-90.71	-1.4	-110.1	110.1				
100.0	100.0	100.0	100.0	0.1	0.1	-90.71	-1.4	-110.1	110.1	109.8	0.26	429.529	
200.0	200.0	200.0	200.0	0.5	0.5	-90.71	-1.4	-110.1	110.1	109.1	0.97	113.117	
300.0	300.0	300.0	300.0	0.8	0.8	-90.71	-1.4	-110.1	110.1	108.4	1.69	65.135	
400.0	400.0	400.0	400.0	1.2	1.2	-90.71	-1.4	-110.1	110.1	107.7	2.41	45.735	
500.0	500.0	500.0	500.0	1.6	1.6	-90.71	-1.4	-110.1	110.1	107.0	3.12	35.240	
600.0	600.0	600.0	600.0	1.9	1.9	-90.71	-1.4	-110.1	110.1	106.3	3.84	28.662	
700.0	700.0	700.0	700.0	2.3	2.3	-90.71	-1.4	-110.1	110.1	105.5	4.56	24.154	
800.0	800.0	800.0	800.0	2.6	2.6	-90.71	-1.4	-110.1	110.1	104.8	5.27	20.871	
900.0	900.0	900.0	900.0	3.0	3.0	-90.71	-1.4	-110.1	110.1	104.1	5.99	18.374	
1,000.0	1,000.0	1,000.0	1,000.0	3.4	3.4	-90.71	-1.4	-110.1	110.1	103.4	6.71	16.410	
1,100.0	1,100.0	1,100.0	1,100.0	3.7	3.7	-90.71	-1.4	-110.1	110.1	102.7	7.43	14.826	
1,200.0	1,200.0	1,200.0	1,200.0	4.1	4.1	-90.71	-1.4	-110.1	110.1	101.9	8.14	13.520	
1,300.0	1,300.0	1,300.0	1,300.0	4.4	4.4	-90.71	-1.4	-110.1	110.1	101.2	8.86	12.426	
1,400.0	1,400.0	1,400.0	1,400.0	4.8	4.8	-90.71	-1.4	-110.1	110.1	100.5	9.58	11.496	
1,500.0	1,500.0	1,500.0	1,500.0	5.1	5.1	-90.71	-1.4	-110.1	110.1	99.8	10.29	10.695	
1,600.0	1,600.0	1,600.0	1,600.0	5.5	5.5	-90.71	-1.4	-110.1	110.1	99.1	11.01	9.999	

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

Anticollision Report

Company:	Matador Production Company	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Project:	Rustler Breaks	**TVD Reference:**	KB @ 3127.5usft
Reference Site:	Noel Hensley	**MD Reference:**	KB @ 3127.5usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.14 Single User Db
Reference Design:	BLM Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Noel Hensley - Noel Hensely Fed Com #201H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
1,700.0	1,700.0	1,700.0	1,700.0	5.9	5.9	-90.71	-1.4	-110.1	110.1	98.4	11.73	9.388	
1,800.0	1,800.0	1,800.0	1,800.0	6.2	6.2	-90.71	-1.4	-110.1	110.1	97.6	12.44	8.847	CC
1,900.0	1,900.0	1,898.8	1,898.8	6.6	6.6	-90.68	-1.3	-110.5	110.5	97.3	13.15	8.400	ES
2,000.0	2,000.0	1,996.9	1,996.8	6.9	6.9	-90.49	-1.0	-112.4	112.4	98.6	13.84	8.122	
2,100.0	2,100.0	2,094.9	2,094.8	7.3	7.3	-90.16	-0.3	-116.0	116.1	101.6	14.53	7.988	
2,200.0	2,200.0	2,192.7	2,192.5	7.7	7.6	-89.71	0.6	-121.2	121.4	106.2	15.22	7.979	SF
2,300.0	2,300.0	2,290.4	2,289.9	8.0	7.9	-89.18	1.8	-128.0	128.5	112.6	15.90	8.080	
2,400.0	2,400.0	2,387.8	2,386.9	8.4	8.3	-88.60	3.3	-136.5	137.2	120.6	16.57	8.276	
2,500.0	2,500.0	2,484.8	2,483.4	8.7	8.6	-88.00	5.1	-146.5	147.6	130.3	17.24	8.558	
2,600.0	2,600.0	2,581.4	2,579.3	9.1	9.0	-163.46	7.2	-158.1	160.5	142.6	17.90	8.965	
2,700.0	2,700.0	2,677.3	2,674.2	9.4	9.3	-163.08	9.5	-171.2	176.7	158.1	18.54	9.529	
2,800.0	2,799.9	2,772.3	2,768.1	9.8	9.7	-162.83	12.1	-185.7	196.2	177.0	19.18	10.231	
2,900.0	2,899.7	2,867.5	2,862.0	10.1	10.1	-162.69	14.9	-201.7	218.8	199.0	19.82	11.038	
3,000.0	2,999.4	2,964.5	2,957.4	10.5	10.4	-162.67	17.9	-218.2	243.4	222.9	20.51	11.868	
3,100.0	3,098.9	3,061.0	3,052.5	10.8	10.8	-162.76	20.8	-234.7	269.6	248.4	21.19	12.721	
3,200.0	3,198.3	3,157.0	3,147.0	11.2	11.2	-162.91	23.8	-251.2	297.4	275.5	21.87	13.594	
3,300.0	3,297.4	3,252.6	3,241.2	11.6	11.6	-163.11	26.7	-267.5	326.8	304.2	22.56	14.486	
3,400.0	3,396.3	3,347.7	3,334.8	11.9	12.0	-163.34	29.6	-283.8	357.8	334.5	23.24	15.395	
3,500.0	3,494.9	3,442.2	3,427.9	12.3	12.4	-163.59	32.4	-299.9	390.4	366.4	23.92	16.320	
3,600.0	3,593.4	3,536.4	3,520.7	12.7	12.8	-163.92	35.3	-316.0	423.8	399.2	24.60	17.227	
3,700.0	3,691.9	3,630.6	3,613.5	13.1	13.2	-164.20	38.2	-332.1	457.2	431.9	25.28	18.085	
3,800.0	3,790.4	3,724.9	3,706.3	13.5	13.6	-164.45	41.0	-348.2	490.6	464.6	25.96	18.897	
3,900.0	3,888.9	3,819.1	3,799.1	13.8	13.9	-164.66	43.9	-364.4	524.0	497.4	26.65	19.665	
4,000.0	3,987.3	3,913.3	3,891.9	14.2	14.3	-164.85	46.8	-380.5	557.4	530.1	27.33	20.394	
4,100.0	4,085.8	4,007.6	3,984.7	14.6	14.7	-165.01	49.7	-396.6	590.9	562.8	28.02	21.087	
4,200.0	4,184.3	4,101.8	4,077.5	15.0	15.1	-165.16	52.5	-412.7	624.3	595.6	28.71	21.744	
4,300.0	4,282.8	4,204.0	4,170.3	15.5	15.6	-165.29	55.4	-428.8	657.8	628.3	29.43	22.348	
4,400.0	4,381.3	4,290.3	4,263.1	15.9	16.0	-165.41	58.3	-444.9	691.2	661.1	30.10	22.966	
4,500.0	4,479.7	4,384.5	4,355.9	16.3	16.4	-165.52	61.1	-461.0	724.6	693.9	30.79	23.534	
4,600.0	4,578.2	4,478.7	4,448.7	16.7	16.8	-165.62	64.0	-477.1	758.1	726.6	31.49	24.077	
4,700.0	4,676.7	4,573.0	4,541.5	17.1	17.2	-165.71	66.9	-493.2	791.5	759.4	32.18	24.595	
4,800.0	4,775.2	4,667.2	4,634.3	17.5	17.6	-165.80	69.7	-509.3	825.0	792.1	32.88	25.090	
4,900.0	4,873.7	4,761.4	4,727.1	17.9	18.0	-165.87	72.6	-525.4	858.5	824.9	33.58	25.564	
5,000.0	4,972.1	4,855.7	4,819.9	18.4	18.4	-165.95	75.5	-541.6	891.9	857.6	34.28	26.018	
5,100.0	5,070.6	4,949.9	4,912.7	18.8	18.8	-166.01	78.4	-557.7	925.4	890.4	34.98	26.453	
5,200.0	5,169.1	5,044.1	5,005.5	19.2	19.2	-166.07	81.2	-573.8	958.8	923.1	35.68	26.870	
5,300.0	5,267.6	5,138.3	5,098.3	19.6	19.6	-166.13	84.1	-589.9	992.3	955.9	36.39	27.270	
5,400.0	5,366.1	5,232.6	5,191.1	20.0	20.0	-166.18	87.0	-606.0	1,025.7	988.7	37.09	27.655	
5,500.0	5,464.5	5,326.8	5,283.9	20.5	20.5	-166.23	89.8	-622.1	1,059.2	1,021.4	37.80	28.025	
5,600.0	5,563.0	5,421.0	5,376.7	20.9	20.9	-166.28	92.7	-638.2	1,092.7	1,054.2	38.50	28.381	
5,700.0	5,661.5	5,515.3	5,469.5	21.3	21.3	-166.33	95.6	-654.3	1,126.1	1,086.9	39.21	28.723	
5,800.0	5,760.0	5,609.5	5,562.3	21.8	21.7	-166.37	98.4	-670.4	1,159.6	1,119.7	39.91	29.053	
5,900.0	5,858.5	5,703.7	5,655.1	22.2	22.1	-166.41	101.3	-686.5	1,193.1	1,152.4	40.62	29.371	
6,000.0	5,957.0	5,802.0	5,747.9	22.6	22.6	-166.45	104.2	-702.7	1,226.5	1,185.2	41.34	29.667	
6,100.0	6,055.4	5,892.2	5,840.7	23.1	23.0	-166.48	107.0	-718.8	1,260.0	1,217.9	42.04	29.974	
6,200.0	6,153.9	5,986.4	5,933.5	23.5	23.4	-166.51	109.9	-734.9	1,293.5	1,250.7	42.75	30.260	
6,300.0	6,252.4	6,080.7	6,026.3	23.9	23.8	-166.55	112.8	-751.0	1,326.9	1,283.5	43.45	30.536	
6,400.0	6,350.9	6,174.9	6,119.1	24.4	24.2	-166.58	115.7	-767.1	1,360.4	1,316.2	44.16	30.803	
6,500.0	6,449.4	6,269.1	6,211.9	24.8	24.6	-166.61	118.5	-783.2	1,393.8	1,349.0	44.88	31.061	
6,600.0	6,547.8	6,363.4	6,304.7	25.2	25.0	-166.63	121.4	-799.3	1,427.3	1,381.7	45.59	31.310	
6,700.0	6,646.3	6,457.6	6,397.5	25.7	25.5	-166.66	124.3	-815.4	1,460.8	1,414.5	46.30	31.552	
6,800.0	6,744.8	6,551.8	6,490.3	26.1	25.9	-166.68	127.1	-831.5	1,494.2	1,447.2	47.01	31.786	

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

Company:	Matador Production Company	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Project:	Rustler Breaks	**TVD Reference:**	KB @ 3127.5usft
Reference Site:	Noel Hensley	**MD Reference:**	KB @ 3127.5usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.14 Single User Db
Reference Design:	BLM Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Noel Hensley - Noel Hensely Fed Com #201H - Wellbore #1 - BLM Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,900.0	6,843.3	6,646.1	6,583.1	26.5	26.3	-166.71	130.0	-847.6	1,527.7	1,480.0	47.72	32.013	
7,000.0	6,941.8	6,740.3	6,675.9	27.0	26.7	-166.73	132.9	-863.7	1,561.2	1,512.7	48.43	32.233	
7,100.0	7,040.2	6,834.5	6,768.7	27.4	27.1	-166.75	135.7	-879.9	1,594.6	1,545.5	49.15	32.446	
7,200.0	7,138.7	6,928.8	6,861.5	27.9	27.6	-166.77	138.6	-896.0	1,628.1	1,578.3	49.86	32.653	
7,300.0	7,237.2	7,023.0	6,954.3	28.3	28.0	-166.79	141.5	-912.1	1,661.6	1,611.0	50.58	32.853	
7,400.0	7,335.7	7,117.2	7,047.1	28.7	28.4	-166.81	144.4	-928.2	1,695.0	1,643.8	51.29	33.048	
7,500.0	7,434.2	7,211.4	7,139.9	29.2	28.8	-166.83	147.2	-944.3	1,728.5	1,676.5	52.00	33.238	
7,600.0	7,532.6	7,305.7	7,232.7	29.6	29.2	-166.85	150.1	-960.4	1,762.0	1,709.3	52.72	33.422	
7,666.2	7,597.8	7,368.0	7,294.1	29.9	29.5	-166.86	152.0	-971.1	1,784.1	1,730.9	53.19	33.540	
7,700.0	7,631.1	7,400.0	7,325.5	30.0	29.7	-166.91	153.0	-976.5	1,795.3	1,741.9	53.44	33.598	
7,800.0	7,730.0	7,505.1	7,419.0	30.5	30.1	-167.02	155.9	-992.8	1,826.8	1,772.6	54.19	33.710	
7,900.0	7,829.2	7,609.4	7,513.2	30.9	30.6	-167.10	158.8	-1,009.1	1,855.8	1,800.8	54.94	33.778	
8,000.0	7,928.7	7,687.0	7,608.2	31.3	31.0	-167.16	161.7	-1,025.6	1,882.3	1,826.8	55.59	33.862	
8,100.0	8,028.4	7,784.0	7,703.7	31.6	31.4	-167.19	164.7	-1,042.2	1,906.4	1,850.1	56.31	33.858	
8,200.0	8,128.3	7,881.6	7,799.8	32.0	31.8	-167.19	167.6	-1,058.9	1,928.0	1,871.0	57.02	33.811	
8,300.0	8,228.3	7,979.7	7,896.5	32.3	32.3	-167.17	170.6	-1,075.6	1,947.2	1,889.4	57.74	33.723	
8,332.9	8,261.1	8,012.1	7,928.3	32.4	32.4	-91.14	171.6	-1,081.2	1,952.9	1,894.9	57.97	33.686	
8,400.0	8,328.3	8,078.2	7,993.4	32.6	32.7	-91.07	173.6	-1,092.5	1,964.3	1,905.9	58.45	33.607	
8,500.0	8,428.3	8,208.0	8,121.3	33.0	33.3	-90.95	177.5	-1,114.2	1,981.2	1,921.7	59.41	33.347	
8,600.0	8,528.3	8,410.7	8,322.3	33.3	34.1	-90.80	182.2	-1,140.4	1,994.1	1,933.2	60.84	32.776	
8,700.0	8,628.3	8,615.8	8,526.7	33.6	34.9	-90.71	185.0	-1,156.3	2,001.8	1,939.7	62.11	32.230	
8,800.0	8,728.2	8,817.3	8,728.1	33.9	35.5	-90.69	185.9	-1,161.3	2,004.2	1,941.0	63.19	31.717	
8,800.7	8,729.0	8,818.0	8,728.8	33.9	35.6	-90.69	185.9	-1,161.3	2,004.2	1,941.0	63.20	31.715	
8,850.0	8,778.2	8,865.6	8,776.3	34.1	35.7	89.55	183.5	-1,161.3	2,004.2	1,940.7	63.51	31.559	
8,900.0	8,827.8	8,913.8	8,824.1	34.2	35.8	89.54	177.1	-1,161.3	2,004.2	1,940.4	63.81	31.412	
8,950.0	8,876.6	8,962.1	8,871.2	34.4	35.9	89.54	166.6	-1,161.2	2,004.3	1,940.2	64.09	31.273	
9,000.0	8,924.3	9,010.3	8,917.3	34.5	36.1	89.53	152.3	-1,161.2	2,004.3	1,939.9	64.36	31.142	
9,050.0	8,970.5	9,058.6	8,962.0	34.6	36.2	89.54	134.1	-1,161.2	2,004.3	1,939.7	64.62	31.019	
9,100.0	9,014.8	9,106.9	9,005.0	34.7	36.3	89.54	112.2	-1,161.1	2,004.4	1,939.5	64.86	30.903	
9,150.0	9,057.0	9,155.2	9,046.1	34.8	36.4	89.55	86.8	-1,161.1	2,004.4	1,939.3	65.10	30.791	
9,200.0	9,096.7	9,203.6	9,084.9	34.9	36.5	89.57	57.9	-1,161.0	2,004.5	1,939.2	65.33	30.683	
9,250.0	9,133.6	9,252.1	9,121.2	35.0	36.5	89.58	25.8	-1,161.0	2,004.6	1,939.0	65.56	30.578	
9,300.0	9,167.4	9,300.6	9,154.7	35.0	36.6	89.60	-9.2	-1,160.9	2,004.7	1,938.9	65.79	30.473	
9,350.0	9,197.9	9,349.2	9,185.2	35.1	36.7	89.62	-47.1	-1,160.8	2,004.7	1,938.7	66.02	30.366	
9,400.0	9,224.8	9,397.9	9,212.4	35.1	36.7	89.65	-87.4	-1,160.8	2,004.8	1,938.6	66.26	30.258	
9,450.0	9,248.0	9,446.6	9,236.1	35.2	36.8	89.68	-130.1	-1,160.7	2,004.9	1,938.4	66.51	30.145	
9,500.0	9,267.1	9,495.6	9,256.1	35.3	36.8	89.71	-174.7	-1,160.6	2,005.0	1,938.3	66.77	30.029	
9,550.0	9,282.2	9,544.6	9,272.3	35.3	36.9	89.74	-220.9	-1,160.5	2,005.1	1,938.1	67.05	29.907	
9,600.0	9,293.1	9,593.7	9,284.6	35.4	37.0	89.77	-268.5	-1,160.4	2,005.2	1,937.9	67.33	29.780	
9,650.0	9,299.7	9,643.2	9,293.0	35.5	37.0	89.82	-317.2	-1,160.3	2,005.3	1,937.7	67.64	29.648	
9,700.0	9,302.0	9,692.7	9,298.8	35.6	37.1	89.91	-366.4	-1,160.2	2,005.4	1,937.5	67.96	29.510	
9,700.7	9,302.0	9,693.5	9,298.9	35.6	37.1	89.91	-367.2	-1,160.2	2,005.4	1,937.5	67.96	29.508	
9,800.0	9,302.0	9,807.4	9,302.8	35.9	37.4	90.02	-466.2	-1,160.0	2,005.7	1,936.9	68.74	29.177	
9,900.0	9,302.0	9,907.4	9,302.8	36.3	37.8	90.02	-566.2	-1,159.8	2,005.9	1,936.3	69.61	28.814	
10,000.0	9,302.0	10,007.4	9,302.8	36.8	38.2	90.02	-666.2	-1,159.6	2,006.1	1,935.5	70.63	28.403	
10,100.0	9,302.0	10,107.4	9,302.8	37.3	38.7	90.02	-766.2	-1,159.5	2,006.4	1,934.6	71.79	27.949	
10,200.0	9,302.0	10,207.4	9,302.8	37.9	39.2	90.02	-866.2	-1,159.3	2,006.6	1,933.5	73.07	27.460	
10,300.0	9,302.0	10,307.4	9,302.8	38.6	39.9	90.02	-966.2	-1,159.1	2,006.8	1,932.4	74.48	26.944	
10,400.0	9,302.0	10,407.4	9,302.8	39.3	40.5	90.02	-1,066.2	-1,158.9	2,007.1	1,931.1	76.01	26.405	
10,500.0	9,302.0	10,507.4	9,302.8	40.1	41.3	90.02	-1,166.2	-1,158.7	2,007.3	1,929.7	77.65	25.851	
10,600.0	9,302.0	10,607.4	9,302.8	40.9	42.1	90.02	-1,266.2	-1,158.5	2,007.5	1,928.2	79.39	25.287	
10,700.0	9,302.0	10,707.4	9,302.8	41.8	43.0	90.02	-1,366.2	-1,158.3	2,007.8	1,926.5	81.23	24.718	

Company:	Matador Production Company	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Project:	Rustler Breaks	**TVD Reference:**	KB @ 3127.5usft
Reference Site:	Noel Hensley	**MD Reference:**	KB @ 3127.5usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.14 Single User Db
Reference Design:	BLM Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Noel Hensley - Noel Hensely Fed Com #201H - Wellbore #1 - BLM Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,800.0	9,302.0	10,807.4	9,302.8	42.8	43.9	90.02	-1,466.2	-1,158.1	2,008.0	1,924.9	83.16	24.148	
10,900.0	9,302.0	10,907.4	9,302.8	43.7	44.8	90.02	-1,566.2	-1,157.9	2,008.2	1,923.1	85.17	23.580	
11,000.0	9,302.0	11,007.4	9,302.8	44.7	45.8	90.02	-1,666.2	-1,157.7	2,008.5	1,921.2	87.26	23.017	
11,100.0	9,302.0	11,107.4	9,302.8	45.8	46.9	90.02	-1,766.2	-1,157.5	2,008.7	1,919.3	89.42	22.463	
11,200.0	9,302.0	11,207.4	9,302.8	46.9	47.9	90.02	-1,866.2	-1,157.3	2,008.9	1,917.3	91.65	21.919	
11,300.0	9,302.0	11,307.4	9,302.8	48.0	49.0	90.02	-1,966.2	-1,157.2	2,009.2	1,915.2	93.95	21.386	
11,400.0	9,302.0	11,407.4	9,302.8	49.2	50.2	90.02	-2,066.2	-1,157.0	2,009.4	1,913.1	96.30	20.866	
11,500.0	9,302.0	11,507.4	9,302.8	50.3	51.3	90.02	-2,166.2	-1,156.8	2,009.6	1,910.9	98.71	20.359	
11,600.0	9,302.0	11,607.4	9,302.8	51.5	52.5	90.02	-2,266.2	-1,156.6	2,009.9	1,908.7	101.17	19.867	
11,700.0	9,302.0	11,707.4	9,302.8	52.8	53.7	90.02	-2,366.2	-1,156.4	2,010.1	1,906.4	103.67	19.389	
11,800.0	9,302.0	11,807.4	9,302.8	54.0	55.0	90.02	-2,466.2	-1,156.2	2,010.3	1,904.1	106.22	18.926	
11,900.0	9,302.0	11,907.4	9,302.8	55.3	56.2	90.02	-2,566.2	-1,156.0	2,010.6	1,901.8	108.81	18.478	
12,000.0	9,302.0	12,007.4	9,302.8	56.6	57.5	90.02	-2,666.2	-1,155.8	2,010.8	1,899.4	111.44	18.045	
12,100.0	9,302.0	12,107.4	9,302.8	57.9	58.8	90.02	-2,766.2	-1,155.6	2,011.0	1,896.9	114.10	17.626	
12,200.0	9,302.0	12,207.4	9,302.8	59.2	60.1	90.02	-2,866.2	-1,155.4	2,011.3	1,894.5	116.79	17.221	
12,300.0	9,302.0	12,307.4	9,302.8	60.6	61.4	90.02	-2,966.2	-1,155.2	2,011.5	1,892.0	119.51	16.831	
12,400.0	9,302.0	12,407.4	9,302.8	61.9	62.8	90.02	-3,066.2	-1,155.0	2,011.7	1,889.5	122.27	16.454	
12,500.0	9,302.0	12,507.4	9,302.8	63.3	64.1	90.02	-3,166.2	-1,154.8	2,012.0	1,886.9	125.05	16.090	
12,600.0	9,302.0	12,607.4	9,302.8	64.7	65.5	90.02	-3,266.2	-1,154.7	2,012.2	1,884.4	127.85	15.739	
12,700.0	9,302.0	12,707.4	9,302.8	66.1	66.9	90.02	-3,366.2	-1,154.5	2,012.4	1,881.8	130.68	15.400	
12,800.0	9,302.0	12,807.4	9,302.8	67.5	68.3	90.02	-3,466.2	-1,154.3	2,012.7	1,879.1	133.53	15.073	
12,900.0	9,302.0	12,907.4	9,302.8	68.9	69.7	90.02	-3,566.2	-1,154.1	2,012.9	1,876.5	136.40	14.758	
13,000.0	9,302.0	13,007.4	9,302.8	70.3	71.1	90.02	-3,666.2	-1,153.9	2,013.1	1,873.9	139.28	14.453	
13,100.0	9,302.0	13,107.4	9,302.8	71.8	72.5	90.02	-3,766.2	-1,153.7	2,013.4	1,871.2	142.19	14.160	
13,200.0	9,302.0	13,207.4	9,302.8	73.2	74.0	90.02	-3,866.2	-1,153.5	2,013.6	1,868.5	145.11	13.876	
13,300.0	9,302.0	13,307.4	9,302.8	74.7	75.4	90.02	-3,966.2	-1,153.3	2,013.8	1,865.8	148.05	13.602	
13,400.0	9,302.0	13,407.4	9,302.8	76.1	76.9	90.02	-4,066.2	-1,153.1	2,014.1	1,863.1	151.01	13.338	
13,500.0	9,302.0	13,507.4	9,302.8	77.6	78.3	90.02	-4,166.2	-1,152.9	2,014.3	1,860.3	153.97	13.082	
13,600.0	9,302.0	13,592.6	9,302.8	79.1	79.6	90.02	-4,266.2	-1,152.7	2,014.5	1,857.8	156.73	12.853	
13,700.0	9,302.0	13,707.4	9,302.8	80.6	81.3	90.02	-4,366.2	-1,152.5	2,014.8	1,854.8	159.95	12.596	
13,800.0	9,302.0	13,807.4	9,302.8	82.1	82.8	90.02	-4,466.2	-1,152.4	2,015.0	1,852.0	162.95	12.365	
13,900.0	9,302.0	13,907.4	9,302.8	83.5	84.3	90.02	-4,566.2	-1,152.2	2,015.2	1,849.3	165.97	12.142	
14,000.0	9,302.0	14,007.4	9,302.8	85.1	85.7	90.02	-4,666.2	-1,152.0	2,015.5	1,846.5	169.00	11.926	
14,100.0	9,302.0	14,092.6	9,302.8	86.6	87.0	90.02	-4,766.2	-1,151.8	2,015.7	1,843.9	171.81	11.732	
14,144.2	9,302.0	14,136.8	9,302.8	87.2	87.7	90.02	-4,810.4	-1,151.7	2,015.8	1,842.6	173.16	11.642	
14,144.7	9,302.0	14,137.2	9,302.8	87.3	87.7	90.02	-4,810.8	-1,151.7	2,015.8	1,842.6	173.17	11.641	

Company:	Matador Production Company	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Project:	Rustler Breaks	**TVD Reference:**	KB @ 3127.5usft
Reference Site:	Noel Hensley	**MD Reference:**	KB @ 3127.5usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.14 Single User Db
Reference Design:	BLM Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Noel Hensley - Noel Hensley Fed Com #215H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-90.73	-0.4	-30.1	30.1				
100.0	100.0	100.0	100.0	0.1	0.1	-90.73	-0.4	-30.1	30.1	29.8	0.26	117.309	
200.0	200.0	200.0	200.0	0.5	0.5	-90.73	-0.4	-30.1	30.1	29.1	0.97	30.894	
300.0	300.0	300.0	300.0	0.8	0.8	-90.73	-0.4	-30.1	30.1	28.4	1.69	17.789	
400.0	400.0	400.0	400.0	1.2	1.2	-90.73	-0.4	-30.1	30.1	27.7	2.41	12.491	
500.0	500.0	500.0	500.0	1.6	1.6	-90.73	-0.4	-30.1	30.1	26.9	3.12	9.624	
600.0	600.0	600.0	600.0	1.9	1.9	-90.73	-0.4	-30.1	30.1	26.2	3.84	7.828	
700.0	700.0	700.0	700.0	2.3	2.3	-90.73	-0.4	-30.1	30.1	25.5	4.56	6.597	
800.0	800.0	800.0	800.0	2.6	2.6	-90.73	-0.4	-30.1	30.1	24.8	5.27	5.700	
900.0	900.0	900.0	900.0	3.0	3.0	-90.73	-0.4	-30.1	30.1	24.1	5.99	5.018	
1,000.0	1,000.0	1,000.0	1,000.0	3.4	3.4	-90.73	-0.4	-30.1	30.1	23.4	6.71	4.482	
1,100.0	1,100.0	1,100.0	1,100.0	3.7	3.7	-90.73	-0.4	-30.1	30.1	22.6	7.43	4.049	
1,200.0	1,200.0	1,200.0	1,200.0	4.1	4.1	-90.73	-0.4	-30.1	30.1	21.9	8.14	3.693	
1,300.0	1,300.0	1,300.0	1,300.0	4.4	4.4	-90.73	-0.4	-30.1	30.1	21.2	8.86	3.394	
1,400.0	1,400.0	1,400.0	1,400.0	4.8	4.8	-90.73	-0.4	-30.1	30.1	20.5	9.58	3.140	
1,500.0	1,500.0	1,500.0	1,500.0	5.1	5.1	-90.73	-0.4	-30.1	30.1	19.8	10.29	2.921	
1,600.0	1,600.0	1,600.0	1,600.0	5.5	5.5	-90.73	-0.4	-30.1	30.1	19.1	11.01	2.731	
1,700.0	1,700.0	1,700.0	1,700.0	5.9	5.9	-90.73	-0.4	-30.1	30.1	18.3	11.73	2.564	
1,800.0	1,800.0	1,800.0	1,800.0	6.2	6.2	-90.73	-0.4	-30.1	30.1	17.6	12.44	2.416	
1,900.0	1,900.0	1,900.0	1,900.0	6.6	6.6	-90.73	-0.4	-30.1	30.1	16.9	13.16	2.285	
2,000.0	2,000.0	2,000.0	2,000.0	6.9	6.9	-90.73	-0.4	-30.1	30.1	16.2	13.88	2.167 CC	
2,100.0	2,100.0	2,099.7	2,099.7	7.3	7.3	-89.40	0.3	-30.6	30.6	16.0	14.59	2.095 ES, SF	
2,200.0	2,200.0	2,199.3	2,199.3	7.7	7.6	-85.65	2.4	-32.1	32.2	16.9	15.30	2.103	
2,300.0	2,300.0	2,298.8	2,298.7	8.0	8.0	-80.22	6.0	-34.6	35.1	19.1	16.01	2.194	
2,400.0	2,400.0	2,398.2	2,397.8	8.4	8.4	-74.06	10.9	-38.1	39.7	23.0	16.71	2.375	
2,500.0	2,500.0	2,497.3	2,496.6	8.7	8.7	-68.02	17.2	-42.6	46.0	28.6	17.40	2.646	
2,600.0	2,600.0	2,596.0	2,594.9	9.1	9.1	-139.21	24.8	-48.0	55.0	36.9	18.07	3.041	
2,700.0	2,700.0	2,694.3	2,692.6	9.4	9.4	-136.14	33.8	-54.4	67.0	48.2	18.74	3.575	
2,800.0	2,799.9	2,792.0	2,789.5	9.8	9.8	-134.38	44.1	-61.8	81.9	62.5	19.40	4.222	
2,900.0	2,899.7	2,889.0	2,885.4	10.1	10.1	-133.47	55.7	-70.0	99.6	79.5	20.05	4.967	
3,000.0	2,999.4	2,985.2	2,980.3	10.5	10.5	-133.10	68.4	-79.1	120.0	99.3	20.69	5.799	
3,100.0	3,098.9	3,082.3	3,076.0	10.8	10.9	-133.14	82.2	-88.9	142.6	121.2	21.38	6.667	
3,200.0	3,198.3	3,179.4	3,171.6	11.2	11.3	-133.56	95.9	-98.6	166.3	144.2	22.08	7.531	
3,300.0	3,297.4	3,276.2	3,267.0	11.6	11.6	-134.21	109.6	-108.4	191.2	168.4	22.78	8.393	
3,400.0	3,396.3	3,372.7	3,362.0	11.9	12.0	-134.99	123.2	-118.1	217.4	193.9	23.49	9.255	
3,500.0	3,494.9	3,468.8	3,456.6	12.3	12.4	-135.86	136.8	-127.8	244.8	220.6	24.20	10.117	
3,600.0	3,593.4	3,564.7	3,551.0	12.7	12.8	-136.84	150.4	-137.4	272.9	248.0	24.91	10.956	
3,700.0	3,691.9	3,667.6	3,652.6	13.1	13.2	-137.81	163.9	-147.1	299.9	274.2	25.72	11.659	
3,800.0	3,790.4	3,771.9	3,756.0	13.5	13.6	-138.87	175.2	-155.2	324.7	298.2	26.54	12.237	
3,900.0	3,888.9	3,877.3	3,860.7	13.8	14.0	-140.01	184.4	-161.7	347.3	319.9	27.34	12.702	
4,000.0	3,987.3	3,983.5	3,966.7	14.2	14.4	-141.24	191.2	-166.6	367.6	339.4	28.13	13.067	
4,100.0	4,085.8	4,090.6	4,073.6	14.6	14.8	-142.58	195.7	-169.7	385.7	356.8	28.90	13.343	
4,200.0	4,184.3	4,198.3	4,181.2	15.0	15.2	-144.03	197.7	-171.2	401.6	371.9	29.67	13.538	
4,300.0	4,282.8	4,300.2	4,282.8	15.5	15.6	-145.46	197.9	-171.3	416.0	385.6	30.39	13.686	
4,400.0	4,381.3	4,401.7	4,381.3	15.9	15.9	-146.77	197.9	-171.3	430.5	399.4	31.12	13.832	
4,500.0	4,479.7	4,503.2	4,479.7	16.3	16.3	-147.99	197.9	-171.3	445.2	413.3	31.85	13.977	
4,600.0	4,578.2	4,604.7	4,578.2	16.7	16.6	-149.13	197.9	-171.3	460.0	427.5	32.58	14.122	
4,700.0	4,676.7	4,706.2	4,676.7	17.1	17.0	-150.20	197.9	-171.3	475.1	441.8	33.30	14.266	
4,800.0	4,775.2	4,807.8	4,775.2	17.5	17.3	-151.20	197.9	-171.3	490.3	456.3	34.03	14.408	
4,900.0	4,873.7	4,909.3	4,873.7	17.9	17.7	-152.15	197.9	-171.3	505.6	470.9	34.76	14.548	
5,000.0	4,972.1	4,989.2	4,972.1	18.4	18.0	-153.04	197.9	-171.3	521.1	485.7	35.41	14.718	
5,100.0	5,070.6	5,087.7	5,070.6	18.8	18.3	-153.88	197.9	-171.3	536.7	500.6	36.12	14.858	

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

Company:	Matador Production Company	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Project:	Rustler Breaks	**TVD Reference:**	KB @ 3127.5usft
Reference Site:	Noel Hensley	**MD Reference:**	KB @ 3127.5usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.14 Single User Db
Reference Design:	BLM Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Noel Hensley - Noel Hensley Fed Com #215H - Wellbore #1 - BLM Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,169.1	5,186.2	5,169.1	19.2	18.7	-154.67	197.9	-171.3	552.4	515.5	36.84	14.995	
5,300.0	5,267.6	5,284.6	5,267.6	19.6	19.0	-155.41	197.9	-171.3	568.1	530.6	37.55	15.130	
5,400.0	5,366.1	5,383.1	5,366.1	20.0	19.3	-156.12	197.9	-171.3	584.0	545.8	38.27	15.262	
5,500.0	5,464.5	5,481.6	5,464.5	20.5	19.7	-156.79	197.9	-171.3	600.0	561.0	38.98	15.391	
5,600.0	5,563.0	5,580.1	5,563.0	20.9	20.0	-157.43	197.9	-171.3	616.0	576.3	39.70	15.517	
5,700.0	5,661.5	5,678.6	5,661.5	21.3	20.4	-158.03	197.9	-171.3	632.1	591.7	40.41	15.641	
5,800.0	5,760.0	5,777.0	5,760.0	21.8	20.7	-158.60	197.9	-171.3	648.3	607.2	41.13	15.762	
5,900.0	5,858.5	5,875.5	5,858.5	22.2	21.1	-159.15	197.9	-171.3	664.5	622.7	41.85	15.880	
6,000.0	5,957.0	5,974.0	5,957.0	22.6	21.4	-159.67	197.9	-171.3	680.8	638.2	42.56	15.996	
6,100.0	6,055.4	6,072.5	6,055.4	23.1	21.8	-160.16	197.9	-171.3	697.1	653.9	43.28	16.109	
6,200.0	6,153.9	6,171.0	6,153.9	23.5	22.1	-160.63	197.9	-171.3	713.5	669.5	43.99	16.219	
6,300.0	6,252.4	6,269.4	6,252.4	23.9	22.5	-161.09	197.9	-171.3	730.0	685.3	44.71	16.326	
6,400.0	6,350.9	6,367.9	6,350.9	24.4	22.8	-161.52	197.9	-171.3	746.4	701.0	45.43	16.431	
6,500.0	6,449.4	6,466.4	6,449.4	24.8	23.2	-161.93	197.9	-171.3	762.9	716.8	46.14	16.534	
6,600.0	6,547.8	6,564.9	6,547.8	25.2	23.5	-162.33	197.9	-171.3	779.5	732.6	46.86	16.634	
6,700.0	6,646.3	6,663.4	6,646.3	25.7	23.9	-162.70	197.9	-171.3	796.1	748.5	47.58	16.732	
6,800.0	6,744.8	6,761.8	6,744.8	26.1	24.2	-163.07	197.9	-171.3	812.7	764.4	48.30	16.827	
6,900.0	6,843.3	6,860.3	6,843.3	26.5	24.5	-163.42	197.9	-171.3	829.3	780.3	49.01	16.921	
7,000.0	6,941.8	6,958.8	6,941.8	27.0	24.9	-163.75	197.9	-171.3	846.0	796.3	49.73	17.012	
7,100.0	7,040.2	7,057.3	7,040.2	27.4	25.2	-164.07	197.9	-171.3	862.7	812.3	50.45	17.101	
7,200.0	7,138.7	7,155.8	7,138.7	27.9	25.6	-164.38	197.9	-171.3	879.5	828.3	51.17	17.188	
7,300.0	7,237.2	7,254.3	7,237.2	28.3	25.9	-164.68	197.9	-171.3	896.2	844.3	51.89	17.273	
7,400.0	7,335.7	7,352.7	7,335.7	28.7	26.3	-164.97	197.9	-171.3	913.0	860.4	52.61	17.355	
7,500.0	7,434.2	7,451.2	7,434.2	29.2	26.6	-165.25	197.9	-171.3	929.8	876.5	53.32	17.437	
7,600.0	7,532.6	7,549.7	7,532.6	29.6	27.0	-165.51	197.9	-171.3	946.6	892.6	54.04	17.516	
7,666.2	7,597.8	7,614.9	7,597.8	29.9	27.2	-165.69	197.9	-171.3	957.8	903.2	54.52	17.567	
7,700.0	7,631.1	7,648.2	7,631.1	30.0	27.3	-165.79	197.9	-171.3	963.3	908.5	54.76	17.591	
7,800.0	7,730.0	7,747.0	7,730.0	30.5	27.7	-166.06	197.9	-171.3	978.1	922.6	55.48	17.629	
7,900.0	7,829.2	7,846.2	7,829.2	30.9	28.0	-166.28	197.9	-171.3	990.3	934.1	56.20	17.622	
8,000.0	7,928.7	7,945.7	7,928.7	31.3	28.4	-166.45	197.9	-171.3	1,000.0	943.1	56.91	17.571	
8,100.0	8,028.4	8,045.5	8,028.4	31.6	28.7	-166.58	197.9	-171.3	1,007.2	949.6	57.62	17.479	
8,200.0	8,128.3	8,145.3	8,128.3	32.0	29.1	-166.66	197.9	-171.3	1,011.9	953.5	58.33	17.347	
8,300.0	8,228.3	8,245.3	8,228.3	32.3	29.5	-166.69	197.9	-171.3	1,014.0	955.0	59.04	17.175	
8,332.9	8,261.1	8,278.2	8,261.1	32.4	29.6	-90.68	197.9	-171.3	1,014.1	954.9	59.27	17.111	
8,400.0	8,328.3	8,345.3	8,328.3	32.6	29.8	-90.68	197.9	-171.3	1,014.1	954.4	59.74	16.977	
8,500.0	8,428.3	8,445.3	8,428.3	33.0	30.2	-90.68	197.9	-171.3	1,014.1	953.7	60.43	16.781	
8,600.0	8,528.3	8,545.3	8,528.3	33.3	30.5	-90.68	197.9	-171.3	1,014.1	953.0	61.13	16.590	
8,700.0	8,628.3	8,645.3	8,628.3	33.6	30.9	-90.68	197.9	-171.3	1,014.1	952.3	61.83	16.402	
8,800.0	8,728.2	8,745.3	8,728.2	33.9	31.2	-90.68	197.9	-171.3	1,014.1	951.6	62.53	16.219	
8,800.7	8,729.0	8,746.1	8,729.0	33.9	31.2	-90.68	197.9	-171.3	1,014.1	951.6	62.53	16.218	
8,850.0	8,778.2	8,804.8	8,778.2	34.1	31.4	89.69	197.9	-171.3	1,014.1	951.2	62.90	16.122	
8,894.8	8,822.6	8,839.7	8,822.6	34.2	31.6	90.00	197.9	-171.3	1,014.1	950.9	63.17	16.054	
8,900.0	8,827.8	8,844.8	8,827.8	34.2	31.6	90.05	197.9	-171.3	1,014.1	950.9	63.20	16.045	
8,950.0	8,876.6	8,893.6	8,876.6	34.4	31.8	90.63	197.9	-171.3	1,014.2	950.6	63.53	15.964	
9,000.0	8,924.3	8,941.9	8,924.8	34.5	31.9	91.41	197.7	-171.3	1,014.4	950.6	63.85	15.889	
9,050.0	8,970.5	8,992.1	8,974.9	34.6	32.1	92.26	194.3	-171.3	1,015.0	950.8	64.15	15.822	
9,100.0	9,014.8	9,043.8	9,026.0	34.7	32.2	93.10	186.2	-171.3	1,015.8	951.3	64.45	15.762	
9,150.0	9,057.0	9,097.3	9,077.8	34.8	32.4	93.94	173.1	-171.2	1,016.8	952.1	64.73	15.709	
9,200.0	9,096.7	9,152.5	9,129.8	34.9	32.5	94.76	154.5	-171.2	1,018.1	953.1	65.00	15.663	
9,250.0	9,133.6	9,209.7	9,181.4	35.0	32.7	95.56	130.0	-171.2	1,019.5	954.3	65.25	15.625	
9,300.0	9,167.4	9,268.8	9,232.1	35.0	32.8	96.33	99.5	-171.1	1,021.1	955.6	65.48	15.594	
9,350.0	9,197.9	9,330.1	9,280.9	35.1	32.9	97.06	62.5	-171.0	1,022.8	957.1	65.69	15.569	

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

Anticollision Report

Company:	Matador Production Company	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Project:	Rustler Breaks	**TVD Reference:**	KB @ 3127.5usft
Reference Site:	Noel Hensley	**MD Reference:**	KB @ 3127.5usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.14 Single User Db
Reference Design:	BLM Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Noel Hensley - Noel Hensley Fed Com #215H - Wellbore #1 - BLM Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,400.0	9,224.8	9,393.5	9,326.9	35.1	33.0	97.75	19.0	-171.0	1,024.5	958.6	65.89	15.548	
9,450.0	9,248.0	9,459.0	9,369.2	35.2	33.2	98.38	-31.1	-170.9	1,026.1	960.1	66.08	15.528	
9,500.0	9,267.1	9,526.6	9,406.5	35.3	33.3	98.93	-87.3	-170.8	1,027.7	961.4	66.28	15.506	
9,550.0	9,282.2	9,595.9	9,437.6	35.3	33.5	99.40	-149.3	-170.6	1,029.1	962.6	66.50	15.475	
9,600.0	9,293.1	9,666.9	9,461.4	35.4	33.7	99.76	-216.0	-170.5	1,030.2	963.5	66.76	15.432	
9,650.0	9,299.7	9,739.1	9,477.1	35.5	33.9	100.02	-286.5	-170.4	1,031.1	964.0	67.08	15.372	
9,700.0	9,302.0	9,812.0	9,483.7	35.6	34.1	100.15	-359.0	-170.3	1,031.6	964.2	67.46	15.293	
9,700.7	9,302.0	9,813.1	9,483.8	35.6	34.1	100.15	-360.2	-170.3	1,031.6	964.2	67.46	15.292	
9,800.0	9,302.0	9,917.1	9,484.0	35.9	34.5	100.16	-464.2	-170.1	1,031.9	963.7	68.20	15.130	
9,900.0	9,302.0	10,017.1	9,484.0	36.3	34.9	100.16	-564.2	-169.9	1,032.1	963.1	69.07	14.944	
10,000.0	9,302.0	10,117.1	9,484.0	36.8	35.4	100.15	-664.2	-169.7	1,032.4	962.3	70.07	14.733	
10,100.0	9,302.0	10,217.1	9,484.0	37.3	36.0	100.15	-764.2	-169.5	1,032.6	961.4	71.22	14.500	
10,200.0	9,302.0	10,317.1	9,484.0	37.9	36.6	100.15	-864.2	-169.4	1,032.9	960.4	72.49	14.249	
10,300.0	9,302.0	10,417.1	9,484.0	38.6	37.3	100.15	-964.2	-169.2	1,033.1	959.2	73.88	13.983	
10,400.0	9,302.0	10,517.1	9,484.0	39.3	38.1	100.14	-1,064.1	-169.0	1,033.3	958.0	75.39	13.707	
10,500.0	9,302.0	10,617.1	9,484.0	40.1	38.9	100.14	-1,164.1	-168.8	1,033.6	956.6	77.01	13.422	
10,600.0	9,302.0	10,717.1	9,484.0	40.9	39.7	100.14	-1,264.1	-168.6	1,033.8	955.1	78.73	13.132	
10,700.0	9,302.0	10,817.1	9,484.0	41.8	40.6	100.14	-1,364.1	-168.5	1,034.1	953.5	80.54	12.839	
10,800.0	9,302.0	10,917.1	9,484.0	42.8	41.6	100.13	-1,464.1	-168.3	1,034.3	951.9	82.44	12.546	
10,900.0	9,302.0	11,017.1	9,484.0	43.7	42.6	100.13	-1,564.1	-168.1	1,034.6	950.1	84.43	12.253	
11,000.0	9,302.0	11,117.1	9,484.0	44.7	43.6	100.13	-1,664.1	-167.9	1,034.8	948.3	86.50	11.964	
11,100.0	9,302.0	11,217.1	9,484.0	45.8	44.7	100.13	-1,764.1	-167.7	1,035.0	946.4	88.63	11.678	
11,200.0	9,302.0	11,317.1	9,484.0	46.9	45.8	100.13	-1,864.1	-167.6	1,035.3	944.4	90.83	11.397	
11,300.0	9,302.0	11,417.1	9,484.0	48.0	46.9	100.12	-1,964.1	-167.4	1,035.5	942.4	93.10	11.123	
11,400.0	9,302.0	11,517.1	9,484.0	49.2	48.1	100.12	-2,064.1	-167.2	1,035.8	940.3	95.42	10.854	
11,500.0	9,302.0	11,617.1	9,484.0	50.3	49.3	100.12	-2,164.1	-167.0	1,036.0	938.2	97.80	10.593	
11,600.0	9,302.0	11,717.1	9,484.0	51.5	50.5	100.12	-2,264.1	-166.8	1,036.2	936.0	100.23	10.339	
11,700.0	9,302.0	11,817.1	9,484.0	52.8	51.8	100.11	-2,364.1	-166.7	1,036.5	933.8	102.70	10.093	
11,800.0	9,302.0	11,917.1	9,484.0	54.0	53.0	100.11	-2,464.1	-166.5	1,036.7	931.5	105.21	9.853	
11,900.0	9,302.0	12,017.1	9,484.0	55.3	54.3	100.11	-2,564.1	-166.3	1,037.0	929.2	107.77	9.622	
12,000.0	9,302.0	12,117.1	9,484.0	56.6	55.6	100.11	-2,664.1	-166.1	1,037.2	926.8	110.36	9.398	
12,100.0	9,302.0	12,217.1	9,484.0	57.9	57.0	100.10	-2,764.1	-165.9	1,037.4	924.5	112.99	9.182	
12,200.0	9,302.0	12,317.1	9,484.0	59.2	58.3	100.10	-2,864.1	-165.8	1,037.7	922.0	115.65	8.973	
12,300.0	9,302.0	12,417.1	9,484.0	60.6	59.7	100.10	-2,964.1	-165.6	1,037.9	919.6	118.34	8.771	
12,400.0	9,302.0	12,517.1	9,484.0	61.9	61.0	100.10	-3,064.1	-165.4	1,038.2	917.1	121.06	8.576	
12,500.0	9,302.0	12,617.1	9,484.0	63.3	62.4	100.09	-3,164.1	-165.2	1,038.4	914.6	123.80	8.388	
12,600.0	9,302.0	12,717.1	9,484.0	64.7	63.8	100.09	-3,264.1	-165.0	1,038.7	912.1	126.57	8.206	
12,700.0	9,302.0	12,817.1	9,484.0	66.1	65.2	100.09	-3,364.1	-164.9	1,038.9	909.5	129.36	8.031	
12,800.0	9,302.0	12,917.1	9,484.0	67.5	66.7	100.09	-3,464.1	-164.7	1,039.1	907.0	132.18	7.862	
12,900.0	9,302.0	13,017.1	9,484.0	68.9	68.1	100.08	-3,564.1	-164.5	1,039.4	904.4	135.01	7.698	
13,000.0	9,302.0	13,117.1	9,484.0	70.3	69.5	100.08	-3,664.1	-164.3	1,039.6	901.8	137.86	7.541	
13,100.0	9,302.0	13,217.1	9,484.0	71.8	71.0	100.08	-3,764.1	-164.1	1,039.9	899.1	140.73	7.389	
13,200.0	9,302.0	13,317.1	9,484.0	73.2	72.4	100.08	-3,864.1	-164.0	1,040.1	896.5	143.62	7.242	
13,300.0	9,302.0	13,417.1	9,484.0	74.7	73.9	100.08	-3,964.1	-163.8	1,040.3	893.8	146.53	7.100	
13,400.0	9,302.0	13,517.1	9,484.0	76.1	75.4	100.07	-4,064.1	-163.6	1,040.6	891.1	149.44	6.963	
13,500.0	9,302.0	13,617.1	9,484.0	77.6	76.9	100.07	-4,164.1	-163.4	1,040.8	888.4	152.37	6.831	
13,600.0	9,302.0	13,717.1	9,484.0	79.1	78.3	100.07	-4,264.1	-163.2	1,041.1	885.7	155.32	6.703	
13,700.0	9,302.0	13,817.1	9,484.0	80.6	79.8	100.07	-4,364.1	-163.1	1,041.3	883.0	158.28	6.579	
13,800.0	9,302.0	13,917.1	9,484.0	82.1	81.3	100.06	-4,464.1	-162.9	1,041.5	880.3	161.25	6.459	
13,900.0	9,302.0	14,017.1	9,484.0	83.5	82.8	100.06	-4,564.1	-162.7	1,041.8	877.6	164.23	6.344	
14,000.0	9,302.0	14,117.1	9,484.0	85.1	84.4	100.06	-4,664.1	-162.5	1,042.0	874.8	167.22	6.232	
14,100.0	9,302.0	14,217.1	9,484.0	86.6	85.9	100.06	-4,764.1	-162.3	1,042.3	872.1	170.22	6.123	

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

Company:	Matador Production Company	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Project:	Rustler Breaks	**TVD Reference:**	KB @ 3127.5usft
Reference Site:	Noel Hensley	**MD Reference:**	KB @ 3127.5usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.14 Single User Db
Reference Design:	BLM Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Noel Hensley - Noel Hensley Fed Com #215H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,144.2	9,302.0	14,261.3	9,484.0	87.2	86.5	100.06	-4,808.4	-162.3	1,042.4	870.8	171.55	6.076	
14,144.7	9,302.0	14,261.8	9,484.0	87.3	86.5	100.06	-4,808.8	-162.3	1,042.4	870.8	171.56	6.076	

Company:	Matador Production Company	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Project:	Rustler Breaks	**TVD Reference:**	KB @ 3127.5usft
Reference Site:	Noel Hensley	**MD Reference:**	KB @ 3127.5usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.14 Single User Db
Reference Design:	BLM Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Noel Hensley - Noel Hensley Fed Com #221H - Wellbore #1 - BLM Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-105.93	-31.3	-109.7	114.1				
100.0	100.0	100.0	100.0	0.1	0.1	-105.93	-31.3	-109.7	114.1	113.8	0.26	445.044	
200.0	200.0	200.0	200.0	0.5	0.5	-105.93	-31.3	-109.7	114.1	113.1	0.97	117.203	
300.0	300.0	300.0	300.0	0.8	0.8	-105.93	-31.3	-109.7	114.1	112.4	1.69	67.488	
400.0	400.0	400.0	400.0	1.2	1.2	-105.93	-31.3	-109.7	114.1	111.7	2.41	47.387	
500.0	500.0	500.0	500.0	1.6	1.6	-105.93	-31.3	-109.7	114.1	110.9	3.12	36.513	
600.0	600.0	600.0	600.0	1.9	1.9	-105.93	-31.3	-109.7	114.1	110.2	3.84	29.697	
700.0	700.0	700.0	700.0	2.3	2.3	-105.93	-31.3	-109.7	114.1	109.5	4.56	25.026	
800.0	800.0	800.0	800.0	2.6	2.6	-105.93	-31.3	-109.7	114.1	108.8	5.27	21.625	
900.0	900.0	900.0	900.0	3.0	3.0	-105.93	-31.3	-109.7	114.1	108.1	5.99	19.037	
1,000.0	1,000.0	1,000.0	1,000.0	3.4	3.4	-105.93	-31.3	-109.7	114.1	107.4	6.71	17.003	
1,100.0	1,100.0	1,100.0	1,100.0	3.7	3.7	-105.93	-31.3	-109.7	114.1	106.6	7.43	15.361	
1,200.0	1,200.0	1,200.0	1,200.0	4.1	4.1	-105.93	-31.3	-109.7	114.1	105.9	8.14	14.009	
1,300.0	1,300.0	1,300.0	1,300.0	4.4	4.4	-105.93	-31.3	-109.7	114.1	105.2	8.86	12.875	
1,400.0	1,400.0	1,400.0	1,400.0	4.8	4.8	-105.93	-31.3	-109.7	114.1	104.5	9.58	11.911	
1,500.0	1,500.0	1,500.0	1,500.0	5.1	5.1	-105.93	-31.3	-109.7	114.1	103.8	10.29	11.082	
1,600.0	1,600.0	1,600.0	1,600.0	5.5	5.5	-105.93	-31.3	-109.7	114.1	103.1	11.01	10.360	
1,700.0	1,700.0	1,700.0	1,700.0	5.9	5.9	-105.93	-31.3	-109.7	114.1	102.3	11.73	9.727	
1,800.0	1,800.0	1,800.0	1,800.0	6.2	6.2	-105.93	-31.3	-109.7	114.1	101.6	12.44	9.166	
1,900.0	1,900.0	1,900.0	1,900.0	6.6	6.6	-105.93	-31.3	-109.7	114.1	100.9	13.16	8.667	
2,000.0	2,000.0	2,000.0	2,000.0	6.9	6.9	-105.93	-31.3	-109.7	114.1	100.2	13.88	8.219	
2,100.0	2,100.0	2,100.0	2,100.0	7.3	7.3	-105.93	-31.3	-109.7	114.1	99.5	14.60	7.815	
2,200.0	2,200.0	2,200.0	2,200.0	7.7	7.7	-105.93	-31.3	-109.7	114.1	98.8	15.31	7.450	
2,300.0	2,300.0	2,300.0	2,300.0	8.0	8.0	-105.93	-31.3	-109.7	114.1	98.0	16.03	7.116	
2,400.0	2,400.0	2,400.0	2,400.0	8.4	8.4	-105.93	-31.3	-109.7	114.1	97.3	16.75	6.812	
2,500.0	2,500.0	2,500.0	2,500.0	8.7	8.7	-105.93	-31.3	-109.7	114.1	96.6	17.46	6.532	CC, ES
2,600.0	2,600.0	2,600.0	2,600.0	9.1	9.1	178.07	-31.3	-109.7	114.9	96.8	18.17	6.325	
2,700.0	2,700.0	2,700.0	2,700.0	9.4	9.4	178.11	-31.3	-109.7	117.6	98.7	18.88	6.227	
2,800.0	2,799.9	2,800.1	2,799.9	9.8	9.8	178.17	-31.3	-109.7	121.9	102.3	19.58	6.226	SF
2,900.0	2,899.7	2,900.3	2,899.7	10.1	10.2	178.26	-31.3	-109.7	128.0	107.7	20.29	6.310	
3,000.0	2,999.4	3,000.6	2,999.4	10.5	10.5	178.36	-31.3	-109.7	135.9	114.9	21.00	6.471	
3,100.0	3,098.9	3,101.1	3,098.9	10.8	10.9	178.46	-31.3	-109.7	145.4	123.7	21.70	6.701	
3,200.0	3,198.3	3,197.1	3,197.1	11.2	11.2	178.60	-31.3	-109.9	156.9	134.5	22.39	7.009	
3,300.0	3,297.4	3,293.6	3,293.6	11.6	11.6	178.96	-30.9	-111.5	171.5	148.4	23.06	7.434	
3,400.0	3,396.3	3,389.3	3,389.2	11.9	11.9	179.49	-30.2	-114.6	189.2	165.5	23.73	7.973	
3,500.0	3,494.9	3,484.1	3,483.9	12.3	12.2	-179.88	-29.2	-119.2	210.1	185.7	24.38	8.617	
3,600.0	3,593.4	3,578.0	3,577.6	12.7	12.5	-179.19	-27.9	-125.4	233.4	208.3	25.03	9.324	
3,700.0	3,691.9	3,671.3	3,670.6	13.1	12.9	-178.48	-26.3	-132.9	258.1	232.4	25.66	10.056	
3,800.0	3,790.4	3,763.7	3,762.6	13.5	13.2	-177.77	-24.3	-141.9	284.2	258.0	26.29	10.812	
3,900.0	3,888.9	3,855.4	3,853.6	13.8	13.5	-177.06	-22.1	-152.2	311.9	285.0	26.90	11.592	
4,000.0	3,987.3	3,946.2	3,943.7	14.2	13.9	-176.38	-19.6	-163.8	341.0	313.4	27.51	12.394	
4,100.0	4,085.8	4,036.2	4,032.7	14.6	14.2	-175.71	-16.8	-176.6	371.5	343.4	28.11	13.217	
4,200.0	4,184.3	4,125.3	4,120.5	15.0	14.5	-175.07	-13.7	-190.7	403.4	374.7	28.69	14.060	
4,300.0	4,282.8	4,218.0	4,211.8	15.5	14.9	-174.45	-10.3	-206.4	436.4	407.1	29.34	14.875	
4,400.0	4,381.3	4,312.2	4,304.7	15.9	15.2	-173.90	-6.9	-222.4	469.5	439.5	30.01	15.643	
4,500.0	4,479.7	4,406.5	4,397.5	16.3	15.6	-173.42	-3.4	-238.4	502.6	471.9	30.69	16.377	
4,600.0	4,578.2	4,500.8	4,490.4	16.7	15.9	-173.01	0.1	-254.4	535.8	504.4	31.37	17.079	
4,700.0	4,676.7	4,595.1	4,583.2	17.1	16.3	-172.64	3.5	-270.4	568.9	536.9	32.05	17.751	
4,800.0	4,775.2	4,689.4	4,676.1	17.5	16.7	-172.31	7.0	-286.4	602.1	569.4	32.73	18.394	
4,900.0	4,873.7	4,783.6	4,768.9	17.9	17.1	-172.01	10.5	-302.4	635.3	601.9	33.42	19.011	
5,000.0	4,972.1	4,877.9	4,861.8	18.4	17.4	-171.75	13.9	-318.4	668.5	634.4	34.11	19.602	
5,100.0	5,070.6	4,972.2	4,954.6	18.8	17.8	-171.51	17.4	-334.4	701.8	667.0	34.79	20.169	

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

Company:	Matador Production Company	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Project:	Rustler Breaks	**TVD Reference:**	KB @ 3127.5usft
Reference Site:	Noel Hensley	**MD Reference:**	KB @ 3127.5usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.14 Single User Db
Reference Design:	BLM Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Noel Hensley - Noel Hensley Fed Com #221H - Wellbore #1 - BLM Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,169.1	5,066.5	5,047.5	19.2	18.2	-171.29	20.9	-350.4	735.0	699.5	35.48	20.713	
5,300.0	5,267.6	5,160.8	5,140.3	19.6	18.6	-171.09	24.4	-366.4	768.3	732.1	36.18	21.236	
5,400.0	5,366.1	5,255.0	5,233.2	20.0	19.0	-170.91	27.8	-382.4	801.5	764.6	36.87	21.739	
5,500.0	5,464.5	5,349.3	5,326.0	20.5	19.3	-170.74	31.3	-398.4	834.8	797.2	37.56	22.223	
5,600.0	5,563.0	5,443.6	5,418.9	20.9	19.7	-170.59	34.8	-414.4	868.0	829.8	38.26	22.689	
5,700.0	5,661.5	5,537.9	5,511.7	21.3	20.1	-170.44	38.2	-430.4	901.3	862.3	38.95	23.137	
5,800.0	5,760.0	5,632.2	5,604.6	21.8	20.5	-170.31	41.7	-446.4	934.6	894.9	39.65	23.570	
5,900.0	5,858.5	5,726.4	5,697.4	22.2	20.9	-170.19	45.2	-462.4	967.9	927.5	40.35	23.986	
6,000.0	5,957.0	5,820.7	5,790.2	22.6	21.3	-170.07	48.6	-478.4	1,001.1	960.1	41.05	24.389	
6,100.0	6,055.4	5,915.0	5,883.1	23.1	21.7	-169.96	52.1	-494.4	1,034.4	992.7	41.75	24.777	
6,200.0	6,153.9	6,009.3	5,975.9	23.5	22.1	-169.86	55.6	-510.4	1,067.7	1,025.3	42.45	25.152	
6,300.0	6,252.4	6,103.6	6,068.8	23.9	22.5	-169.76	59.0	-526.4	1,101.0	1,057.9	43.15	25.514	
6,400.0	6,350.9	6,202.2	6,161.6	24.4	22.9	-169.67	62.5	-542.4	1,134.3	1,090.4	43.87	25.855	
6,500.0	6,449.4	6,307.9	6,254.5	24.8	23.4	-169.59	66.0	-558.4	1,167.6	1,123.0	44.62	26.169	
6,600.0	6,547.8	6,386.4	6,347.3	25.2	23.7	-169.51	69.5	-574.4	1,200.9	1,155.6	45.26	26.531	
6,700.0	6,646.3	6,480.7	6,440.2	25.7	24.1	-169.43	72.9	-590.4	1,234.2	1,188.2	45.97	26.848	
6,800.0	6,744.8	6,574.9	6,533.0	26.1	24.5	-169.36	76.4	-606.4	1,267.5	1,220.8	46.68	27.156	
6,900.0	6,843.3	6,669.2	6,625.9	26.5	24.9	-169.29	79.9	-622.4	1,300.8	1,253.4	47.38	27.454	
7,000.0	6,941.8	6,763.5	6,718.7	27.0	25.3	-169.23	83.3	-638.4	1,334.1	1,286.0	48.09	27.742	
7,100.0	7,040.2	6,857.8	6,811.6	27.4	25.7	-169.16	86.8	-654.4	1,367.4	1,318.6	48.80	28.023	
7,200.0	7,138.7	6,952.1	6,904.4	27.9	26.1	-169.11	90.3	-670.4	1,400.8	1,351.2	49.51	28.294	
7,300.0	7,237.2	7,046.3	6,997.3	28.3	26.5	-169.05	93.7	-686.4	1,434.1	1,383.8	50.22	28.558	
7,400.0	7,335.7	7,140.6	7,090.1	28.7	26.9	-169.00	97.2	-702.4	1,467.4	1,416.4	50.93	28.814	
7,500.0	7,434.2	7,234.9	7,183.0	29.2	27.3	-168.95	100.7	-718.4	1,500.7	1,449.1	51.64	29.063	
7,600.0	7,532.6	7,329.2	7,275.8	29.6	27.7	-168.90	104.1	-734.4	1,534.0	1,481.7	52.35	29.305	
7,666.2	7,597.8	7,408.4	7,337.3	29.9	28.1	-168.87	106.4	-745.0	1,556.1	1,503.2	52.88	29.426	
7,700.0	7,631.1	7,423.5	7,368.7	30.0	28.2	-168.88	107.6	-750.4	1,567.2	1,514.1	53.06	29.538	
7,800.0	7,730.0	7,518.5	7,462.2	30.5	28.6	-168.92	111.1	-766.5	1,598.5	1,544.7	53.77	29.728	
7,900.0	7,829.2	7,614.2	7,556.5	30.9	29.0	-168.93	114.6	-782.8	1,627.3	1,572.8	54.48	29.868	
8,000.0	7,928.7	7,710.6	7,651.5	31.3	29.4	-168.91	118.2	-799.1	1,653.7	1,598.5	55.20	29.958	
8,100.0	8,028.4	7,807.7	7,747.0	31.6	29.8	-168.88	121.8	-815.6	1,677.5	1,621.6	55.91	30.003	
8,200.0	8,128.3	7,905.3	7,843.2	32.0	30.3	-168.82	125.3	-832.2	1,698.9	1,642.3	56.63	30.002	
8,300.0	8,228.3	8,003.4	7,939.8	32.3	30.7	-168.74	129.0	-848.8	1,717.8	1,660.5	57.34	29.958	
8,332.9	8,261.1	8,035.8	7,971.6	32.4	30.8	-92.69	130.1	-854.3	1,723.5	1,665.9	57.57	29.935	
8,400.0	8,328.3	8,101.9	8,036.8	32.6	31.1	-92.59	132.6	-865.5	1,734.7	1,676.7	58.05	29.884	
8,500.0	8,428.3	8,200.4	8,133.7	33.0	31.5	-92.45	136.2	-882.3	1,751.5	1,692.8	58.76	29.810	
8,600.0	8,528.3	8,301.2	8,230.7	33.3	32.0	-92.30	139.8	-899.0	1,768.4	1,708.9	59.47	29.733	
8,700.0	8,628.3	8,397.3	8,327.7	33.6	32.4	-92.16	143.5	-915.7	1,785.2	1,725.0	60.18	29.667	
8,800.0	8,728.2	8,504.2	8,424.7	33.9	32.9	-92.03	147.1	-932.4	1,802.0	1,741.1	60.92	29.582	
8,800.7	8,729.0	8,496.5	8,425.4	33.9	32.8	-92.03	147.1	-932.5	1,802.2	1,741.3	60.89	29.597	
8,850.0	8,778.2	8,544.9	8,473.1	34.1	33.1	87.52	148.9	-940.7	1,810.4	1,749.2	61.23	29.566	
8,900.0	8,827.8	8,606.5	8,520.9	34.2	33.3	86.96	150.7	-949.0	1,818.6	1,757.0	61.61	29.517	
8,950.0	8,876.6	8,641.1	8,567.8	34.4	33.5	86.54	152.4	-957.1	1,826.6	1,764.7	61.88	29.517	
9,000.0	8,924.3	8,687.5	8,613.5	34.5	33.7	86.24	154.1	-964.9	1,834.5	1,772.3	62.19	29.499	
9,050.0	8,970.5	8,732.3	8,657.6	34.6	33.9	86.05	155.8	-972.5	1,842.3	1,779.8	62.48	29.486	
9,100.0	9,014.8	8,775.2	8,699.8	34.7	34.1	85.93	157.4	-979.8	1,850.1	1,787.3	62.76	29.481	
9,150.0	9,057.0	8,815.7	8,739.7	34.8	34.2	85.86	158.9	-986.7	1,857.9	1,794.9	63.01	29.485	
9,200.0	9,096.7	8,853.7	8,777.1	34.9	34.4	85.80	160.2	-993.1	1,866.0	1,802.7	63.26	29.498	
9,250.0	9,133.6	8,888.7	8,811.7	35.0	34.6	85.73	161.5	-999.1	1,874.3	1,810.8	63.48	29.524	
9,300.0	9,167.4	8,920.7	8,843.1	35.0	34.7	85.60	162.7	-1,004.5	1,882.9	1,819.2	63.69	29.563	
9,350.0	9,197.9	8,949.2	8,871.2	35.1	34.8	85.39	163.8	-1,009.3	1,892.1	1,828.2	63.89	29.617	
9,400.0	9,224.8	8,974.1	8,895.7	35.1	34.9	85.07	164.7	-1,013.6	1,901.8	1,837.7	64.06	29.686	

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

Company:	Matador Production Company	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Project:	Rustler Breaks	**TVD Reference:**	KB @ 3127.5usft
Reference Site:	Noel Hensley	**MD Reference:**	KB @ 3127.5usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.14 Single User Db
Reference Design:	BLM Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Noel Hensley - Noel Hensley Fed Com #221H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,450.0	9,248.0	9,004.8	8,916.5	35.2	35.1	84.60	165.5	-1,017.1	1,912.1	1,847.8	64.26	29.756	
9,500.0	9,267.1	9,012.4	8,933.4	35.3	35.1	83.98	166.1	-1,020.1	1,923.0	1,858.7	64.37	29.875	
9,550.0	9,282.2	9,025.5	8,946.3	35.3	35.2	83.17	166.6	-1,022.3	1,934.7	1,870.2	64.50	29.997	
9,600.0	9,293.1	9,034.4	8,955.1	35.4	35.2	82.18	166.9	-1,023.8	1,946.9	1,882.3	64.61	30.135	
9,650.0	9,299.7	9,039.0	8,959.6	35.5	35.2	81.00	167.1	-1,024.6	1,959.8	1,895.1	64.70	30.291	
9,700.0	9,302.0	9,039.3	8,960.0	35.6	35.2	79.64	167.1	-1,024.6	1,973.2	1,908.4	64.77	30.464	
9,700.7	9,302.0	9,039.3	8,959.9	35.6	35.2	79.62	167.1	-1,024.6	1,973.4	1,908.6	64.77	30.466	
9,800.0	9,302.0	9,035.6	8,956.3	35.9	35.2	79.51	166.9	-1,024.0	2,002.8	1,937.8	64.92	30.848	
9,900.0	9,302.0	9,031.8	8,952.6	36.3	35.2	79.40	166.8	-1,023.4	2,036.8	1,971.7	65.11	31.281	
10,000.0	9,302.0	9,028.1	8,948.9	36.8	35.2	79.28	166.7	-1,022.7	2,075.1	2,009.7	65.33	31.762	
10,100.0	9,302.0	9,024.3	8,945.2	37.3	35.2	79.17	166.5	-1,022.1	2,117.4	2,051.8	65.57	32.290	
10,200.0	9,302.0	9,020.6	8,941.5	37.9	35.2	79.06	166.4	-1,021.4	2,163.5	2,097.6	65.83	32.862	
10,300.0	9,302.0	9,016.8	8,937.8	38.6	35.1	78.94	166.3	-1,020.8	2,213.1	2,147.0	66.11	33.478	
10,400.0	9,302.0	9,013.1	8,934.1	39.3	35.1	78.83	166.1	-1,020.2	2,266.1	2,199.7	66.39	34.135	
10,500.0	9,302.0	11,565.0	10,370.0	40.1	44.0	117.97	-1,167.8	-1,162.2	2,276.9	2,204.5	72.42	31.441	
10,600.0	9,302.0	11,665.0	10,370.0	40.9	44.8	117.97	-1,267.8	-1,161.9	2,277.0	2,203.1	73.94	30.795	
10,700.0	9,302.0	11,765.0	10,370.0	41.8	45.5	117.97	-1,367.8	-1,161.7	2,277.1	2,201.6	75.55	30.139	
10,800.0	9,302.0	11,865.0	10,370.0	42.8	46.4	117.97	-1,467.8	-1,161.4	2,277.3	2,200.0	77.25	29.479	
10,900.0	9,302.0	11,965.0	10,370.0	43.7	47.2	117.97	-1,567.8	-1,161.1	2,277.4	2,198.4	79.02	28.819	
11,000.0	9,302.0	12,065.0	10,370.0	44.7	48.2	117.97	-1,667.8	-1,160.8	2,277.6	2,196.7	80.87	28.162	
11,100.0	9,302.0	12,165.0	10,370.0	45.8	49.1	117.96	-1,767.8	-1,160.6	2,277.7	2,194.9	82.79	27.513	
11,200.0	9,302.0	12,265.0	10,370.0	46.9	50.1	117.96	-1,867.8	-1,160.3	2,277.8	2,193.1	84.77	26.872	
11,300.0	9,302.0	12,365.0	10,370.0	48.0	51.1	117.96	-1,967.8	-1,160.0	2,278.0	2,191.1	86.80	26.242	
11,400.0	9,302.0	12,465.0	10,370.0	49.2	52.2	117.96	-2,067.8	-1,159.8	2,278.1	2,189.2	88.90	25.626	
11,500.0	9,302.0	12,565.0	10,370.0	50.3	53.3	117.96	-2,167.8	-1,159.5	2,278.2	2,187.2	91.04	25.024	
11,600.0	9,302.0	12,665.0	10,370.0	51.5	54.4	117.95	-2,267.8	-1,159.2	2,278.4	2,185.1	93.23	24.437	
11,700.0	9,302.0	12,765.0	10,370.0	52.8	55.5	117.95	-2,367.8	-1,158.9	2,278.5	2,183.0	95.47	23.866	
11,800.0	9,302.0	12,865.0	10,370.0	54.0	56.7	117.95	-2,467.8	-1,158.7	2,278.6	2,180.9	97.75	23.311	
11,900.0	9,302.0	12,965.0	10,370.0	55.3	57.9	117.95	-2,567.8	-1,158.4	2,278.8	2,178.7	100.07	22.772	
12,000.0	9,302.0	13,065.0	10,370.0	56.6	59.1	117.95	-2,667.8	-1,158.1	2,278.9	2,176.5	102.42	22.250	
12,100.0	9,302.0	13,165.0	10,370.0	57.9	60.4	117.95	-2,767.8	-1,157.8	2,279.0	2,174.2	104.81	21.745	
12,200.0	9,302.0	13,265.0	10,370.0	59.2	61.6	117.94	-2,867.8	-1,157.6	2,279.2	2,171.9	107.23	21.256	
12,300.0	9,302.0	13,365.0	10,370.0	60.6	62.9	117.94	-2,967.8	-1,157.3	2,279.3	2,169.6	109.67	20.783	
12,400.0	9,302.0	13,465.0	10,370.0	61.9	64.2	117.94	-3,067.8	-1,157.0	2,279.4	2,167.3	112.15	20.325	
12,500.0	9,302.0	13,565.0	10,370.0	63.3	65.5	117.94	-3,167.8	-1,156.8	2,279.6	2,164.9	114.65	19.883	
12,600.0	9,302.0	13,665.0	10,370.0	64.7	66.8	117.94	-3,267.8	-1,156.5	2,279.7	2,162.5	117.17	19.456	
12,700.0	9,302.0	13,765.0	10,370.0	66.1	68.1	117.93	-3,367.8	-1,156.2	2,279.8	2,160.1	119.72	19.043	
12,800.0	9,302.0	13,865.0	10,370.0	67.5	69.5	117.93	-3,467.8	-1,155.9	2,280.0	2,157.7	122.29	18.644	
12,900.0	9,302.0	13,965.0	10,370.0	68.9	70.9	117.93	-3,567.8	-1,155.7	2,280.1	2,155.2	124.88	18.259	
13,000.0	9,302.0	14,065.0	10,370.0	70.3	72.2	117.93	-3,667.8	-1,155.4	2,280.2	2,152.7	127.48	17.886	
13,100.0	9,302.0	14,165.0	10,370.0	71.8	73.6	117.93	-3,767.8	-1,155.1	2,280.4	2,150.3	130.11	17.527	
13,200.0	9,302.0	14,265.0	10,370.0	73.2	75.0	117.93	-3,867.8	-1,154.8	2,280.5	2,147.8	132.75	17.179	
13,300.0	9,302.0	14,365.0	10,370.0	74.7	76.4	117.92	-3,967.8	-1,154.6	2,280.6	2,145.2	135.41	16.843	
13,400.0	9,302.0	14,465.0	10,370.0	76.1	77.8	117.92	-4,067.8	-1,154.3	2,280.8	2,142.7	138.08	16.518	
13,500.0	9,302.0	14,565.0	10,370.0	77.6	79.3	117.92	-4,167.8	-1,154.0	2,280.9	2,140.1	140.76	16.204	
13,600.0	9,302.0	14,665.0	10,370.0	79.1	80.7	117.92	-4,267.8	-1,153.8	2,281.0	2,137.6	143.46	15.900	
13,700.0	9,302.0	14,765.0	10,370.0	80.6	82.2	117.92	-4,367.8	-1,153.5	2,281.2	2,135.0	146.17	15.606	
13,800.0	9,302.0	14,865.0	10,370.0	82.1	83.6	117.91	-4,467.8	-1,153.2	2,281.3	2,132.4	148.89	15.322	
13,900.0	9,302.0	14,965.0	10,370.0	83.5	85.1	117.91	-4,567.8	-1,152.9	2,281.4	2,129.8	151.62	15.047	
14,000.0	9,302.0	15,065.0	10,370.0	85.1	86.5	117.91	-4,667.8	-1,152.7	2,281.6	2,127.2	154.37	14.780	
14,100.0	9,302.0	15,165.0	10,370.0	86.6	88.0	117.91	-4,767.8	-1,152.4	2,281.7	2,124.6	157.12	14.522	
14,144.2	9,302.0	15,209.3	10,370.0	87.2	88.6	117.91	-4,812.0	-1,152.3	2,281.8	2,123.4	158.34	14.411	

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

Anticollision Report

Company:	Matador Production Company	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Project:	Rustler Breaks	**TVD Reference:**	KB @ 3127.5usft
Reference Site:	Noel Hensley	**MD Reference:**	KB @ 3127.5usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.14 Single User Db
Reference Design:	BLM Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Noel Hensley - Noel Hensley Fed Com #221H - Wellbore #1 - BLM Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance				Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	-
14,144.7	9,302.0	15,209.7	10,370.0	87.3	88.7	117.91	-4,812.4	-1,152.3	2,281.8	2,123.4	158.35	14.410	

Company:	Matador Production Company	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Project:	Rustler Breaks	**TVD Reference:**	KB @ 3127.5usft
Reference Site:	Noel Hensley	**MD Reference:**	KB @ 3127.5usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.14 Single User Db
Reference Design:	BLM Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Noel Hensley - Noel Hensley Fed Com #222H - Wellbore #1 - BLM Plan #1 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	179.42	-30.0	0.3	30.0				
100.0	100.0	100.0	100.0	0.1	0.1	179.42	-30.0	0.3	30.0	29.7	0.26	116.962	
200.0	200.0	200.0	200.0	0.5	0.5	179.42	-30.0	0.3	30.0	29.0	0.97	30.802	
300.0	300.0	300.0	300.0	0.8	0.8	179.42	-30.0	0.3	30.0	28.3	1.69	17.737	
400.0	400.0	400.0	400.0	1.2	1.2	179.42	-30.0	0.3	30.0	27.6	2.41	12.454	
500.0	500.0	500.0	500.0	1.6	1.6	179.42	-30.0	0.3	30.0	26.9	3.12	9.596	
600.0	600.0	600.0	600.0	1.9	1.9	179.42	-30.0	0.3	30.0	26.1	3.84	7.805	
700.0	700.0	700.0	700.0	2.3	2.3	179.42	-30.0	0.3	30.0	25.4	4.56	6.577	
800.0	800.0	800.0	800.0	2.6	2.6	179.42	-30.0	0.3	30.0	24.7	5.27	5.683	
900.0	900.0	900.0	900.0	3.0	3.0	179.42	-30.0	0.3	30.0	24.0	5.99	5.003	
1,000.0	1,000.0	1,000.0	1,000.0	3.4	3.4	179.42	-30.0	0.3	30.0	23.3	6.71	4.469	
1,100.0	1,100.0	1,100.0	1,100.0	3.7	3.7	179.42	-30.0	0.3	30.0	22.6	7.43	4.037	
1,200.0	1,200.0	1,200.0	1,200.0	4.1	4.1	179.42	-30.0	0.3	30.0	21.8	8.14	3.682	
1,300.0	1,300.0	1,300.0	1,300.0	4.4	4.4	179.42	-30.0	0.3	30.0	21.1	8.86	3.384	
1,400.0	1,400.0	1,400.0	1,400.0	4.8	4.8	179.42	-30.0	0.3	30.0	20.4	9.58	3.130	
1,500.0	1,500.0	1,500.0	1,500.0	5.1	5.1	179.42	-30.0	0.3	30.0	19.7	10.29	2.912	
1,600.0	1,600.0	1,600.0	1,600.0	5.5	5.5	179.42	-30.0	0.3	30.0	19.0	11.01	2.723	
1,700.0	1,700.0	1,700.0	1,700.0	5.9	5.9	179.42	-30.0	0.3	30.0	18.3	11.73	2.556	
1,800.0	1,800.0	1,800.0	1,800.0	6.2	6.2	179.42	-30.0	0.3	30.0	17.5	12.44	2.409	
1,900.0	1,900.0	1,900.0	1,900.0	6.6	6.6	179.42	-30.0	0.3	30.0	16.8	13.16	2.278	
2,000.0	2,000.0	2,000.0	2,000.0	6.9	6.9	179.42	-30.0	0.3	30.0	16.1	13.88	2.160	
2,100.0	2,100.0	2,100.0	2,100.0	7.3	7.3	179.42	-30.0	0.3	30.0	15.4	14.60	2.054	
2,200.0	2,200.0	2,200.0	2,200.0	7.7	7.7	179.42	-30.0	0.3	30.0	14.7	15.31	1.958	
2,300.0	2,300.0	2,300.0	2,300.0	8.0	8.0	179.42	-30.0	0.3	30.0	13.9	16.03	1.870	
2,400.0	2,400.0	2,400.0	2,400.0	8.4	8.4	179.42	-30.0	0.3	30.0	13.2	16.75	1.790	
2,500.0	2,500.0	2,500.0	2,500.0	8.7	8.7	179.42	-30.0	0.3	30.0	12.5	17.46	1.717 CC	
2,600.0	2,600.0	2,600.0	2,600.0	9.1	9.1	105.01	-30.0	0.3	30.2	12.0	18.17	1.661 ES	
2,700.0	2,700.0	2,700.0	2,700.0	9.4	9.4	109.69	-30.0	0.3	31.0	12.1	18.88	1.641 SF	
2,800.0	2,799.9	2,800.1	2,799.9	9.8	9.8	116.88	-30.0	0.3	32.7	13.1	19.58	1.670	
2,900.0	2,899.7	2,900.3	2,899.7	10.1	10.2	125.57	-30.0	0.3	35.9	15.6	20.29	1.768	
3,000.0	2,999.4	3,000.6	2,999.4	10.5	10.5	134.49	-30.0	0.3	41.0	20.0	21.00	1.950	
3,100.0	3,098.9	3,101.1	3,098.9	10.8	10.9	142.59	-30.0	0.3	48.2	26.5	21.71	2.218	
3,200.0	3,198.3	3,201.7	3,198.3	11.2	11.2	149.39	-30.0	0.3	57.6	35.2	22.42	2.568	
3,300.0	3,297.4	3,302.6	3,297.4	11.6	11.6	154.85	-30.0	0.3	69.2	46.0	23.13	2.990	
3,400.0	3,396.3	3,403.7	3,396.3	11.9	12.0	159.14	-30.0	0.3	82.8	59.0	23.84	3.472	
3,500.0	3,494.9	3,505.1	3,494.9	12.3	12.3	162.51	-30.0	0.3	98.4	73.9	24.56	4.008	
3,600.0	3,593.4	3,606.6	3,593.4	12.7	12.7	165.11	-30.0	0.3	115.1	89.8	25.27	4.555	
3,700.0	3,691.9	3,708.1	3,691.9	13.1	13.1	167.05	-30.0	0.3	132.0	106.0	25.98	5.079	
3,800.0	3,790.4	3,809.6	3,790.4	13.5	13.4	168.54	-30.0	0.3	149.0	122.3	26.70	5.580	
3,900.0	3,888.9	3,888.9	3,888.9	13.8	13.7	169.73	-30.0	0.3	166.0	138.7	27.34	6.074	
4,000.0	3,987.3	3,987.3	3,987.3	14.2	14.1	170.70	-30.0	0.3	183.2	155.1	28.04	6.532	
4,100.0	4,085.8	4,085.8	4,085.8	14.6	14.4	171.50	-30.0	0.3	200.3	171.6	28.75	6.968	
4,200.0	4,184.3	4,184.3	4,184.3	15.0	14.8	172.18	-30.0	0.3	217.5	188.1	29.46	7.384	
4,300.0	4,282.8	4,283.5	4,283.5	15.5	15.1	172.76	-30.0	0.3	234.7	204.5	30.17	7.779	
4,400.0	4,381.3	4,386.5	4,386.5	15.9	15.5	173.26	-29.6	1.5	250.8	219.9	30.89	8.117	
4,500.0	4,479.7	4,490.1	4,490.1	16.3	15.8	173.67	-28.7	4.5	265.1	233.4	31.61	8.386	
4,600.0	4,578.2	4,594.3	4,594.1	16.7	16.2	174.03	-27.3	9.3	277.6	245.2	32.32	8.588	
4,700.0	4,676.7	4,698.8	4,698.4	17.1	16.6	174.33	-25.2	15.9	288.3	255.3	33.03	8.729	
4,800.0	4,775.2	4,803.8	4,803.0	17.5	16.9	174.59	-22.7	24.4	297.2	263.5	33.72	8.813	
4,900.0	4,873.7	4,909.1	4,907.7	17.9	17.3	174.83	-19.5	34.8	304.3	269.9	34.41	8.842	
5,000.0	4,972.1	5,014.6	5,012.4	18.4	17.7	175.04	-15.8	47.0	309.5	274.4	35.09	8.820	
5,100.0	5,070.6	5,120.2	5,117.1	18.8	18.1	175.23	-11.6	61.1	312.9	277.2	35.76	8.750	

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

Company:	Matador Production Company	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Project:	Rustler Breaks	**TVD Reference:**	KB @ 3127.5usft
Reference Site:	Noel Hensley	**MD Reference:**	KB @ 3127.5usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.14 Single User Db
Reference Design:	BLM Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Noel Hensley - Noel Hensley Fed Com #222H - Wellbore #1 - BLM Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,169.1	5,226.0	5,221.5	19.2	18.4	175.41	-6.7	77.1	314.5	278.1	36.43	8.634	
5,300.0	5,267.6	5,328.2	5,322.2	19.6	18.8	175.57	-1.6	93.9	314.6	277.5	37.12	8.475	
5,400.0	5,366.1	5,428.2	5,420.7	20.0	19.2	175.73	3.4	110.5	314.5	276.7	37.84	8.313	
5,500.0	5,464.5	5,528.2	5,519.1	20.5	19.6	175.89	8.4	127.2	314.5	275.9	38.56	8.156	
5,600.0	5,563.0	5,628.2	5,617.6	20.9	19.9	176.04	13.5	143.8	314.5	275.2	39.28	8.005	
5,700.0	5,661.5	5,728.2	5,716.1	21.3	20.3	176.20	18.5	160.4	314.4	274.4	40.01	7.860	
5,800.0	5,760.0	5,828.2	5,814.6	21.8	20.7	176.36	23.5	177.0	314.4	273.7	40.73	7.719	
5,900.0	5,858.5	5,928.2	5,913.1	22.2	21.1	176.52	28.5	193.6	314.4	272.9	41.46	7.583	
6,000.0	5,957.0	6,028.2	6,011.5	22.6	21.5	176.67	33.6	210.3	314.3	272.1	42.18	7.452	
6,100.0	6,055.4	6,128.2	6,110.0	23.1	21.9	176.83	38.6	226.9	314.3	271.4	42.91	7.325	
6,200.0	6,153.9	6,228.2	6,208.5	23.5	22.3	176.99	43.6	243.5	314.3	270.6	43.64	7.202	
6,300.0	6,252.4	6,328.2	6,307.0	23.9	22.7	177.15	48.7	260.1	314.3	269.9	44.37	7.083	
6,400.0	6,350.9	6,428.2	6,405.4	24.4	23.1	177.31	53.7	276.7	314.2	269.1	45.10	6.968	
6,500.0	6,449.4	6,528.2	6,503.9	24.8	23.5	177.46	58.7	293.4	314.2	268.4	45.83	6.856	
6,600.0	6,547.8	6,628.2	6,602.4	25.2	23.9	177.62	63.8	310.0	314.2	267.6	46.56	6.748	
6,700.0	6,646.3	6,728.2	6,700.9	25.7	24.3	177.78	68.8	326.6	314.2	266.9	47.29	6.643	
6,800.0	6,744.8	6,828.1	6,799.3	26.1	24.7	177.94	73.8	343.2	314.2	266.1	48.03	6.542	
6,900.0	6,843.3	6,928.1	6,897.8	26.5	25.1	178.09	78.8	359.8	314.2	265.4	48.76	6.443	
7,000.0	6,941.8	7,028.1	6,996.3	27.0	25.5	178.25	83.9	376.5	314.2	264.7	49.50	6.347	
7,100.0	7,040.2	7,128.1	7,094.8	27.4	25.9	178.41	88.9	393.1	314.2	263.9	50.23	6.254	
7,200.0	7,138.7	7,228.1	7,193.3	27.9	26.3	178.57	93.9	409.7	314.2	263.2	50.97	6.164	
7,216.9	7,155.4	7,245.0	7,209.9	27.9	26.4	178.59	94.8	412.5	314.2	263.1	51.09	6.149	
7,300.0	7,237.2	7,328.1	7,291.7	28.3	26.7	178.73	99.0	426.3	314.2	262.4	51.70	6.076	
7,400.0	7,335.7	7,428.1	7,390.2	28.7	27.1	178.88	104.0	442.9	314.2	261.7	52.44	5.991	
7,500.0	7,434.2	7,528.1	7,488.7	29.2	27.6	179.04	109.0	459.6	314.2	261.0	53.18	5.908	
7,600.0	7,532.6	7,628.1	7,587.2	29.6	28.0	179.20	114.1	476.2	314.2	260.3	53.92	5.827	
7,666.2	7,597.8	7,705.7	7,652.3	29.9	28.3	179.30	117.4	487.2	314.2	259.7	54.45	5.770	
7,700.0	7,631.1	7,728.1	7,685.6	30.0	28.4	179.36	119.1	492.8	314.0	259.4	54.66	5.746	
7,800.0	7,730.0	7,828.1	7,784.1	30.5	28.8	179.51	124.1	509.4	311.8	256.5	55.39	5.630	
7,900.0	7,829.2	7,928.0	7,882.5	30.9	29.2	179.66	129.1	526.0	307.1	250.9	56.13	5.471	
8,000.0	7,928.7	8,027.7	7,980.7	31.3	29.7	179.82	134.2	542.6	299.6	242.8	56.85	5.271	
8,100.0	8,028.4	8,127.2	8,078.6	31.6	30.1	179.98	139.2	559.1	289.6	232.1	57.58	5.030	
8,200.0	8,128.3	8,226.4	8,176.3	32.0	30.5	-179.84	144.2	575.6	277.0	218.7	58.29	4.752	
8,300.0	8,228.3	8,325.2	8,273.7	32.3	30.9	-179.64	149.1	592.0	261.8	202.8	59.00	4.437	
8,332.9	8,261.1	8,357.6	8,305.5	32.4	31.0	-103.55	150.8	597.4	256.3	197.0	59.24	4.326	
8,400.0	8,328.3	8,423.7	8,370.7	32.6	31.3	-103.39	154.1	608.4	244.6	184.9	59.70	4.097	
8,500.0	8,428.3	8,522.2	8,467.6	33.0	31.7	-103.13	159.0	624.8	227.3	166.9	60.40	3.763	
8,600.0	8,528.3	8,620.7	8,564.6	33.3	32.2	-102.82	164.0	641.1	210.0	148.9	61.10	3.436	
8,700.0	8,628.3	8,719.1	8,661.6	33.6	32.6	-102.46	168.9	657.5	192.7	130.8	61.81	3.117	
8,800.0	8,728.2	8,817.6	8,758.6	33.9	33.0	-102.03	173.9	673.9	175.3	112.8	62.51	2.805	
8,800.7	8,729.0	8,818.4	8,759.3	33.9	33.0	-102.02	173.9	674.0	175.2	112.7	62.51	2.803	
8,850.0	8,778.2	8,866.7	8,806.9	34.1	33.2	80.08	176.4	682.0	166.3	103.4	62.86	2.646	
8,900.0	8,827.8	8,915.2	8,854.7	34.2	33.4	83.69	178.8	690.1	156.7	93.5	63.21	2.479	
8,950.0	8,876.6	8,962.7	8,901.5	34.4	33.6	89.20	181.2	698.0	147.3	83.7	63.61	2.316	
9,000.0	8,924.3	9,009.0	8,947.0	34.5	33.8	96.55	183.5	705.7	139.4	75.2	64.14	2.173	
9,050.0	8,970.5	9,053.5	8,990.9	34.6	34.0	105.35	185.8	713.1	134.7	69.8	64.89	2.076	
9,068.6	8,987.2	9,069.6	9,006.7	34.6	34.1	108.83	186.6	715.8	134.3	69.1	65.23	2.059	
9,100.0	9,014.8	9,103.9	9,032.8	34.7	34.2	114.75	187.9	720.2	135.6	69.7	65.92	2.058	
9,150.0	9,057.0	9,136.3	9,072.4	34.8	34.4	123.73	189.9	726.8	143.9	76.9	67.02	2.147	
9,200.0	9,096.7	9,173.9	9,109.4	34.9	34.5	131.49	191.8	733.1	160.2	92.2	68.02	2.355	
9,250.0	9,133.6	9,208.4	9,143.4	35.0	34.7	137.64	193.5	738.8	184.0	115.2	68.78	2.675	
9,300.0	9,167.4	9,239.6	9,174.2	35.0	34.8	142.11	195.1	743.8	214.1	144.8	69.30	3.090	

Company:	Matador Production Company	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Project:	Rustler Breaks	**TVD Reference:**	KB @ 3127.5usft
Reference Site:	Noel Hensley	**MD Reference:**	KB @ 3127.5usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.14 Single User Db
Reference Design:	BLM Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Noel Hensley - Noel Hensley Fed Com #222H - Wellbore #1 - BLM Plan #1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,350.0	9,197.9	9,267.6	9,201.8	35.1	34.9	145.08	196.4	748.1	249.3	179.7	69.64	3.580	
9,400.0	9,224.8	9,292.3	9,226.2	35.1	35.0	146.63	197.4	751.7	288.6	218.7	69.87	4.130	
9,450.0	9,248.0	9,313.3	9,247.0	35.2	35.1	146.71	198.3	754.6	330.9	260.9	70.03	4.726	
9,500.0	9,267.1	9,330.5	9,264.0	35.3	35.2	145.00	199.0	757.0	375.8	305.6	70.14	5.358	
9,550.0	9,282.2	9,343.6	9,277.1	35.3	35.2	140.67	199.6	758.7	422.5	352.3	70.21	6.017	
9,600.0	9,293.1	9,352.7	9,286.0	35.4	35.3	131.73	199.9	759.9	470.5	400.3	70.25	6.698	
9,650.0	9,299.7	9,357.4	9,290.7	35.5	35.3	113.82	200.1	760.5	519.5	449.2	70.27	7.393	
9,700.0	9,302.0	9,357.7	9,291.0	35.6	35.3	82.94	200.1	760.5	568.9	498.6	70.26	8.097	
9,700.7	9,302.0	9,357.7	9,291.0	35.6	35.3	82.41	200.1	760.5	569.6	499.4	70.26	8.108	
9,800.0	9,302.0	9,353.8	9,287.2	35.9	35.3	79.87	200.0	760.0	668.0	597.7	70.22	9.513	
9,900.0	9,302.0	9,349.9	9,283.2	36.3	35.3	77.34	199.8	759.5	767.3	697.1	70.18	10.932	
10,000.0	9,302.0	9,345.8	9,279.3	36.8	35.2	74.85	199.7	759.0	866.7	796.5	70.16	12.354	
10,100.0	9,302.0	9,341.8	9,275.2	37.3	35.2	72.42	199.5	758.5	966.2	896.1	70.13	13.778	
10,200.0	9,302.0	9,337.6	9,271.1	37.9	35.2	70.04	199.3	757.9	1,065.9	995.7	70.11	15.203	
10,300.0	9,302.0	11,366.3	10,370.0	38.6	41.7	179.97	-962.3	847.2	1,068.0	1,036.2	31.83	33.557	
10,400.0	9,302.0	11,466.3	10,370.0	39.3	42.3	179.97	-1,062.3	847.6	1,068.0	1,035.3	32.78	32.585	
10,500.0	9,302.0	11,566.3	10,370.0	40.1	43.1	179.97	-1,162.3	848.0	1,068.0	1,034.3	33.77	31.624	
10,600.0	9,302.0	11,666.3	10,370.0	40.9	43.8	179.97	-1,262.3	848.5	1,068.0	1,033.2	34.81	30.682	
10,700.0	9,302.0	11,766.3	10,370.0	41.8	44.6	179.97	-1,362.3	848.9	1,068.0	1,032.2	35.89	29.762	
10,800.0	9,302.0	11,866.3	10,370.0	42.8	45.5	179.97	-1,462.3	849.4	1,068.0	1,031.0	37.00	28.868	
10,900.0	9,302.0	11,966.3	10,370.0	43.7	46.4	179.97	-1,562.3	849.8	1,068.0	1,029.9	38.14	28.002	
11,000.0	9,302.0	12,066.3	10,370.0	44.7	47.4	179.97	-1,662.3	850.3	1,068.0	1,028.7	39.31	27.167	
11,100.0	9,302.0	12,166.3	10,370.0	45.8	48.3	179.97	-1,762.3	850.7	1,068.0	1,027.5	40.51	26.363	
11,200.0	9,302.0	12,266.3	10,370.0	46.9	49.4	179.98	-1,862.3	851.1	1,068.0	1,026.3	41.74	25.590	
11,300.0	9,302.0	12,366.3	10,370.0	48.0	50.4	179.98	-1,962.3	851.6	1,068.0	1,025.1	42.98	24.848	
11,400.0	9,302.0	12,466.3	10,370.0	49.2	51.5	179.98	-2,062.3	852.0	1,068.0	1,023.8	44.25	24.137	
11,500.0	9,302.0	12,566.3	10,370.0	50.3	52.6	179.98	-2,162.3	852.5	1,068.0	1,022.5	45.53	23.456	
11,600.0	9,302.0	12,666.3	10,370.0	51.5	53.8	179.98	-2,262.3	852.9	1,068.0	1,021.2	46.84	22.804	
11,700.0	9,302.0	12,766.3	10,370.0	52.8	54.9	179.98	-2,362.3	853.3	1,068.0	1,019.9	48.15	22.179	
11,800.0	9,302.0	12,866.3	10,370.0	54.0	56.1	179.98	-2,462.3	853.8	1,068.0	1,018.5	49.49	21.582	
11,900.0	9,302.0	12,966.3	10,370.0	55.3	57.3	179.98	-2,562.3	854.2	1,068.0	1,017.2	50.83	21.011	
12,000.0	9,302.0	13,066.3	10,370.0	56.6	58.6	179.98	-2,662.3	854.7	1,068.0	1,015.8	52.19	20.464	
12,100.0	9,302.0	13,166.3	10,370.0	57.9	59.8	179.98	-2,762.3	855.1	1,068.0	1,014.5	53.56	19.940	
12,200.0	9,302.0	13,266.3	10,370.0	59.2	61.1	179.98	-2,862.3	855.5	1,068.0	1,013.1	54.94	19.439	
12,300.0	9,302.0	13,366.3	10,370.0	60.6	62.4	179.98	-2,962.3	856.0	1,068.0	1,011.7	56.33	18.959	
12,400.0	9,302.0	13,466.3	10,370.0	61.9	63.7	179.99	-3,062.3	856.4	1,068.0	1,010.3	57.73	18.499	
12,500.0	9,302.0	13,566.3	10,370.0	63.3	65.0	179.99	-3,162.3	856.9	1,068.0	1,008.9	59.14	18.059	
12,600.0	9,302.0	13,666.3	10,370.0	64.7	66.4	179.99	-3,262.3	857.3	1,068.0	1,007.5	60.56	17.637	
12,700.0	9,302.0	13,766.3	10,370.0	66.1	67.7	179.99	-3,362.3	857.7	1,068.0	1,006.0	61.98	17.232	
12,800.0	9,302.0	13,866.3	10,370.0	67.5	69.1	179.99	-3,462.3	858.2	1,068.0	1,004.6	63.41	16.843	
12,900.0	9,302.0	13,966.3	10,370.0	68.9	70.5	179.99	-3,562.3	858.6	1,068.0	1,003.2	64.85	16.470	
13,000.0	9,302.0	14,066.3	10,370.0	70.3	71.8	179.99	-3,662.3	859.1	1,068.0	1,001.7	66.29	16.111	
13,100.0	9,302.0	14,166.3	10,370.0	71.8	73.2	179.99	-3,762.3	859.5	1,068.0	1,000.3	67.74	15.767	
13,200.0	9,302.0	14,266.3	10,370.0	73.2	74.7	179.99	-3,862.3	860.0	1,068.0	998.8	69.19	15.436	
13,300.0	9,302.0	14,366.3	10,370.0	74.7	76.1	179.99	-3,962.3	860.4	1,068.0	997.4	70.65	15.117	
13,400.0	9,302.0	14,466.3	10,370.0	76.1	77.5	179.99	-4,062.3	860.8	1,068.0	995.9	72.11	14.810	
13,500.0	9,302.0	14,566.3	10,370.0	77.6	78.9	179.99	-4,162.3	861.3	1,068.0	994.4	73.58	14.515	
13,600.0	9,302.0	14,666.3	10,370.0	79.1	80.4	180.00	-4,262.3	861.7	1,068.0	993.0	75.05	14.230	
13,700.0	9,302.0	14,766.3	10,370.0	80.6	81.8	180.00	-4,362.3	862.2	1,068.0	991.5	76.53	13.956	
13,800.0	9,302.0	14,866.3	10,370.0	82.1	83.3	180.00	-4,462.3	862.6	1,068.0	990.0	78.01	13.691	
13,900.0	9,302.0	14,966.3	10,370.0	83.5	84.8	180.00	-4,562.3	863.0	1,068.0	988.5	79.49	13.436	
14,000.0	9,302.0	15,066.3	10,370.0	85.1	86.2	180.00	-4,662.3	863.5	1,068.0	987.0	80.98	13.189	

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

Anticollision Report

Company:	Matador Production Company	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Project:	Rustler Breaks	**TVD Reference:**	KB @ 3127.5usft
Reference Site:	Noel Hensley	**MD Reference:**	KB @ 3127.5usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.14 Single User Db
Reference Design:	BLM Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Noel Hensley - Noel Hensley Fed Com #222H - Wellbore #1 - BLM Plan #1

Offset Site Error: 0.0 usft

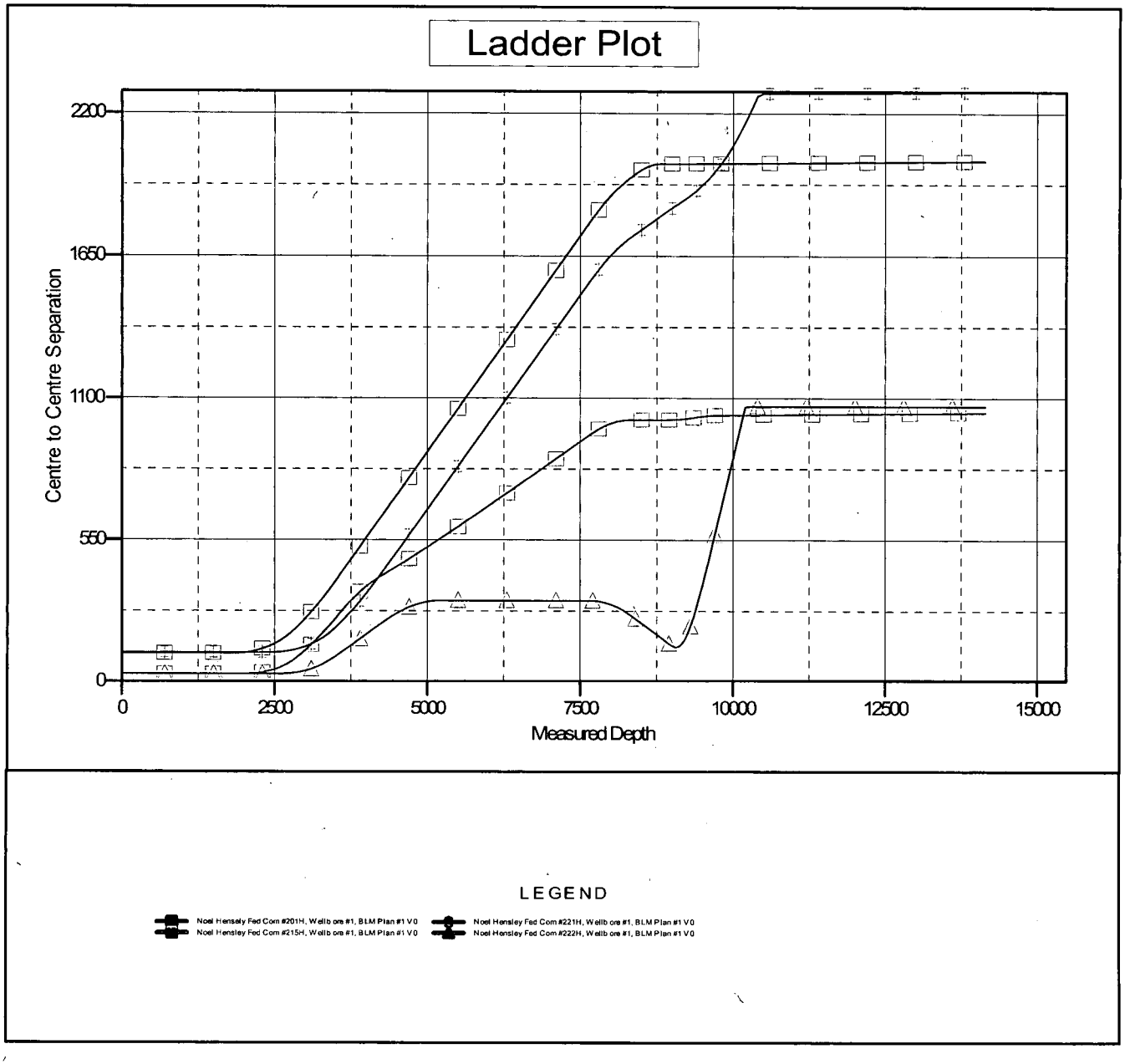
Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,100.0	9,302.0	15,166.3	10,370.0	86.6	87.7	180.00	-4,762.3	863.9	1,068.0	985.5	82.46	12.951	
14,144.2	9,302.0	15,210.6	10,370.0	87.2	88.4	-180.00	-4,806.5	864.1	1,068.0	984.9	83.12	12.848	
14,144.7	9,302.0	15,211.0	10,370.0	87.3	88.4	-180.00	-4,807.0	864.1	1,068.0	984.9	83.13	12.848	

Company:	Matador Production Company	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Project:	Rustler Breaks	**TVD Reference:**	KB @ 3127.5usft
Reference Site:	Noel Hensley	**MD Reference:**	KB @ 3127.5usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.14 Single User Db
Reference Design:	BLM Plan #1	**Offset TVD Reference:**	Offset Datum

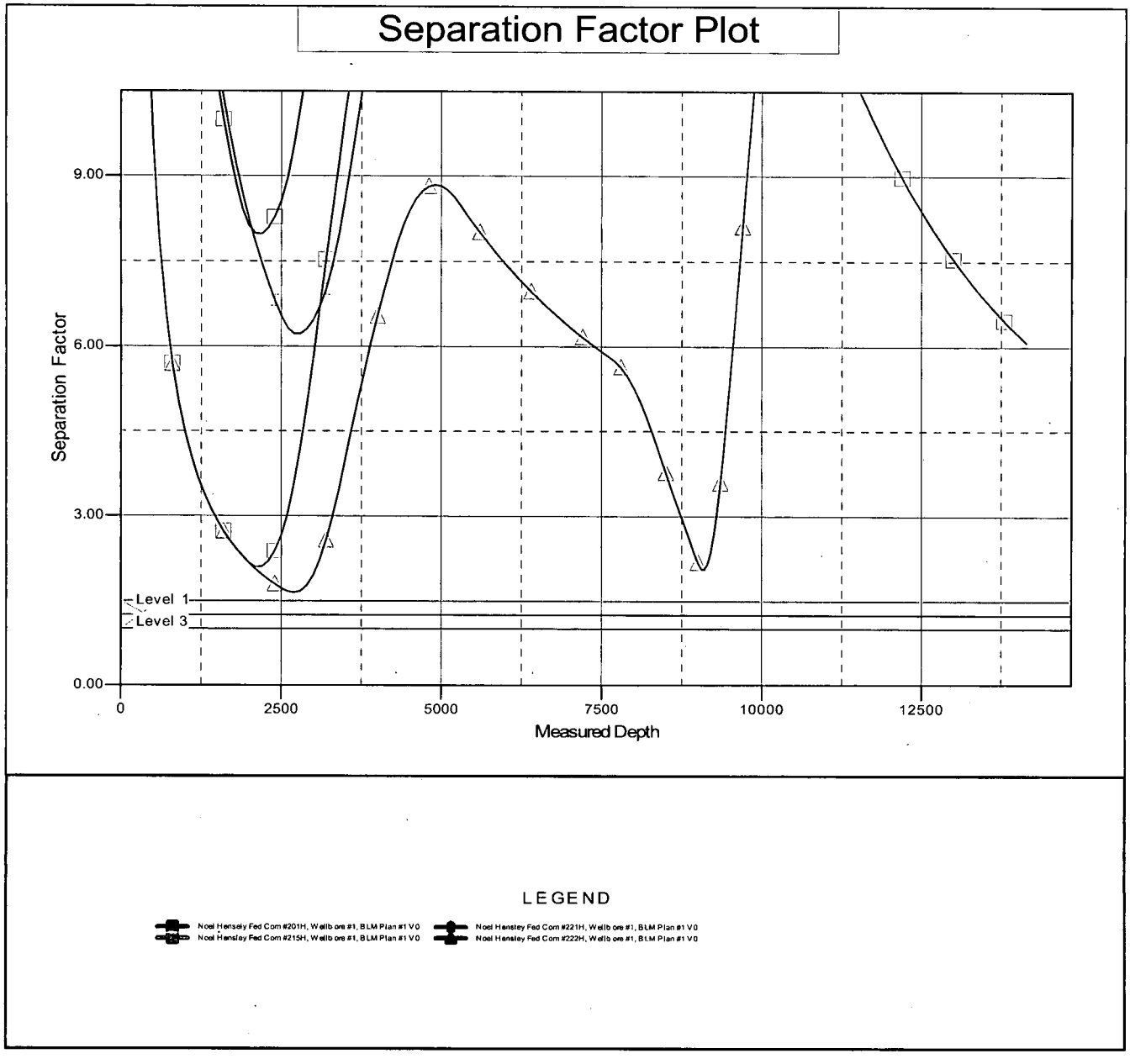
Reference Depths are relative to KB @ 3127.5usft	Coordinates are relative to: Noel Hensley Fed Com #202H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Central Meridian is 104° 20' 0.000 W	Grid Convergence at Surface is: 0.11°



Anticollision Report

Company:	Matador Production Company	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Project:	Rustler Breaks	**TVD Reference:**	KB @ 3127.5usft
Reference Site:	Noel Hensley	**MD Reference:**	KB @ 3127.5usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.14 Single User Db
Reference Design:	BLM Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KB @ 3127.5usft	Coordinates are relative to: Noel Hensley Fed Com #202H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Central Meridian is 104° 20' 0.000 W	Grid Convergence at Surface is: 0.11°



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

Company: Matador Production Company
Well: Noel Hensley Fed Com #202H
County: Eddy County, New Mexico
Wellbore: Wellbore #1
Plan: BLM Plan #1
Date:

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

To convert a Magnetic Direction to a Grid Direction, Add 7.89°
To convert a Magnetic Direction to a True Direction, Add 8.00° East
To convert a True Direction to a Grid Direction, Subtract 0.11°

T G M

Azimuths to Grid North
True North: -0.11°
Magnetic North: 7.89°

Magnetic Field
Strength: 48723.4snT
Dip Angle: 60.13°
Date: 12/31/2009
Model: IGRF200510

SURVEY PROGRAM

Depth From	Depth To	Survey/Plan	Tool
0.0	14144.2	BLM Plan #1 (Wellbore #1)	MWD

WELL DETAILS: Noel Hensley Fed Com #202H

GL @ 3099.0 KB @ 3127.5usft

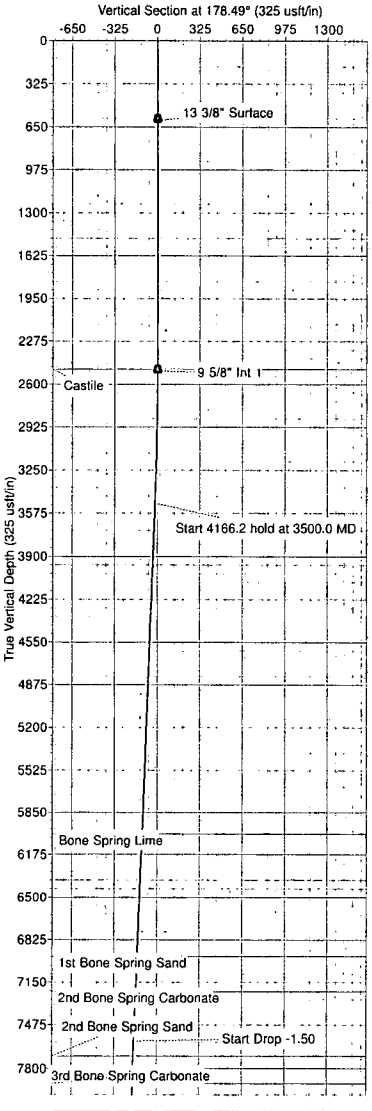
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	440038.13	562831.27	32° 12' 34.627 N	104° 7' 48.666 W	

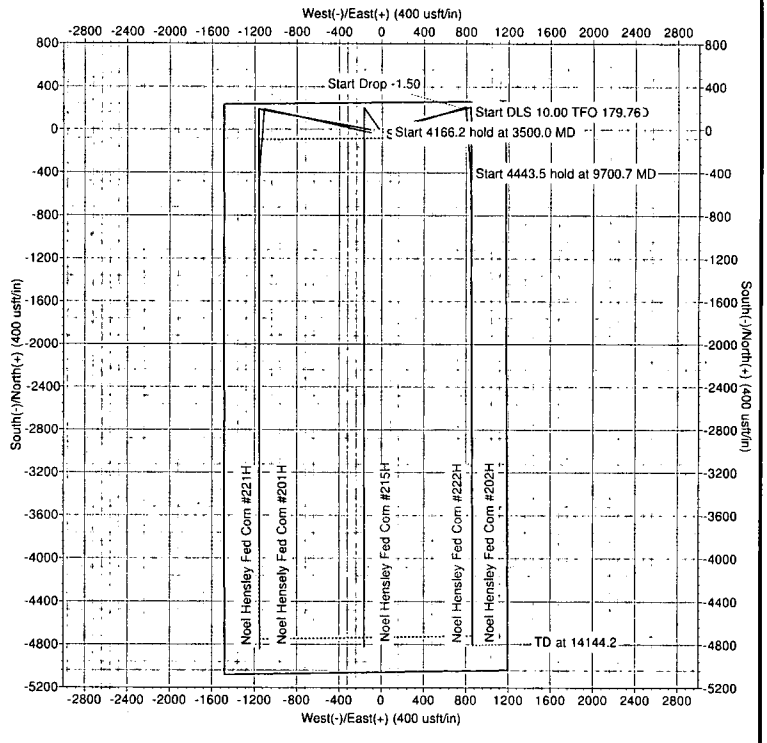
DESIGN TARGET DETAILS

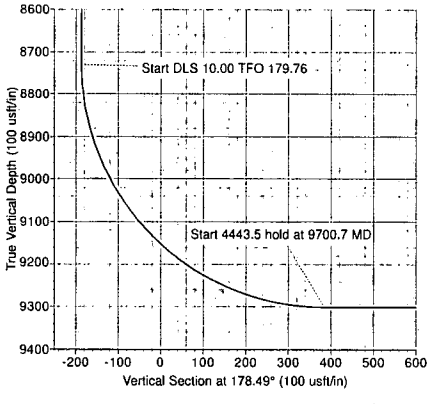
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
VP - Noel Hensley Fed Com #202H	8729.0	209.9	842.8	440248.00	563674.00	32° 12' 36.688 N	104° 7' 38.852 W
BHL - Noel Hensley Fed Com #202H	9302.0	-4806.5	864.1	435231.60	563695.39	32° 11' 47.044 N	104° 7' 38.715 W

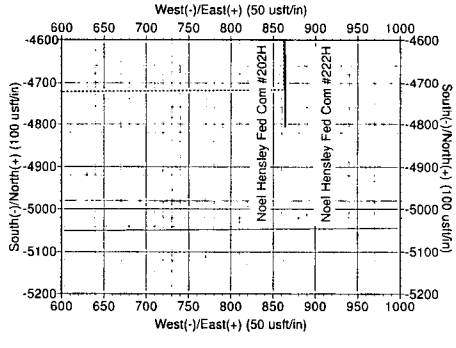
SECTION DETIALS

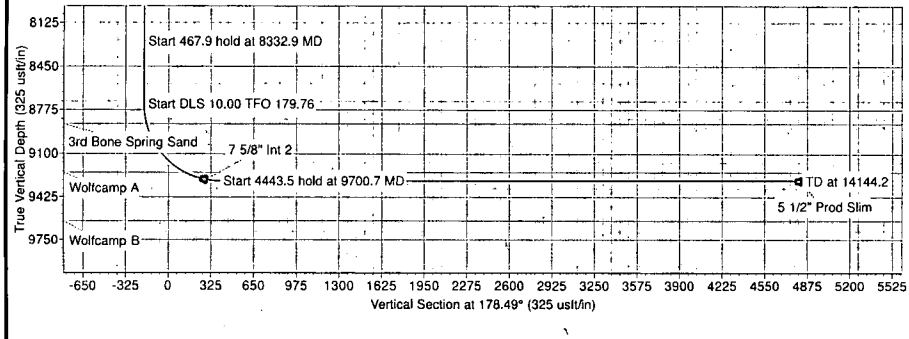
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0	Start Build 1.00
3500.0	10.00	76.02	3494.9	21.0	84.5	1.00	76.02	-18.8	Start 4166.2 hold at 3500.0 MD
7666.2	10.00	76.02	7597.8	195.9	786.5	0.00	0.00	-175.1	Start Drop -1.50
8332.9	0.00	0.00	8261.1	209.9	842.8	1.50	180.00	-187.6	Start 467.9 hold at 8332.9 MD
8800.7	0.00	0.00	8729.0	209.9	842.8	0.00	0.00	-187.6	Start DLS 10.00 TFO 179.76
9700.7	90.00	179.76	9302.0	-363.1	845.2	10.00	179.76	385.2	Start 4443.5 hold at 9700.7 MD
14144.2	90.00	179.76	9302.0	-4806.5	864.1	0.00	0.00	4827.6	TD at 14144.2

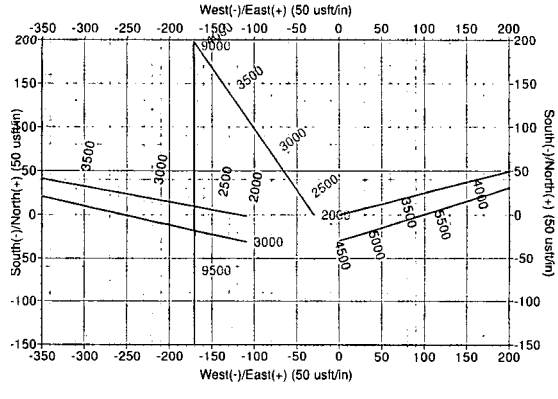












Matador Production Company

Rustler Breaks
Noel Hensley
Noel Hensley Fed Com #202H

Wellbore #1

Plan: BLM Plan #1

Standard Planning Report

28 March, 2019

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Company:	Matador Production Company	**TVD Reference:**	KB @ 3127.5usft
Project:	Rustler Breaks	**MD Reference:**	KB @ 3127.5usft
Site:	Noel Hensley	**North Reference:**	Grid
Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan #1		

Project	Rustler Breaks		
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		Using geodetic scale factor

Site	Noel Hensley				
Site Position:		**Northing:**	440,036.76 usft	**Latitude:**	32° 12' 34.616 N
From:	Lat/Long	**Easting:**	562,721.20 usft	**Longitude:**	104° 7' 49.947 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.11 °

Well	Noel Hensley Fed Com #202H				
Well Position	**+N/-S**	1.4 usft	**Northing:**	440,038.13 usft	**Latitude:**	32° 12' 34.627 N
	+E/-W	110.1 usft	**Easting:**	562,831.28 usft	**Longitude:**	104° 7' 48.666 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,099.0 usft

Wellbore	Wellbore #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF200510	12/31/2009	8.00	60.13	48,723.38140985

Design	BLM Plan #1				
Audit Notes:					
Version:	1	**Phase:**	PLAN	**Tie On Depth:**	0.0
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.0	0.0	0.0	178.49	

Plan Survey Tool Program **Date** 3/28/2019

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	14,144.2	BLM Plan #1 (Wellbore #1)	MWD	
				OWSG MWD - Standard	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,500.0	10.00	76.02	3,494.9	21.0	84.5	1.00	1.00	0.00	76.02	
7,666.2	10.00	76.02	7,597.8	195.9	786.5	0.00	0.00	0.00	0.00	
8,332.9	0.00	0.00	8,261.1	209.9	842.8	1.50	-1.50	0.00	180.00	
8,800.7	0.00	0.00	8,729.0	209.9	842.8	0.00	0.00	0.00	0.00	VP - Noel Hensley Fe
9,700.7	90.00	179.76	9,302.0	-363.1	845.2	10.00	10.00	19.97	179.76	
14,144.2	90.00	179.76	9,302.0	-4,806.5	864.1	0.00	0.00	0.00	0.00	BHL - Noel Hensley F

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Company:	Matador Production Company	**TVD Reference:**	KB @ 3127.5usft
Project:	Rustler Breaks	**MD Reference:**	KB @ 3127.5usft
Site:	Noel Hensley	**North Reference:**	Grid
Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan #1		

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
13 3/8" Surface									
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,486.1	0.00	0.00	2,486.1	0.0	0.0	0.0	0.00	0.00	0.00
Castile									
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 1.00 - 9 5/8" Int 1									
2,600.0	1.00	76.02	2,600.0	0.2	0.8	-0.2	1.00	1.00	0.00
2,700.0	2.00	76.02	2,700.0	0.8	3.4	-0.8	1.00	1.00	0.00
2,800.0	3.00	76.02	2,799.9	1.9	7.6	-1.7	1.00	1.00	0.00
2,900.0	4.00	76.02	2,899.7	3.4	13.5	-3.0	1.00	1.00	0.00
3,000.0	5.00	76.02	2,999.4	5.3	21.2	-4.7	1.00	1.00	0.00
3,100.0	6.00	76.02	3,098.9	7.6	30.5	-6.8	1.00	1.00	0.00
3,200.0	7.00	76.02	3,198.3	10.3	41.4	-9.2	1.00	1.00	0.00
3,300.0	8.00	76.02	3,297.4	13.5	54.1	-12.0	1.00	1.00	0.00
3,400.0	9.00	76.02	3,396.3	17.0	68.4	-15.2	1.00	1.00	0.00
3,500.0	10.00	76.02	3,494.9	21.0	84.5	-18.8	1.00	1.00	0.00
Start 4166.2 hold at 3500.0 MD									
3,600.0	10.00	76.02	3,593.4	25.2	101.3	-22.6	0.00	0.00	0.00
3,700.0	10.00	76.02	3,691.9	29.4	118.2	-26.3	0.00	0.00	0.00
3,800.0	10.00	76.02	3,790.4	33.6	135.0	-30.1	0.00	0.00	0.00
3,900.0	10.00	76.02	3,888.9	37.8	151.9	-33.8	0.00	0.00	0.00
4,000.0	10.00	76.02	3,987.3	42.0	168.7	-37.6	0.00	0.00	0.00
4,100.0	10.00	76.02	4,085.8	46.2	185.6	-41.3	0.00	0.00	0.00
4,200.0	10.00	76.02	4,184.3	50.4	202.4	-45.1	0.00	0.00	0.00
4,300.0	10.00	76.02	4,282.8	54.6	219.3	-48.8	0.00	0.00	0.00
4,400.0	10.00	76.02	4,381.3	58.8	236.1	-52.6	0.00	0.00	0.00
4,500.0	10.00	76.02	4,479.7	63.0	253.0	-56.3	0.00	0.00	0.00
4,600.0	10.00	76.02	4,578.2	67.2	269.8	-60.1	0.00	0.00	0.00
4,700.0	10.00	76.02	4,676.7	71.4	286.7	-63.8	0.00	0.00	0.00

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Company:	Matador Production Company	**TVD Reference:**	KB @ 3127.5usft
Project:	Rustler Breaks	**MD Reference:**	KB @ 3127.5usft
Site:	Noel Hensley	**North Reference:**	Grid
Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan #1		

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)
4,800.0	10.00	76.02	4,775.2	75.6	303.5	-67.6	0.00	0.00	0.00
4,900.0	10.00	76.02	4,873.7	79.8	320.4	-71.3	0.00	0.00	0.00
5,000.0	10.00	76.02	4,972.1	84.0	337.2	-75.1	0.00	0.00	0.00
5,100.0	10.00	76.02	5,070.6	88.2	354.1	-78.8	0.00	0.00	0.00
5,200.0	10.00	76.02	5,169.1	92.4	370.9	-82.6	0.00	0.00	0.00
5,300.0	10.00	76.02	5,267.6	96.6	387.8	-86.3	0.00	0.00	0.00
5,400.0	10.00	76.02	5,366.1	100.8	404.6	-90.1	0.00	0.00	0.00
5,500.0	10.00	76.02	5,464.5	105.0	421.5	-93.8	0.00	0.00	0.00
5,600.0	10.00	76.02	5,563.0	109.2	438.3	-97.6	0.00	0.00	0.00
5,700.0	10.00	76.02	5,661.5	113.4	455.2	-101.3	0.00	0.00	0.00
5,800.0	10.00	76.02	5,760.0	117.6	472.0	-105.1	0.00	0.00	0.00
5,900.0	10.00	76.02	5,858.5	121.7	488.9	-108.8	0.00	0.00	0.00
6,000.0	10.00	76.02	5,957.0	125.9	505.7	-112.6	0.00	0.00	0.00
6,060.4	10.00	76.02	6,016.5	128.5	515.9	-114.8	0.00	0.00	0.00
Bone Spring Lime									
6,100.0	10.00	76.02	6,055.4	130.1	522.6	-116.3	0.00	0.00	0.00
6,200.0	10.00	76.02	6,153.9	134.3	539.4	-120.1	0.00	0.00	0.00
6,300.0	10.00	76.02	6,252.4	138.5	556.3	-123.8	0.00	0.00	0.00
6,400.0	10.00	76.02	6,350.9	142.7	573.1	-127.6	0.00	0.00	0.00
6,500.0	10.00	76.02	6,449.4	146.9	590.0	-131.3	0.00	0.00	0.00
6,600.0	10.00	76.02	6,547.8	151.1	606.8	-135.1	0.00	0.00	0.00
6,700.0	10.00	76.02	6,646.3	155.3	623.7	-138.8	0.00	0.00	0.00
6,800.0	10.00	76.02	6,744.8	159.5	640.5	-142.6	0.00	0.00	0.00
6,900.0	10.00	76.02	6,843.3	163.7	657.4	-146.3	0.00	0.00	0.00
7,000.0	10.00	76.02	6,941.8	167.9	674.2	-150.1	0.00	0.00	0.00
7,011.3	10.00	76.02	6,952.9	168.4	676.1	-150.5	0.00	0.00	0.00
1st Bone Spring Sand									
7,100.0	10.00	76.02	7,040.2	172.1	691.1	-153.8	0.00	0.00	0.00
7,200.0	10.00	76.02	7,138.7	176.3	707.9	-157.6	0.00	0.00	0.00
7,283.5	10.00	76.02	7,220.9	179.8	722.0	-160.7	0.00	0.00	0.00
2nd Bone Spring Carbonate									
7,300.0	10.00	76.02	7,237.2	180.5	724.8	-161.3	0.00	0.00	0.00
7,400.0	10.00	76.02	7,335.7	184.7	741.6	-165.1	0.00	0.00	0.00
7,500.0	10.00	76.02	7,434.2	188.9	758.5	-168.8	0.00	0.00	0.00
7,600.0	10.00	76.02	7,532.6	193.1	775.3	-172.6	0.00	0.00	0.00
7,666.2	10.00	76.02	7,597.8	195.9	786.5	-175.1	0.00	0.00	0.00
Start Drop -1.50									
7,700.0	9.49	76.02	7,631.1	197.2	792.0	-176.3	1.50	-1.50	0.00
7,776.8	8.34	76.02	7,707.0	200.1	803.6	-178.9	1.50	-1.50	0.00
2nd Bone Spring Sand									
7,800.0	7.99	76.02	7,730.0	200.9	806.8	-179.6	1.50	-1.50	0.00
7,900.0	6.49	76.02	7,829.2	204.0	819.0	-182.3	1.50	-1.50	0.00
7,984.2	5.23	76.02	7,912.9	206.0	827.4	-184.2	1.50	-1.50	0.00
3rd Bone Spring Carbonate									
8,000.0	4.99	76.02	7,928.7	206.4	828.7	-184.5	1.50	-1.50	0.00
8,100.0	3.49	76.02	8,028.4	208.2	835.9	-186.1	1.50	-1.50	0.00
8,200.0	1.99	76.02	8,128.3	209.3	840.5	-187.1	1.50	-1.50	0.00
8,300.0	0.49	76.02	8,228.3	209.9	842.6	-187.6	1.50	-1.50	0.00
8,332.9	0.00	0.00	8,261.1	209.9	842.8	-187.6	1.50	-1.50	0.00
Start 467.9 hold at 8332.9 MD									
8,400.0	0.00	0.00	8,328.3	209.9	842.8	-187.6	0.00	0.00	0.00
8,500.0	0.00	0.00	8,428.3	209.9	842.8	-187.6	0.00	0.00	0.00
8,600.0	0.00	0.00	8,528.3	209.9	842.8	-187.6	0.00	0.00	0.00

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Company:	Matador Production Company	**TVD Reference:**	KB @ 3127.5usft
Project:	Rustler Breaks	**MD Reference:**	KB @ 3127.5usft
Site:	Noel Hensley	**North Reference:**	Grid
Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan #1		

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)
8,700.0	0.00	0.00	8,628.3	209.9	842.8	-187.6	0.00	0.00	0.00
8,800.7	0.00	0.00	8,729.0	209.9	842.8	-187.6	0.00	0.00	0.00
Start DLS 10.00 TFO 179.76 - VP - Noel Hensley Fed Com #202H									
8,850.0	4.93	179.76	8,778.2	207.8	842.8	-185.5	10.00	10.00	0.00
8,900.0	9.93	179.76	8,827.8	201.3	842.8	-179.0	10.00	10.00	0.00
8,950.0	14.93	179.76	8,876.6	190.6	842.9	-168.3	10.00	10.00	0.00
8,951.7	15.09	179.76	8,878.2	190.1	842.9	-167.8	10.00	10.00	0.00
3rd Bone Spring Sand									
9,000.0	19.93	179.76	8,924.3	175.6	842.9	-153.3	10.00	10.00	0.00
9,050.0	24.93	179.76	8,970.5	156.5	843.0	-134.2	10.00	10.00	0.00
9,100.0	29.93	179.76	9,014.8	133.5	843.1	-111.2	10.00	10.00	0.00
9,150.0	34.93	179.76	9,057.0	106.7	843.2	-84.4	10.00	10.00	0.00
9,200.0	39.93	179.76	9,096.7	76.3	843.4	-54.1	10.00	10.00	0.00
9,250.0	44.93	179.76	9,133.6	42.6	843.5	-20.4	10.00	10.00	0.00
9,300.0	49.93	179.76	9,167.4	5.8	843.7	16.4	10.00	10.00	0.00
9,350.0	54.93	179.76	9,197.9	-33.8	843.8	56.1	10.00	10.00	0.00
9,400.0	59.93	179.76	9,224.8	-75.9	844.0	98.2	10.00	10.00	0.00
9,432.3	63.15	179.76	9,240.2	-104.3	844.1	126.5	10.00	10.00	0.00
Wolfcamp A									
9,450.0	64.93	179.76	9,248.0	-120.3	844.2	142.5	10.00	10.00	0.00
9,500.0	69.93	179.76	9,267.1	-166.4	844.4	188.6	10.00	10.00	0.00
9,550.0	74.93	179.76	9,282.2	-214.1	844.6	236.2	10.00	10.00	0.00
9,600.0	79.93	179.76	9,293.1	-262.8	844.8	285.0	10.00	10.00	0.00
7 5/8" Int 2									
9,650.0	84.93	179.76	9,299.7	-312.4	845.0	334.6	10.00	10.00	0.00
9,700.7	90.00	179.76	9,302.0	-363.1	845.2	385.2	10.00	10.00	0.00
Start 4443.5 hold at 9700.7 MD									
9,800.0	90.00	179.76	9,302.0	-462.3	845.6	484.4	0.00	0.00	0.00
9,900.0	90.00	179.76	9,302.0	-562.3	846.1	584.4	0.00	0.00	0.00
10,000.0	90.00	179.76	9,302.0	-662.3	846.5	684.4	0.00	0.00	0.00
10,100.0	90.00	179.76	9,302.0	-762.3	846.9	784.4	0.00	0.00	0.00
10,200.0	90.00	179.76	9,302.0	-862.3	847.3	884.3	0.00	0.00	0.00
10,300.0	90.00	179.76	9,302.0	-962.3	847.8	984.3	0.00	0.00	0.00
10,400.0	90.00	179.76	9,302.0	-1,062.3	848.2	1,084.3	0.00	0.00	0.00
10,500.0	90.00	179.76	9,302.0	-1,162.3	848.6	1,184.3	0.00	0.00	0.00
10,600.0	90.00	179.76	9,302.0	-1,262.3	849.0	1,284.3	0.00	0.00	0.00
10,700.0	90.00	179.76	9,302.0	-1,362.3	849.5	1,384.2	0.00	0.00	0.00
10,800.0	90.00	179.76	9,302.0	-1,462.3	849.9	1,484.2	0.00	0.00	0.00
10,900.0	90.00	179.76	9,302.0	-1,562.3	850.3	1,584.2	0.00	0.00	0.00
11,000.0	90.00	179.76	9,302.0	-1,662.3	850.7	1,684.2	0.00	0.00	0.00
11,100.0	90.00	179.76	9,302.0	-1,762.3	851.2	1,784.1	0.00	0.00	0.00
11,200.0	90.00	179.76	9,302.0	-1,862.3	851.6	1,884.1	0.00	0.00	0.00
11,300.0	90.00	179.76	9,302.0	-1,962.3	852.0	1,984.1	0.00	0.00	0.00
11,400.0	90.00	179.76	9,302.0	-2,062.3	852.4	2,084.1	0.00	0.00	0.00
11,500.0	90.00	179.76	9,302.0	-2,162.3	852.9	2,184.0	0.00	0.00	0.00
11,600.0	90.00	179.76	9,302.0	-2,262.3	853.3	2,284.0	0.00	0.00	0.00
11,700.0	90.00	179.76	9,302.0	-2,362.3	853.7	2,384.0	0.00	0.00	0.00
11,800.0	90.00	179.76	9,302.0	-2,462.3	854.1	2,484.0	0.00	0.00	0.00
11,900.0	90.00	179.76	9,302.0	-2,562.3	854.6	2,583.9	0.00	0.00	0.00
12,000.0	90.00	179.76	9,302.0	-2,662.3	855.0	2,683.9	0.00	0.00	0.00
12,100.0	90.00	179.76	9,302.0	-2,762.3	855.4	2,783.9	0.00	0.00	0.00
12,200.0	90.00	179.76	9,302.0	-2,862.3	855.8	2,883.9	0.00	0.00	0.00
12,300.0	90.00	179.76	9,302.0	-2,962.3	856.3	2,983.8	0.00	0.00	0.00
12,400.0	90.00	179.76	9,302.0	-3,062.3	856.7	3,083.8	0.00	0.00	0.00

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Company:	Matador Production Company	**TVD Reference:**	KB @ 3127.5usft
Project:	Rustler Breaks	**MD Reference:**	KB @ 3127.5usft
Site:	Noel Hensley	**North Reference:**	Grid
Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan #1		

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)
12,500.0	90.00	179.76	9,302.0	-3,162.3	857.1	3,183.8	0.00	0.00	0.00
12,600.0	90.00	179.76	9,302.0	-3,262.3	857.5	3,283.8	0.00	0.00	0.00
12,700.0	90.00	179.76	9,302.0	-3,362.3	858.0	3,383.7	0.00	0.00	0.00
12,800.0	90.00	179.76	9,302.0	-3,462.3	858.4	3,483.7	0.00	0.00	0.00
12,900.0	90.00	179.76	9,302.0	-3,562.3	858.8	3,583.7	0.00	0.00	0.00
13,000.0	90.00	179.76	9,302.0	-3,662.3	859.2	3,683.7	0.00	0.00	0.00
13,100.0	90.00	179.76	9,302.0	-3,762.3	859.7	3,783.6	0.00	0.00	0.00
13,200.0	90.00	179.76	9,302.0	-3,862.3	860.1	3,883.6	0.00	0.00	0.00
13,300.0	90.00	179.76	9,302.0	-3,962.3	860.5	3,983.6	0.00	0.00	0.00
13,400.0	90.00	179.76	9,302.0	-4,062.3	860.9	4,083.6	0.00	0.00	0.00
13,500.0	90.00	179.76	9,302.0	-4,162.3	861.4	4,183.5	0.00	0.00	0.00
13,600.0	90.00	179.76	9,302.0	-4,262.3	861.8	4,283.5	0.00	0.00	0.00
13,700.0	90.00	179.76	9,302.0	-4,362.3	862.2	4,383.5	0.00	0.00	0.00
13,800.0	90.00	179.76	9,302.0	-4,462.3	862.6	4,483.5	0.00	0.00	0.00
13,900.0	90.00	179.76	9,302.0	-4,562.3	863.1	4,583.4	0.00	0.00	0.00
14,000.0	90.00	179.76	9,302.0	-4,662.3	863.5	4,683.4	0.00	0.00	0.00
14,100.0	90.00	179.76	9,302.0	-4,762.3	863.9	4,783.4	0.00	0.00	0.00
14,144.2	90.00	179.76	9,302.0	-4,806.5	864.1	4,827.6	0.00	0.00	0.00

TD at 14144.2 - 5 1/2" Prod Slim - BHL - Noel Hensley Fed Com #202H

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
VP - Noel Hensley Fed (- plan hits target center - Point	0.00	0.00	8,729.0	209.9	842.8	440,248.00	563,674.00	32° 12' 36.688 N	104° 7' 38.852 W
BHL - Noel Hensley Fed - plan hits target center - Point	0.00	0.00	9,302.0	-4,806.5	864.1	435,231.60	563,695.39	32° 11' 47.044 N	104° 7' 38.715 W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
600.0	600.0	13 3/8" Surface	13-3/8	17-1/2
2,500.0	2,500.0	9 5/8" Int 1	9-5/8	12-1/4
9,600.0	9,293.1	7 5/8" Int 2	7-5/8	8-3/4
14,144.2	9,302.0	5 1/2" Prod Slim	5-1/2	6-3/4

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well Noel Hensley Fed Com #202H
Company:	Matador Production Company	**TVD Reference:**	KB @ 3127.5usft
Project:	Rustler Breaks	**MD Reference:**	KB @ 3127.5usft
Site:	Noel Hensley	**North Reference:**	Grid
Well:	Noel Hensley Fed Com #202H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan #1		

Formations

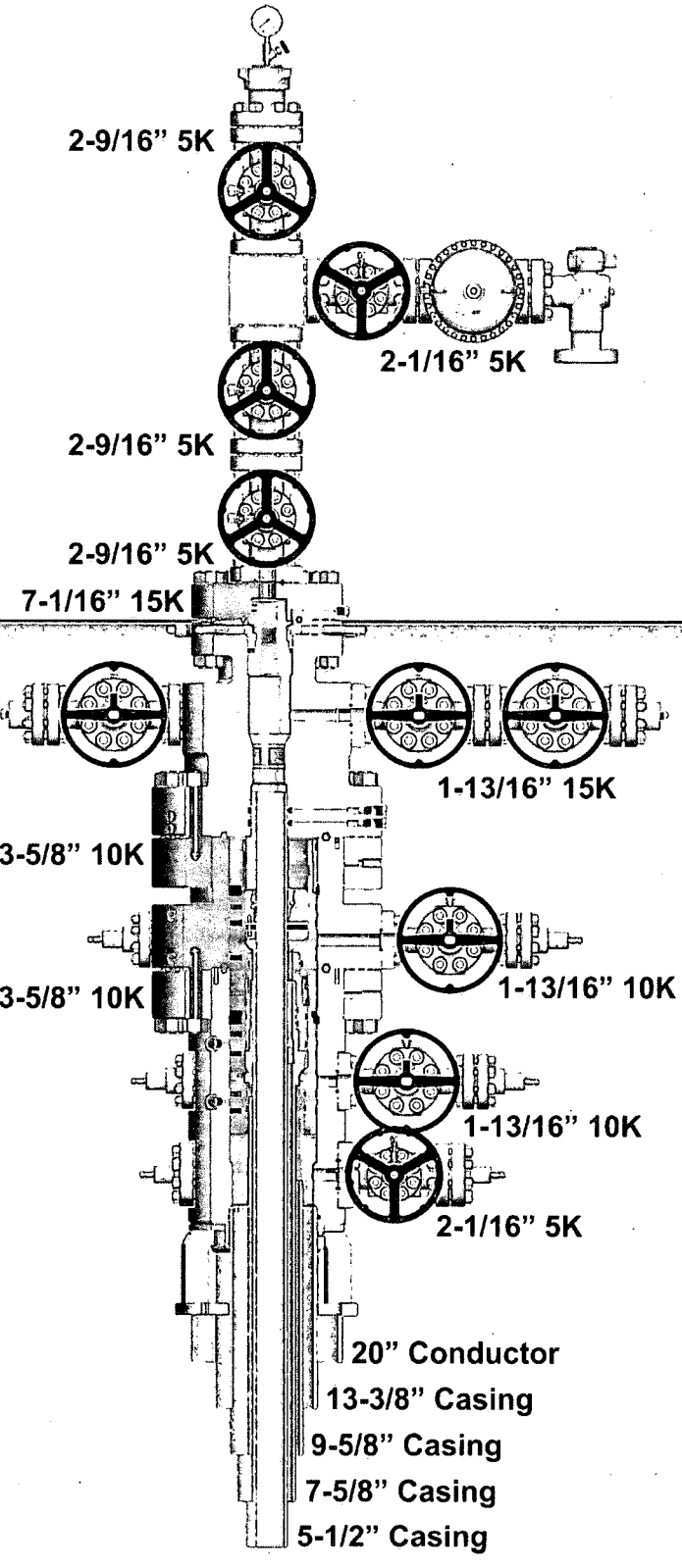
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,486.1	2,486.1	Castile			
6,060.4	6,016.5	Bone Spring Lime			
7,011.3	6,952.9	1st Bone Spring Sand			
7,283.5	7,220.9	2nd Bone Spring Carbonate			
7,776.8	7,707.0	2nd Bone Spring Sand			
7,984.2	7,912.9	3rd Bone Spring Carbonate			
8,951.7	8,878.2	3rd Bone Spring Sand			
9,432.3	9,240.2	Wolfcamp A			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,500.0	2,500.0	0.0	0.0	Start Build 1.00
3,500.0	3,494.9	21.0	84.5	Start 4166.2 hold at 3500.0 MD
7,666.2	7,597.8	195.9	786.5	Start Drop -1.50
8,332.9	8,261.1	209.9	842.8	Start 467.9 hold at 8332.9 MD
8,800.7	8,729.0	209.9	842.8	Start DLS 10.00 TFO 179.76
9,700.7	9,302.0	-363.1	845.2	Start 4443.5 hold at 9700.7 MD
14,144.2	9,302.0	-4,806.5	864.1	TD at 14144.2

CAMERON
A Schlumberger Company

13-5/8" 10K MN-DS Wellhead
13-3/8 x 9-5/8 x 7-5/8 x 5-1/2 Casing Program



Matador RESOURCES COMPANY

2018-147-02
Rev: 01
NOTE: All dimensions on this drawing are estimated measurements and should be evaluated by engineering.

Variance Request

Matador requests a variance to run 7-5/8" BTC casing inside 9-5/8" BTC casing which will be less than the 0.422" stand off regulation. Matador has met with Christopher Walls and Mustafa Haque as well as other BLM representatives and determined that this would be acceptable as long as the 7-5/8" flush casing was run throughout the entire 300' cement tie back section between 9-5/8" and 7-5/8" casing.

Noel Hensley Fed Com #202H
SHL: 250' FNL & 1491' FWL Section 19
BHL: 240' FSL & 2346' FWL Section 19
Township/Range: 24S 28E
Elevation Above Sea Level: 3099'

Drilling Operation Plan

Proposed Drilling Depth: 14144' MD / 9302' TVD

Type of well: Horizontal well, no pilot hole

Permitted Well Type: Gas

Geologic Name of Surface Formation Quaternary Deposits

KOP Lat/Long (NAD83): 32.2103131194 N / -104.1279553013 W
TD Lat/Long (NAD83): 32.1965214772 N / -104.1279180606 W

1. Estimated Tops

Formation	MD (ft)	TVD (ft)	Thickness (ft)	Lithology	Resource
Top of Salt	800	800	206	Salt	Barren
Castile	1,006	1,006	1,431	Salt	Barren
Lamar (Base of Salt)	2,437	2,437	99	Limestone/Dolomite	Barren
Bell Canyon	2,536	2,536	750	Sandstone	Oil/Natural Gas
Cherry Canyon	3,286	3,286	1,200	Sandstone	Oil/Natural Gas
Brushy Canyon	4,486	4,486	1,530	Sandstone	Oil/Natural Gas
Bone Spring Lime	6,016	6,016	937	Limestone	Oil/Natural Gas
1st Bone Spring Sand	6,953	6,953	268	Sandstone	Oil/Natural Gas
2nd Bone Spring Carbonate	7,221	7,221	486	Carbonate	Oil/Natural Gas
2nd Bone Spring Sand	7,707	7,707	206	Sandstone	Oil/Natural Gas
3rd Bone Spring Carbonate	7,913	7,913	816	Carbonate	Oil/Natural Gas
KOP	**8,800**	**8,729**			**Oil/Natural Gas**
3rd Bone Spring Sand	9,000	8,878	362	Sandstone	Oil/Natural Gas
Wolfcamp	9,500	9,240		Shale	Oil/Natural Gas
TD	**14,144**	**9,302**		**Shale**	**Oil/Natural Gas**

2. Notable Zones

Wolfcamp is the goal. All perforations will be within the setback requirements as prescribed or permitted by the New Mexico Oil Conservation Division. OSE estimated ground water depth at this location is 41'

3. Pressure Control

Equipment
A 12,000' 5000-psi BOP stack consisting of 3 rams with 2 pipe rams, 1 blind ram, and one annular preventer will be utilized below surface casing to TD. See attachments for BOP and choke manifold diagrams.

An accumulator complying with Onshore Order #2 requirements for the pressure rating of the BOP stack will be present. A rotating head will also be installed as needed.

Testing Procedure

BOP will be inspected and operated as required in Onshore Order #2. Kelly cock and sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position.

A third party company will test the BOPs.

After setting surface casing, a minimum 5M BOPE system will be installed. Test pressures will be 250 psi low and 5000 psi high with the annular being tested to 250 psi low and 2500 psi high before drilling below surface shoe. In the event that the rig drills multiple wells on the pad and any seal subject to test pressures are broken, a full BOP test will be performed when the rig returns and the 5M BOPE system is re-installed.

Variance Request
Matador requests a variance to have the option of running a speed head for setting the Intermediate 1, Intermediate 2, and Production Strings. The BOPs will not be tested again unless any flanges are separated.

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. The hose is not required by the manufacturer to be anchored. If the specific hose is not available, then one of equal or higher rating will be used.

Matador requests a variance to have the option of batch drilling this well with other wells on the same pad. In the event that this well is batch drilled, the wellbore will be secured with a blind flange of like pressure. When the rig returns to this well and BOPs are installed, the operator will perform a full BOP test.

4. Casing & Cement

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

String	Hole Size (in)	Set MD (ft)	Set TVD (ft)	Casing Size (in)	Wt. (lb/ft)	Grade	Joint	Collapse	Burst	Tension
Surface	17.5	0 - 400	0 - 400	13.375	54.5	J-55	BUTT	1.125	1.125	1.8
Intermediate 1	12.25	0 - 2487	0 - 2487	9.625	40	J-55	BUTT	1.125	1.125	1.8
Intermediate 2 Top	8.75	0 - 2187	0 - 2187	7.625	29.7	P-110	BUTT	1.125	1.125	1.8
Intermediate 2 Bottom	8.75	2187 - 9600	2187 - 9239	7.625	29.7	P-110	VAM HTF-NR	1.125	1.125	1.8
Production Top	6.75	0 - 9500	0 - 9213	5.5	20	P-110	DWC/C-IS MS	1.125	1.125	1.8
Production Bottom	6.75	9500 - 14144	9213 - 9302	4.5	13.5	P-110	DWC/C-IS HT	1.125	1.125	1.8

- All casing strings will be tested in accordance with Onshore Order #2 - III.B.1.h
- Rustler top will be validated via drilling parameters (i.e. reduction in ROP) and surface casing setting depth revised accordingly if needed

Variance Request
Matador requests a variance to run 7-5/8" BTC casing inside 9-5/8" BTC casing which will be less than the 0.422" stand off regulation. Matador has met with Christopher Walls and Mustafa Haque as well as other BLM representatives and determined that this would be acceptable as long as the 7-5/8" flush casing was run throughout the entire 300' cement tie back section between 9-5/8" and 7-5/8" casing.

String	Type	Sacks	Yield	Cu. Ft.	Weight	Percent Excess	Top of Cement	Class	Blend

Surface	Lead	100	1.72	176	12.5	50%	0	C	5% NaCl + LCM
	Tail	250	1.38	347	14.8	50%	100	C	5% NaCl + LCM
Intermediate 1	Lead	450	2.13	964	12.6	50%	0	C	Bentonite + 1% CaCL2 + 8% NaCl + LCM
	Tail	190	1.38	268	14.8	50%	1990	C	5% NaCl + LCM
Intermediate 2	Lead	410	2.13	870	11.0	35%	2187	TXI	Fluid Loss + Dispersant + Retarder + LCM
	Tail	110	1.46	156	13.2	35%	8600	TXI	Fluid Loss + Dispersant + Retarder + LCM
Production	Tail	640	1.17	754	14.5	10%	9100	H	Fluid Loss + Dispersant + Retarder + LCM

5. Mud Program

An electronic Pason mud monitoring system complying with Onshore Order 2 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.

Hole Section	Hole Size (in)	Mud Type	Interval MD (ft)	Density (lb/gal)	Viscosity	Fluid Loss
Surface	17.5	Spud Mud	0 - 400	8.4 - 8.8	28-30	NC
Intermediate 1	12.25	Brine Water	400 - 2487	9.5 - 10.2	28-30	NC
Intermediate 2	8.75	FW/Cut Brine	2487 - 9600	8.4 - 9.4	28-30	NC
Production	6.75	OBM	9600 - 14144	11.5 - 12.5	30-35	<20

6. Cores, Test, & Logs

No core or drill stem test is planned.

A 2-person mud logging program will be used from Intermediate 2 Casing shoe 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 top of curve.

7. Down Hole Conditions

No abnormal pressure or temperature is expected. Maximum anticipated surface pressure is 4000 psi. Expected bottom hole temperature is 155 F.

In accordance with Onshore Order 6, Matador does not anticipate that there will be enough H2S from the surface to the Bone Spring formations to meet the BLM's minimum requirements for the submission of an "H2S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H2S safety package on all wells, attached is an "H2S Drilling Operations Plan". 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.

APD ID: 10400040329 **Submission Date:** 04/03/2019

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM **Well Number:** 202H

Well Type: CONVENTIONAL GAS WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? NO

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

EP_NOEL_HENSLEY_RD_REV1_S_20190401102046.pdf

New road type: LOCAL

Length: 912.38 Feet **Width (ft.):** 30

Max slope (%): 0 **Max grade (%):** 4

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 20

New road access erosion control: Detour barrow ditch will be frequently re-ripped to slow discharge

New road access plan or profile prepared? NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

Turnout? N

Access surfacing type: OTHER

Access topsoil source: ONSITE

Access surfacing type description: Caliche

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: Grading

Access other construction information:

Access miscellaneous information:

Number of access turnouts: **Access turnout map:**

Drainage Control

New road drainage crossing: CROSSING,CULVERT,OTHER

Drainage Control comments: The road will be crowned and made of 6" rolled and compacted caliche. Water will be deflected, as necessary, to avoid accumulation and prevent surface erosion.
Road Drainage Control Structures (DCS) description: Culvert if needed.

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

NoelHensley202OneMileRadius_OCDPlat_20190401154500.pdf

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description:

Production Facilities map:

BO_NOEL_HENSLEY_W2_FACILITY_SITE_REV1_S_20190401112840.pdf
CD_NOEL_HENSLEY_W2_FACILITY_SITE_REV1_S_20190401112849.pdf
Noel_Hensley_Production_Facility_Layout_20190402124137.pptx

Section 5 - Location and Types of Water Supply

Water Source Table

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM **Well Number:** 202H

Water source type: GW WELL

Water source use type: INTERMEDIATE/PRODUCTION CASING
STIMULATION

Source latitude: 32.222584 **Source longitude:** -104.1452

Source datum: NAD83

Water source permit type: WATER WELL

Water source transport method: PIPELINE

Source land ownership: PRIVATE

Source transportation land ownership: PRIVATE

Water source volume (barrels): 400000 **Source volume (acre-feet):** 51.55724

Source volume (gal): 16800000

Water source and transportation map:

Noel_Hensley_Water_Source_20190401112957.pdf

Noel_Hensley_Water_Source_20190826160247.pdf

Water source comments: Water source is located in the SENE Section 13 Township 24S Range 27E or a legally authorized water source.

New water well? NO

New Water Well Info

Well latitude: **Well Longitude:** **Well datum:**

Well target aquifer:

Est. depth to top of aquifer(ft): **Est thickness of aquifer:**

Aquifer comments:

Aquifer documentation:

Well depth (ft): **Well casing type:**

Well casing outside diameter (in.): **Well casing inside diameter (in.):**

New water well casing? **Used casing source:**

Drilling method: **Drill material:**

Grout material: **Grout depth:**

Casing length (ft.): **Casing top depth (ft.):**

Well Production type: **Completion Method:**

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM **Well Number:** 202H

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Using any construction materials: YES

Construction Materials description: Caliche from a pit on fee surface located in the SWSE of Section 13 T24S-R27E less than one mile away or a legally certified pit within 5 miles.

Construction Materials source location attachment:

Noel_Hensley_Caliche_20190826151203.pdf

Section 7 - Methods for Handling Waste

Waste type: GARBAGE

Waste content description: Trash generated by the drilling personal

Amount of waste: 100 pounds

Waste disposal frequency : Weekly

Safe containment description: Trash trailer

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** OTHER

Disposal type description:

Disposal location description: Eddy County

Waste type: DRILLING

Waste content description: Cuttings, mud, brine water

Amount of waste: 2000 barrels

Waste disposal frequency : Daily

Safe containment description: Steel roll off bins

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** PRIVATE

Disposal type description:

Disposal location description: Halfway NM

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM **Well Number:** 202H

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? NO

Description of cuttings location

Cuttings area length (ft.) **Cuttings area width (ft.)**

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

Noel_Hensley_Fed_Com__201H_Location_Layout_20190401121510.pdf

Noel_Hensley_Reclamation_20190826114938.pdf

Comments:

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM . **Well Number:** 202H

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:** NOEL HENSLEY SLOT

Multiple Well Pad Number: 1&2

Recontouring attachment:

Drainage/Erosion control construction: Standard practice is topsoil will be pushed to the high side of location to prevent water from running across location to control erosion.

Drainage/Erosion control reclamation: The original topsoil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be contoured, as close as possible, to match the original topography.

Well pad proposed disturbance (acres): 5.11

Road proposed disturbance (acres): 0.83

Powerline proposed disturbance (acres): 0

Pipeline proposed disturbance (acres): 0

Other proposed disturbance (acres): 0

Total proposed disturbance: 5.94

Well pad interim reclamation (acres): 1.25

Road interim reclamation (acres): 0

Powerline interim reclamation (acres): 0

Pipeline interim reclamation (acres): 0

Other interim reclamation (acres): 0

Total interim reclamation: 1.25

Well pad long term disturbance (acres): 3.86

Road long term disturbance (acres): 0

Powerline long term disturbance (acres): 0

Pipeline long term disturbance (acres): 0

Other long term disturbance (acres): 0

Total long term disturbance: 3.86

Disturbance Comments:

Reconstruction method: The areas planned for interim reclamation will be harrowed on the contour to match pre construction grades. Where applicable, the fill material of the well pad will be back-filled into the cut to bring the area back to the original contour. Topsoil and brush will be evenly re-spread over the entire disturbed area. Disturbed areas will be seeded in accordance with the BLM's requirements. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

Topsoil redistribution: The original topsoil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be contoured, as close as possible, to match the original topography.

Soil treatment: All disturbed areas not needed for active support of production operations will undergo interim reclamation. the portions of the cleared well site not needed for operational sand safety purposes will be contoured to a final or intermediate contour that blends with the surrounding topography as much as possible. Topsoil will be respread over areas not needed for all-weather operations.

Existing Vegetation at the well pad:

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road:

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline:

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances:

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed type:

Seed source:

Seed name:

Source name:

Source address:

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre:

Proposed seeding season:

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name:

Last Name:

Phone:

Email:

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: per BLM COAs

Weed treatment plan attachment:

Monitoring plan description: per BLM COAs

Monitoring plan attachment:

Success standards: per BLM COAs

Pit closure description: N/A

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM **Well Number:** 202H

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Section 12 - Other Information

Right of Way needed? NO **Use APD as ROW?**

ROW Type(s):

ROW Applications

SUPO Additional Information:

Use a previously conducted onsite? YES

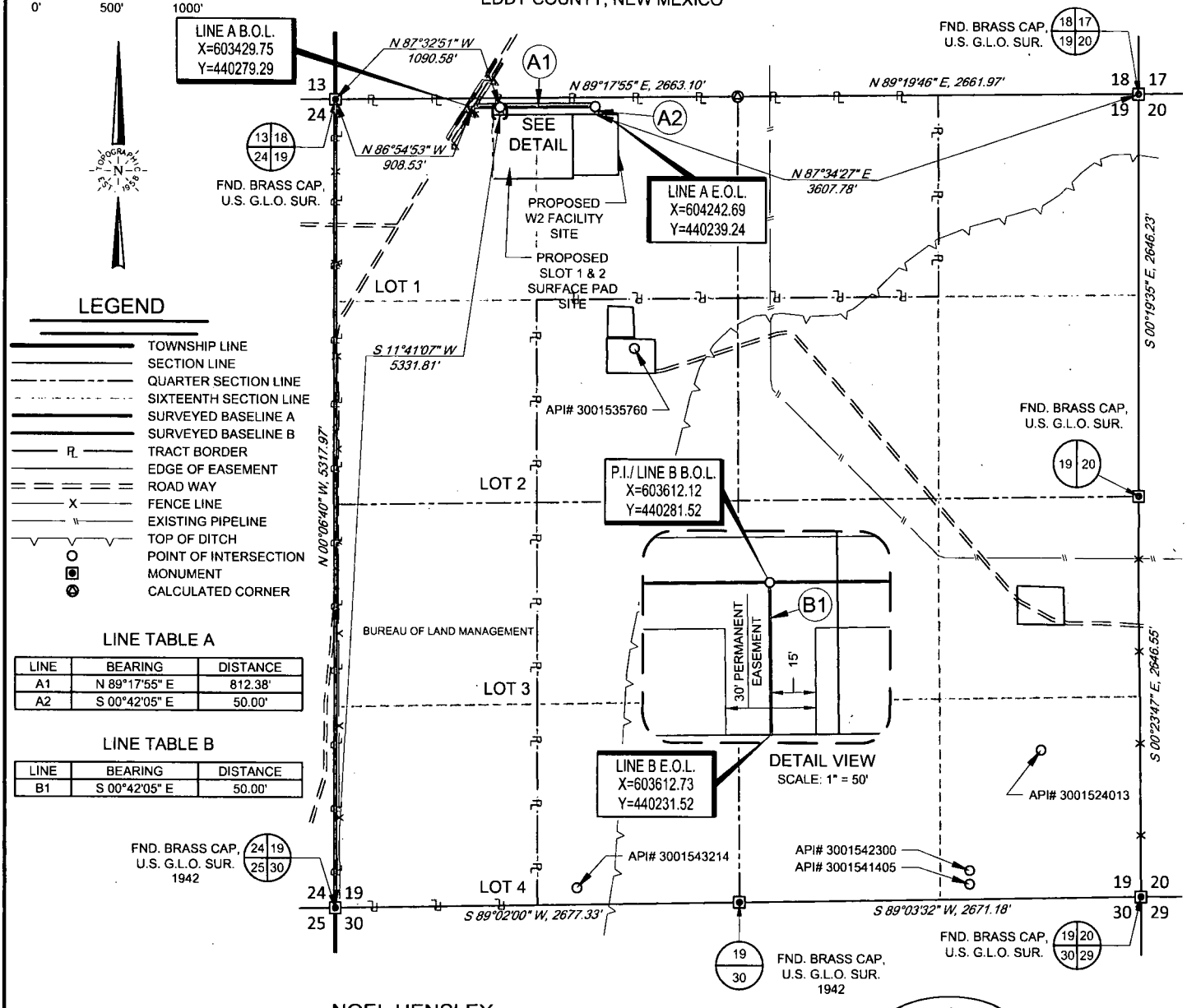
Previous Onsite information: Topsoil for the well pad will be stored on the South side, topsoil for the production pad will be stored on the East side.

Other SUPO Attachment

SCALE: 1" = 1000'

0' 500' 1000'

SECTION 19, TOWNSHIP 24-S, RANGE 28-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



LEGEND

- TOWNSHIP LINE
- SECTION LINE
- QUARTER SECTION LINE
- SIXTEENTH SECTION LINE
- SURVEYED BASELINE A
- SURVEYED BASELINE B
- TRACT BORDER
- EDGE OF EASEMENT
- ROAD WAY
- FENCE LINE
- EXISTING PIPELINE
- TOP OF DITCH
- POINT OF INTERSECTION
- MONUMENT
- CALCULATED CORNER

LINE TABLE A

LINE	BEARING	DISTANCE
A1	N 89°17'55" E	812.38'
A2	S 00°42'05" E	50.00'

LINE TABLE B

LINE	BEARING	DISTANCE
B1	S 00°42'05" E	50.00'

NOEL HENSLEY ROAD EASEMENT

Being a proposed road easement being 30 feet in width, 15 feet left, and 15 feet right of the above platted centerline total line footage containing 912.38 feet or 55.30 rods, containing 0.63 acres more or less.

ANGEL M. BAEZA
NEW MEXICO
25116
PROFESSIONAL SURVEYOR

Angel M. Baeza, P.S. No. 25116
MARCH 20, 2019

Matador PRODUCTION COMPANY

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
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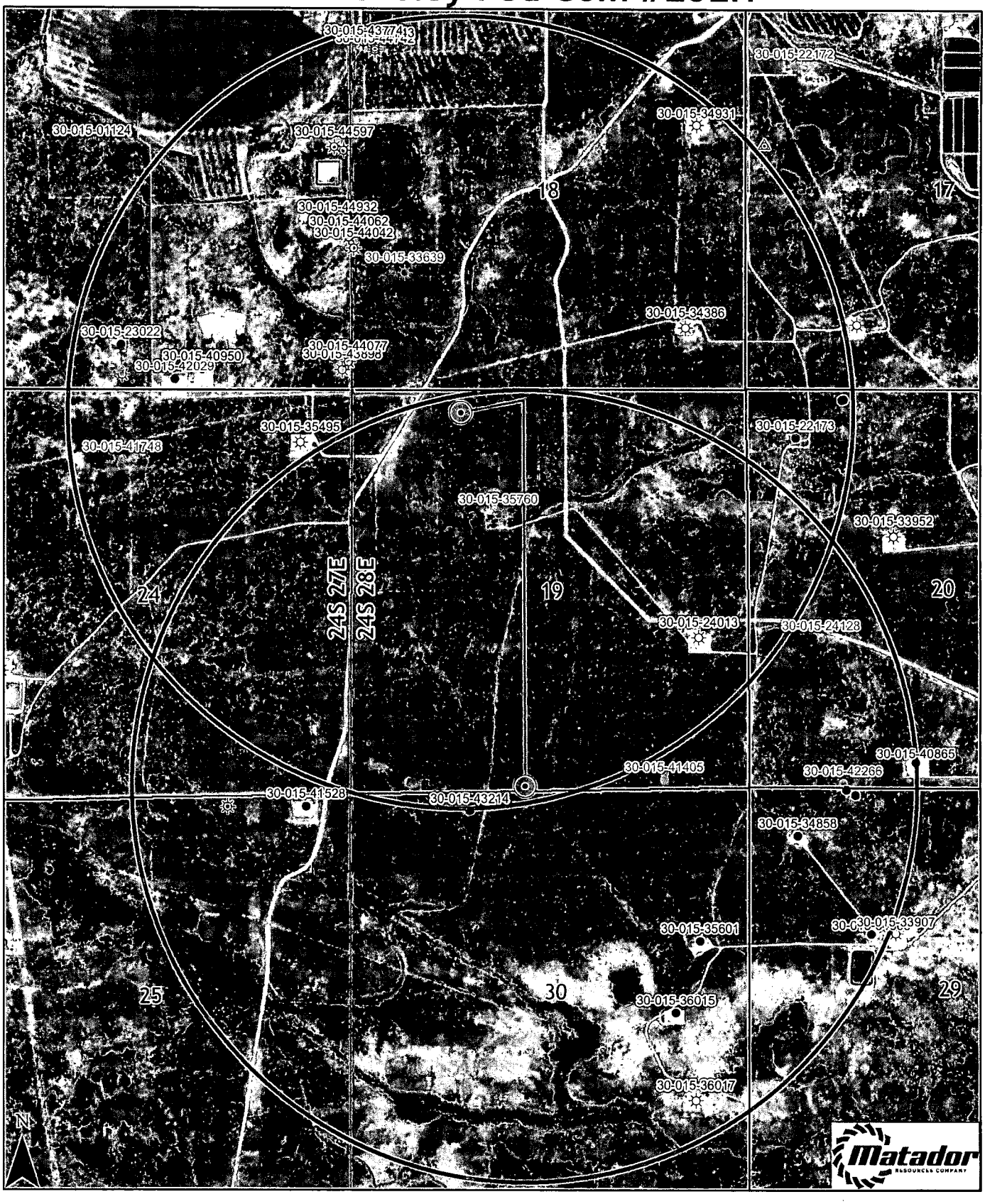
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

NOEL HENSLEY ROAD EASEMENT	REVISION:	
	EAH	03/20/19
DATE: 03/06/19		
FILE: EP_NOEL_HENSLEY_RD_REV1		
DRAWN BY: GJU		
SHEET: 1 OF 1		

NOTES:
1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"
2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.
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 RESOURCES, INC. 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.
4. B.O.L./P.O.B. = BEGINNING OF LINE/POINT OF BEGINNING
5. E.O.L./P.O.E. = END OF LINE/POINT OF EXIT

S:\SURVEY\MATADOR_RESOURCES\NOEL_HENSLEY_19-24S-28E\FINAL_PRODUCTS\EP_NOEL_HENSLEY_RD_REV1.DWG 3/21/2019 10:11:59 AM bgregory

Noel Hensley Fed Com #202H



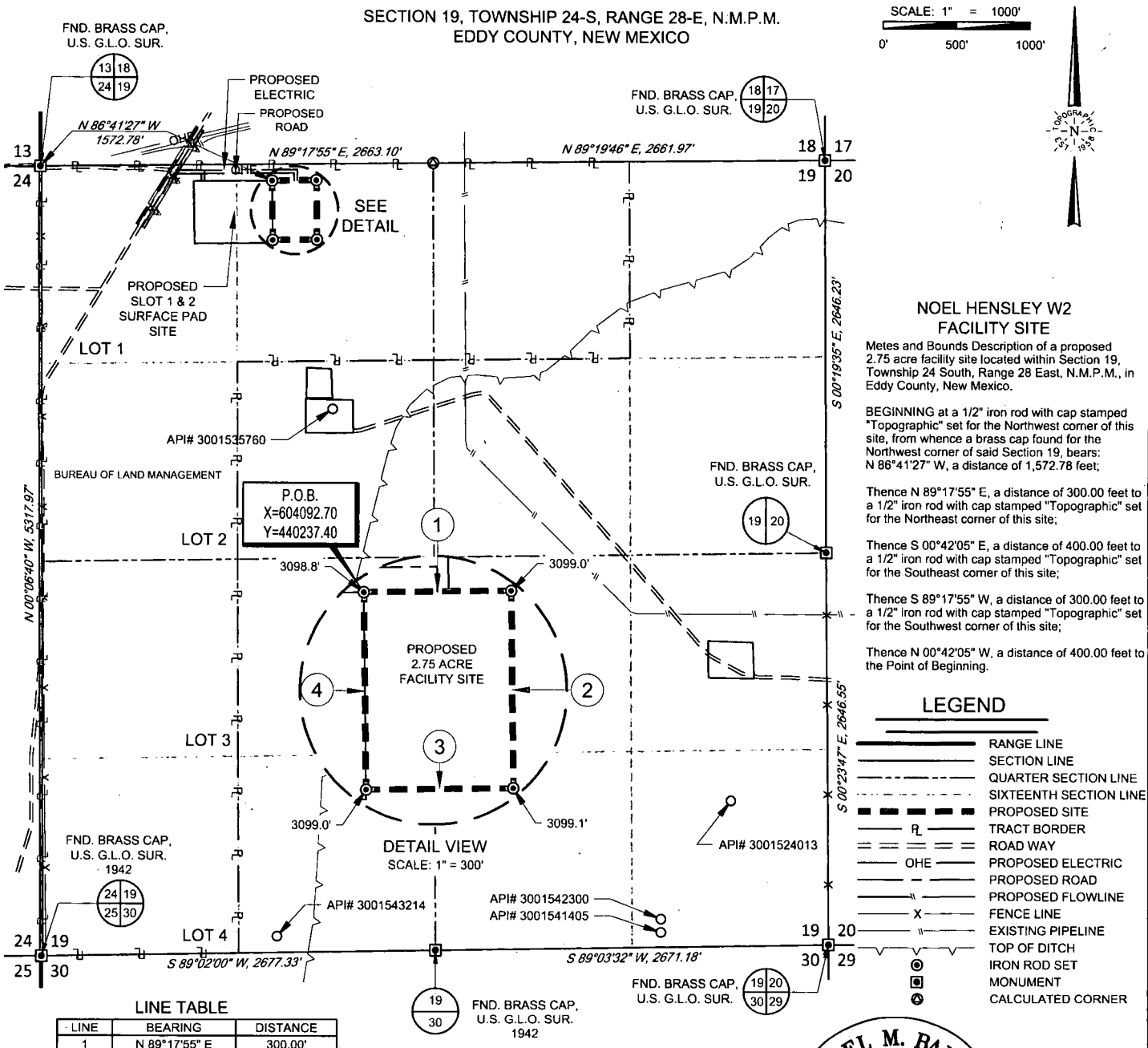
1 inch = 1,750 feet

Feet

0 750 1,500 3,000

Map Prepared by: agreen
Date: April 1, 2019
filename: OneMileRadius_Plat
Sources: IHS Energy; Midland Map Company; Environmental Systems Research Institute (ESRI);

SECTION 19, TOWNSHIP 24-S, RANGE 28-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



NOEL HENSLEY W2 FACILITY SITE

Metes and Bounds Description of a proposed 2.75 acre facility site located within Section 19, Township 24 South, Range 28 East, N.M.P.M., in Eddy County, New Mexico.

BEGINNING at a 1/2" iron rod with cap stamped "Topographic" set for the Northwest corner of this site, from whence a brass cap found for the Northwest corner of said Section 19, bears: N 86°41'27" W, a distance of 1,572.78 feet;

Thence N 89°17'55" E, a distance of 300.00 feet to a 1/2" iron rod with cap stamped "Topographic" set for the Northeast corner of this site;

Thence S 00°42'05" E, a distance of 400.00 feet to a 1/2" iron rod with cap stamped "Topographic" set for the Southeast corner of this site;

Thence S 89°17'55" W, a distance of 300.00 feet to a 1/2" iron rod with cap stamped "Topographic" set for the Southwest corner of this site;

Thence N 00°42'05" W, a distance of 400.00 feet to the Point of Beginning.

LEGEND

- RANGE LINE
- SECTION LINE
- QUARTER SECTION LINE
- SIXTEENTH SECTION LINE
- PROPOSED SITE
- TRACT BORDER
- ROAD WAY
- OHE — PROPOSED ELECTRIC
- PROPOSED ROAD
- PROPOSED FLOWLINE
- FENCE LINE
- EXISTING PIPELINE
- TOP OF DITCH
- IRON ROD SET
- MONUMENT
- CALCULATED CORNER

LINE TABLE

LINE	BEARING	DISTANCE
1	N 89°17'55" E	300.00'
2	S 00°42'05" E	400.00'
3	S 89°17'55" W	300.00'
4	N 00°42'05" W	400.00'

ANGEL M. BAEZA NEW MEXICO 25116 PROFESSIONAL SURVEYOR

Angel M. Baeza, P.S. No. 25116
MARCH 20, 2019

Matador PRODUCTION COMPANY

TOPOGRAPHIC LOYALTY INNOVATION LEGACY
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TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
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NOEL HENSLEY W2 FACILITY SITE	REVISION:	
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DATE: 03/07/2019		
FILE: BO_NOEL_HENSLEY_W2_FACILITY_SITE_REV1		
DRAWN BY: IMU		
SHEET: 1 OF 3		

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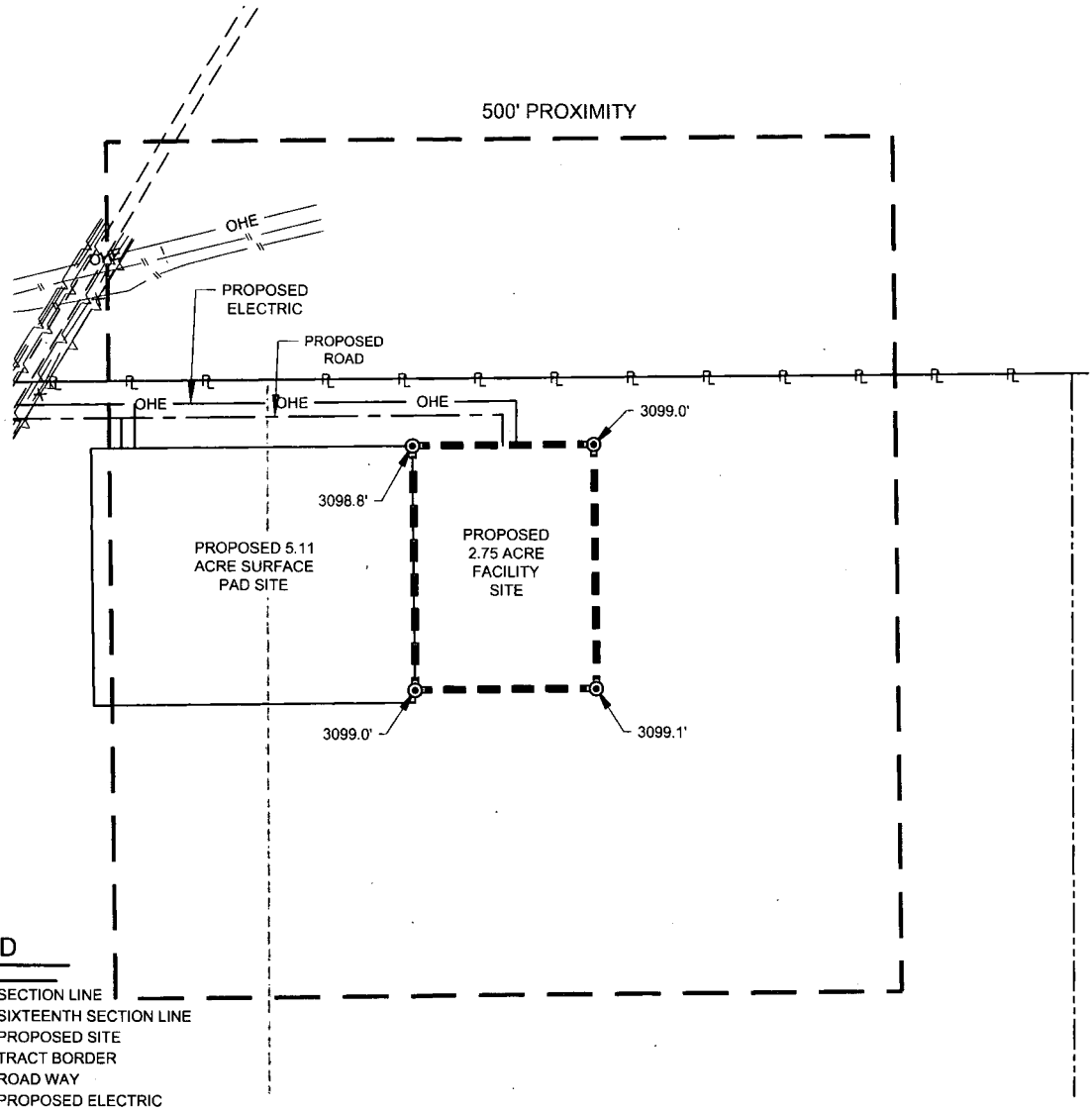
4. P.O.B. = POINT OF BEGINNING
5. ADJOINER INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.

SCALE: 1" = 300'

0' 150' 300'

SECTION 19, TOWNSHIP 24-S, RANGE 28-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



LEGEND

	SECTION LINE
	SIXTEENTH SECTION LINE
	PROPOSED SITE
RL	TRACT BORDER
	ROAD WAY
OHE	PROPOSED ELECTRIC
	PROPOSED ROAD
	PROPOSED FLOWLINE
OIL	PROPOSED OIL LINE
W	PROPOSED WATER LINE
GAS	PROPOSED GAS LINE
X	FENCE LINE
	EXISTING PIPELINE
OHE	OVERHEAD ELECTRIC
	TOP OF DITCH
	IRON ROD SET

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ANGEL M. BAEZA
NEW MEXICO
25116
PROFESSIONAL SURVEYOR

Angel M. Baeza, P.S. No. 25116
MARCH 20, 2019

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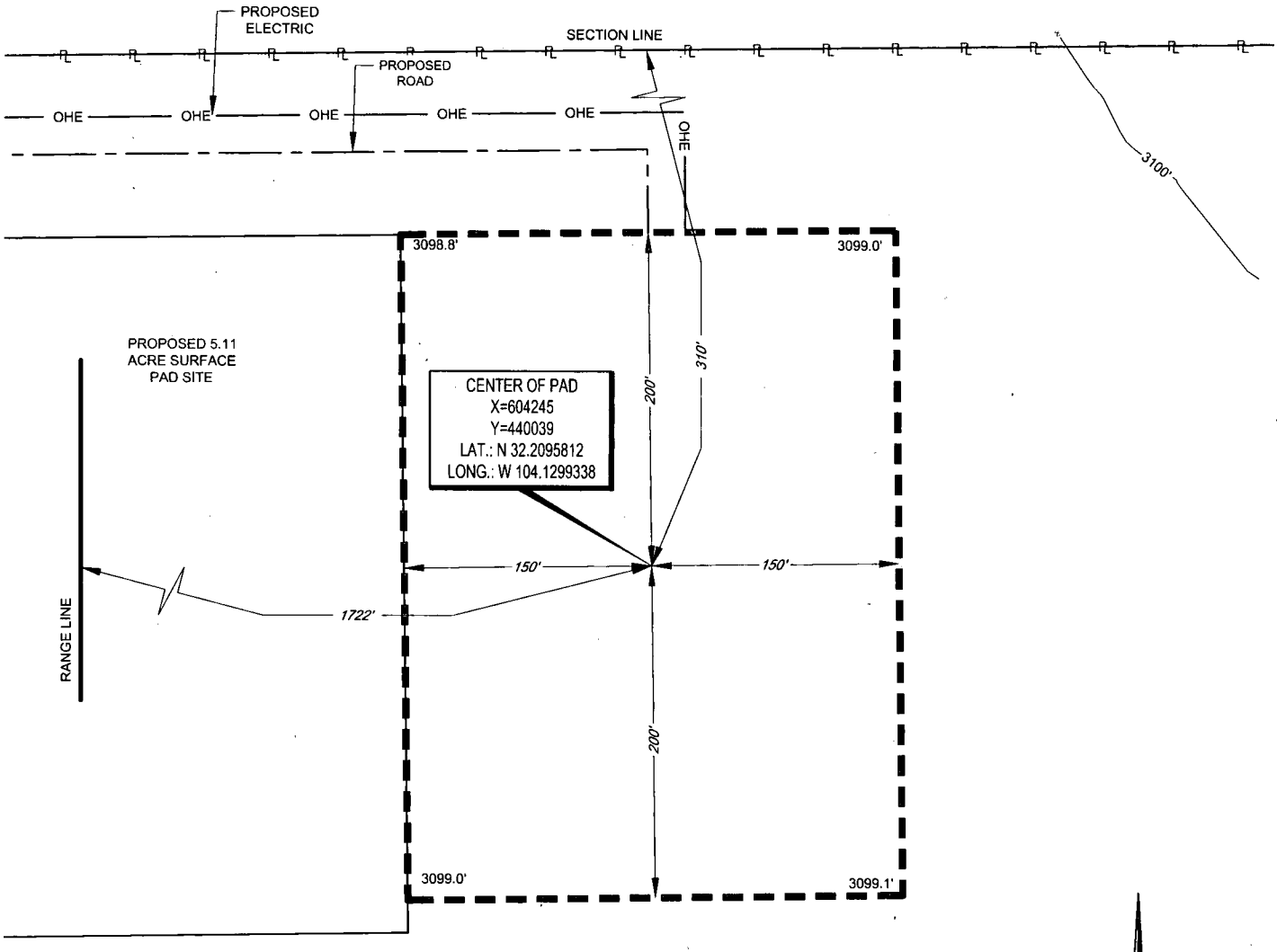
SECTION 19, TOWNSHIP 24-S, RANGE 28-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



LEGEND

- RANGE LINE
- SECTION LINE
- SIXTEENTH SECTION LINE
- PROPOSED SITE
- TRACT BORDER
- OHE — PROPOSED ELECTRIC
- PROPOSED ROAD

CENTER OF PAD IS 310' FNL & 1722' FWL

SCALE: 1" = 100'

0' 50' 100'

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

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

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EDDY COUNTY, NEW MEXICO

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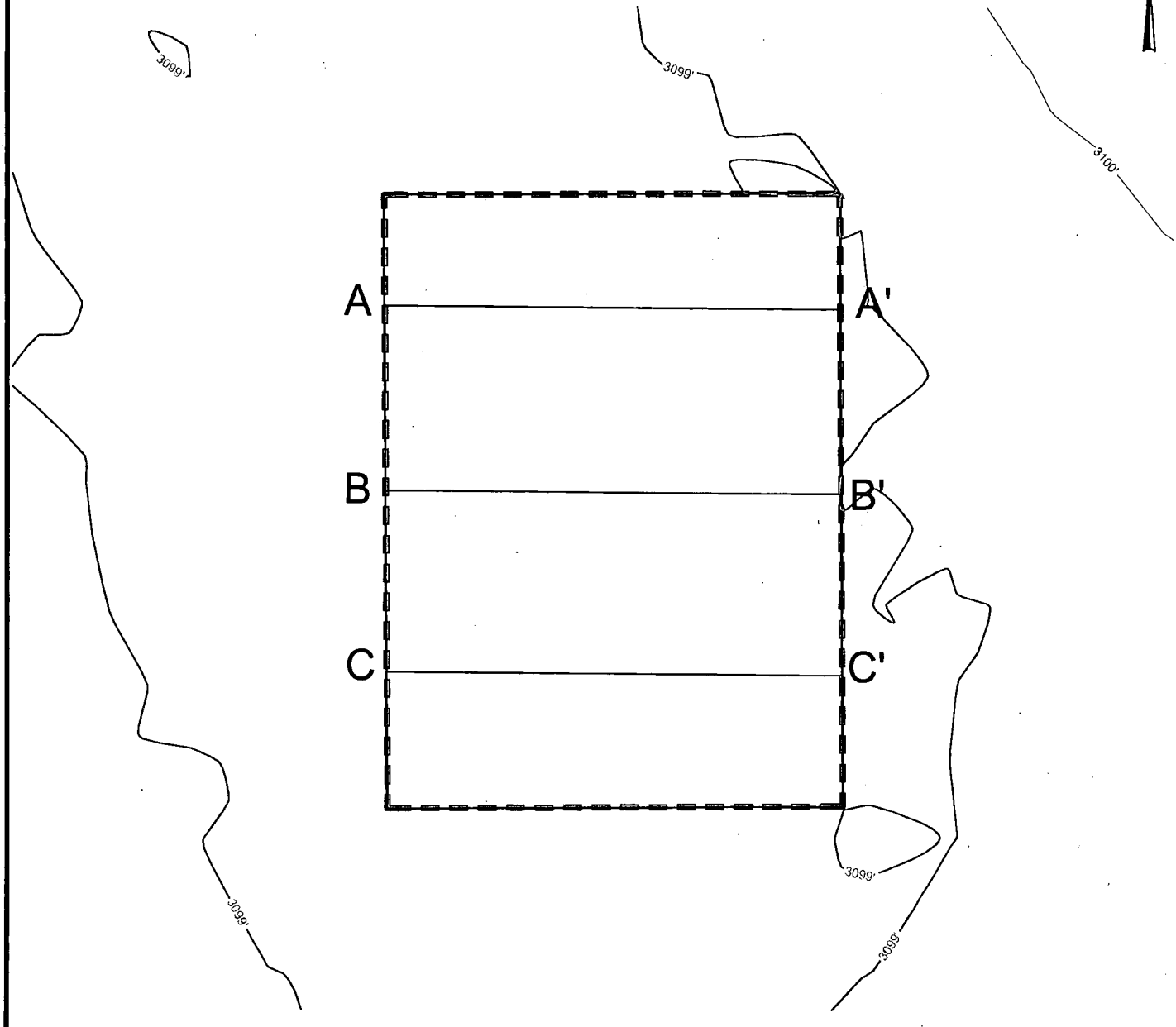
0' 50' 100'



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MARCH 20, 2019
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EDDY COUNTY, NEW MEXICO

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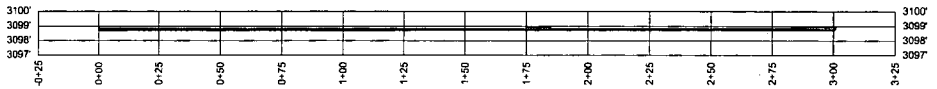
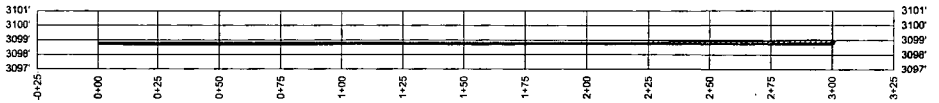
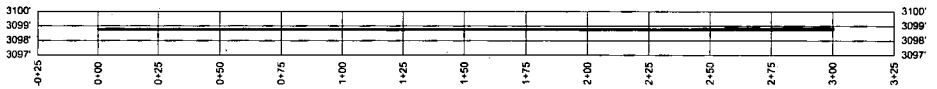
A-A'



B-B'



C-C'



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Horizontal Scale = 1:60
Vertical Scale = 1:10

NOEL HENSLEY W2 FACILITY SITE	REVISION:	
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TOP OF PAD ELEVATION: 3098.8
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 : 4,596.4 C.F., 170.24 C.Y.
FILL: 4,596.4 C.F., 170.24 C.Y.
AREA: 120460.1 SQ.FT., 2.765 ACRES

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Angel M. Baeza, P.S. No. 25116
MARCH 20, 2019
Field note description of even date accompanies this plat.

S:\SURVEY\MATADOR_RESOURCES\NOEL_HENSLEY_19-24S-28E\FINAL_PRODUCTS\CD_NOEL_HENSLEY_W2_FACILITY_SITE_REV1.DWG 3/21/2019 6:54:08 AM bgregory

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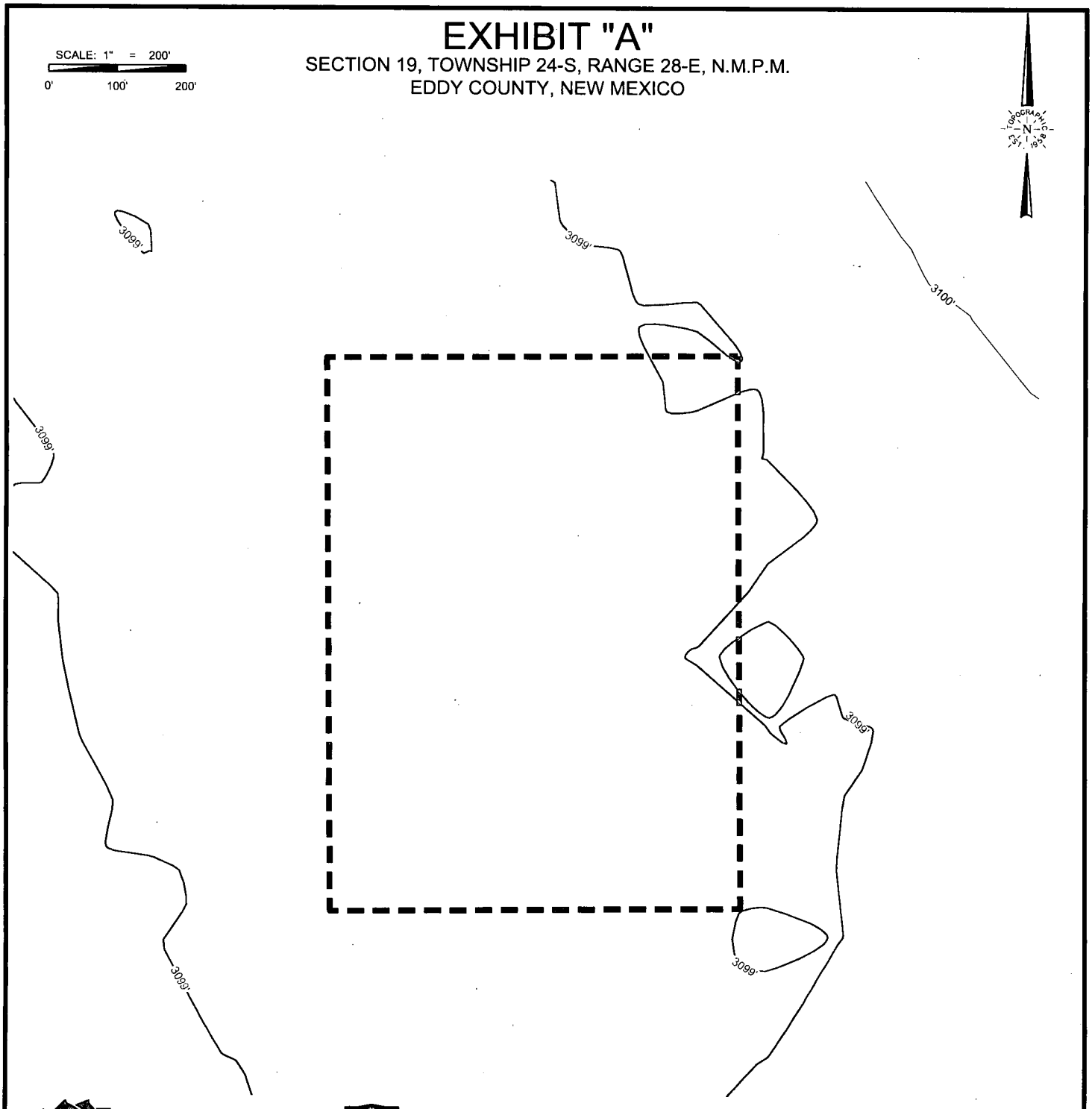
SECTION 19, TOWNSHIP 24-S, RANGE 28-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

SCALE: 1" = 200'
0' 100' 200'



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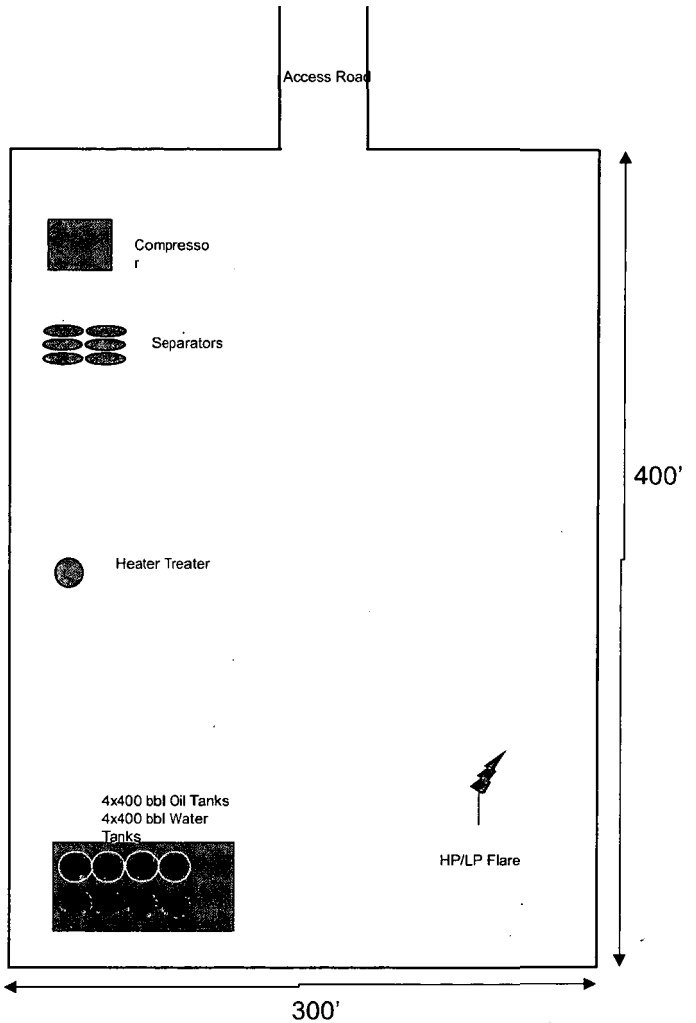
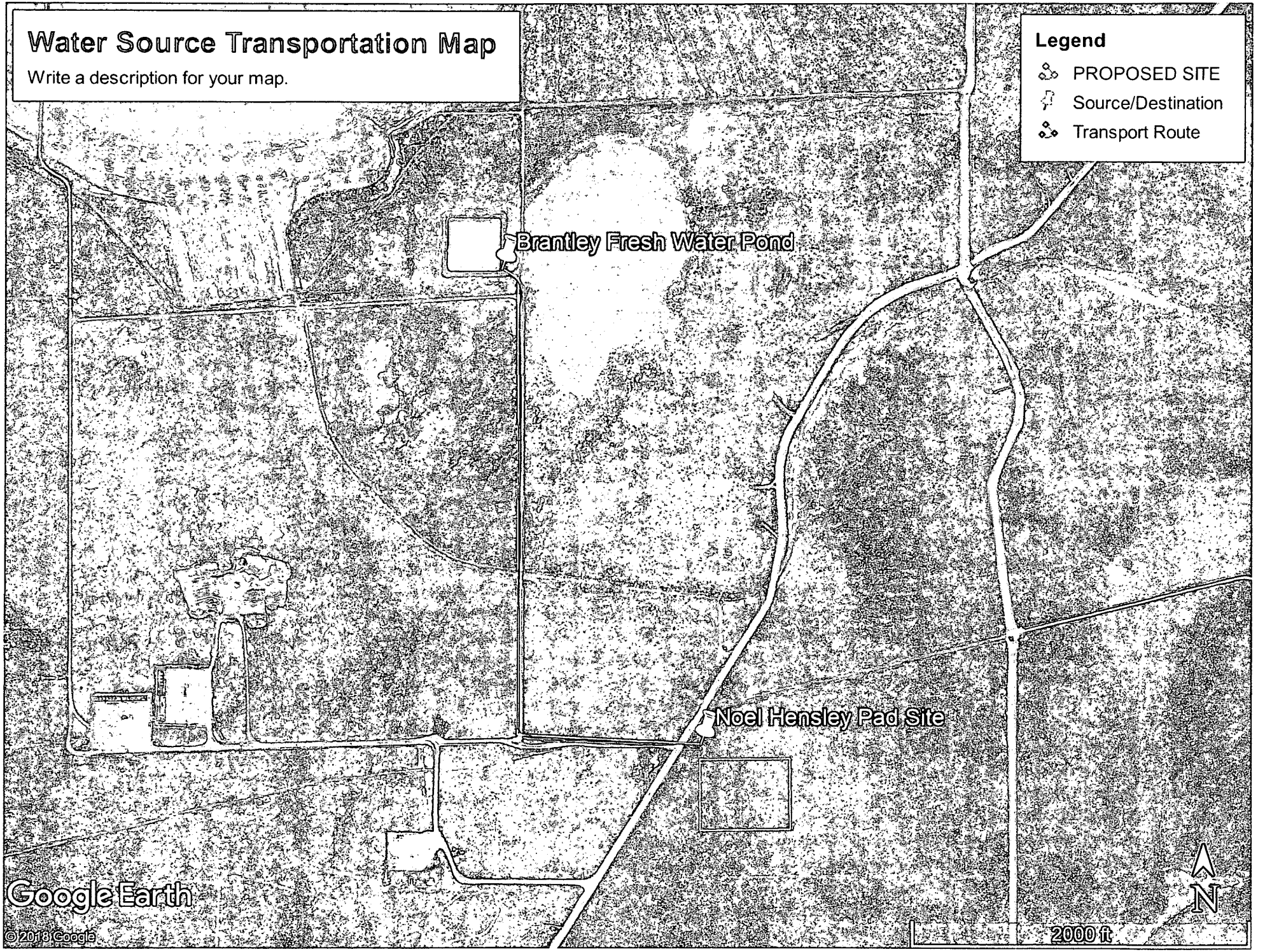
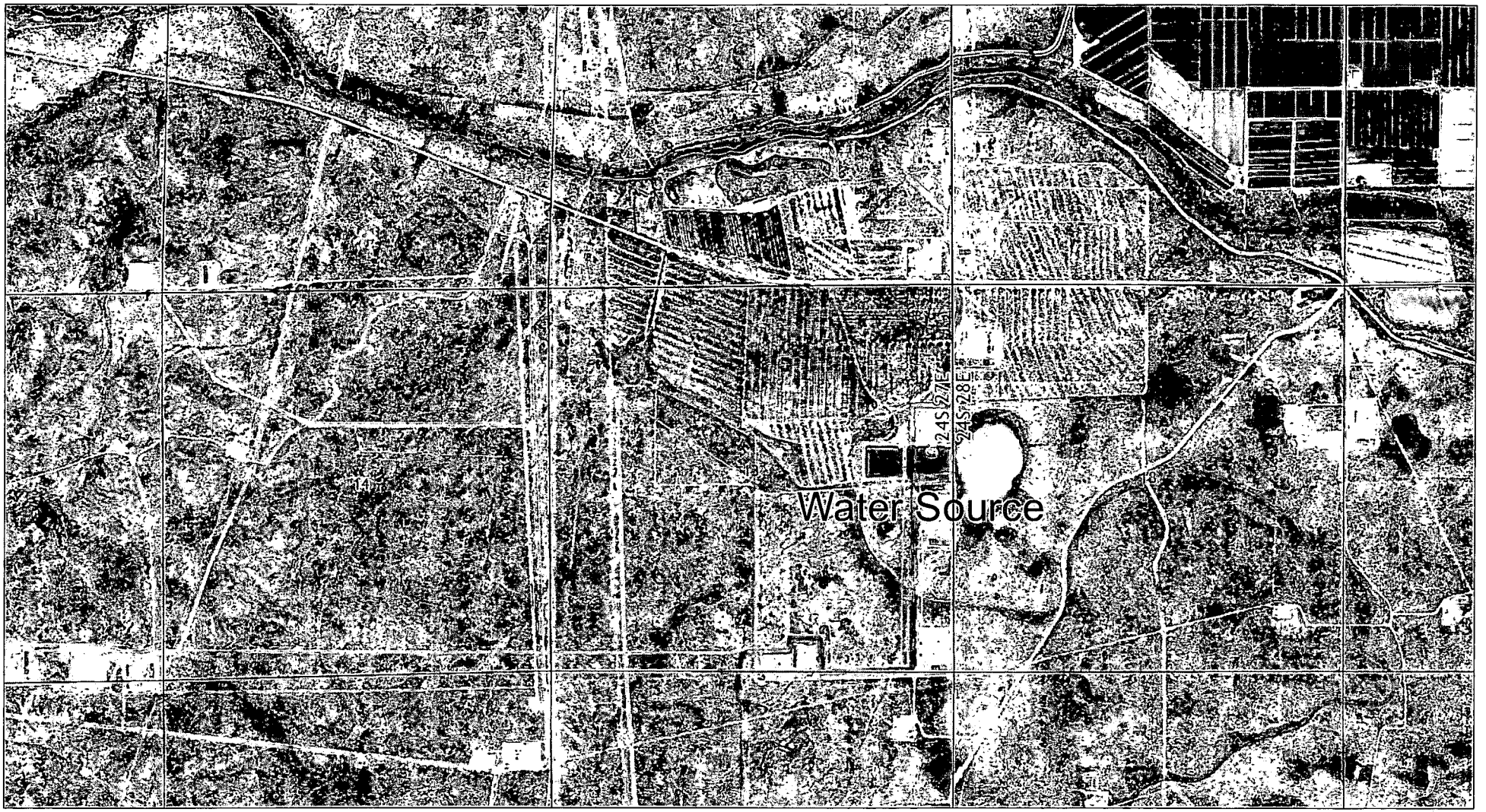
S:\SURVEY\MATADOR_RESOURCES\NOEL_HENSLEY_19-24S-28E\FINAL_PRODUCTS\CD_NOEL_HENSLEY_W2_FACILITY_SITE_REV1.DWG 3/21/2019 6:54:09 AM bgregory


Access Road
Compresso
r
Separators
Heater Treater
4x400 bbl Oil Tanks
4x400 bbl Water
Tanks
HP/LP Flare
400'
300'


Water Source Transportation Map
Write a description for your map.
Legend
PROPOSED SITE
Source/Destination
Transport Route
Brantley Fresh Water Pond
Noel Hensley Pad Site
Google Earth
© 2018 Google
2000 ft
N

Noel Hensley Water Source (Sec. 13 T24S R27E)



N

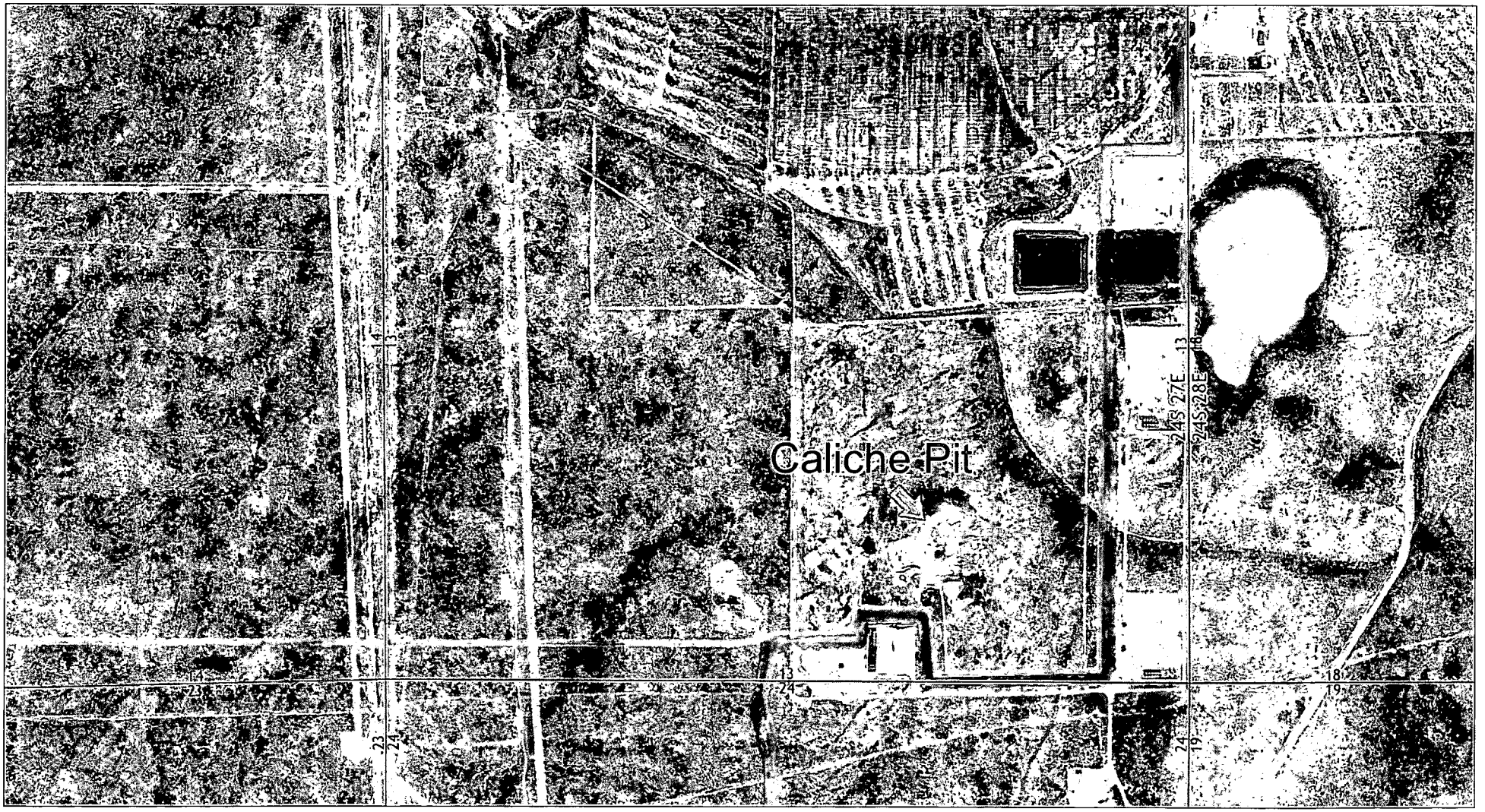
0 0.075 0.15 0.3 0.45 0.6 Miles

0 625 1,250 2,500 3,750 5,000 Feet

Author: Matador Access Portal

Date: 8/26/2019

Noel Hensley Caliche (Sec. 13 T24S R27E)



Author: Matador Access Portal

Date: 8/26/2019

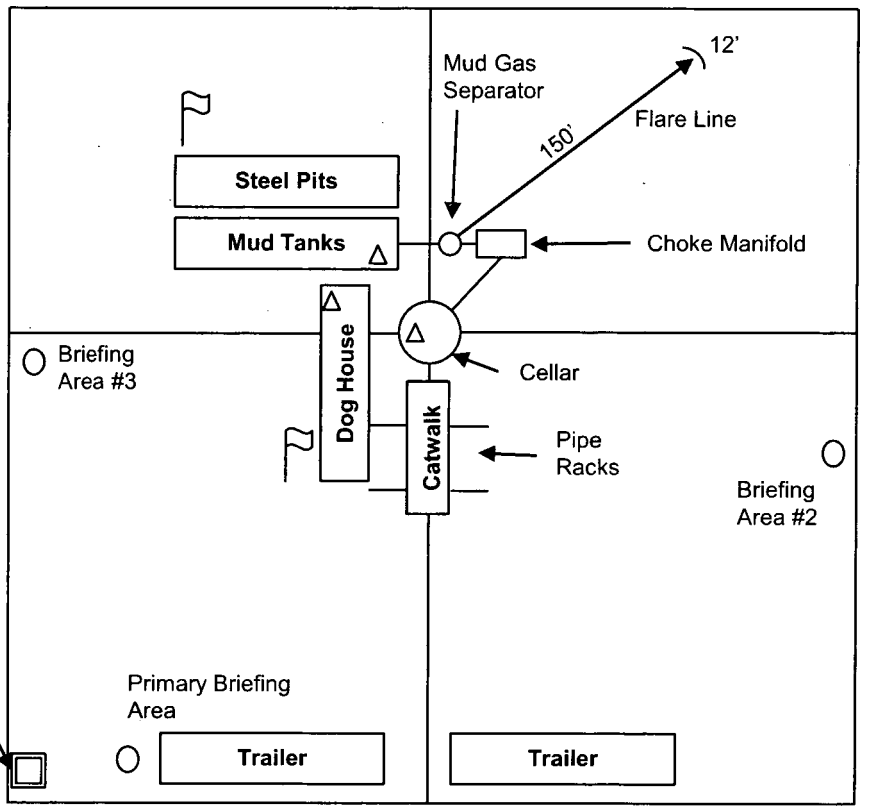
Rig Diagram

Exhibit E-3: Rig Diagram
Noel Hensley Fed Com Pad
Matador Resources Company
19-24S-28E
Eddy County, NM

Wind Direction Indicator

H2S Monitors

Briefing Areas



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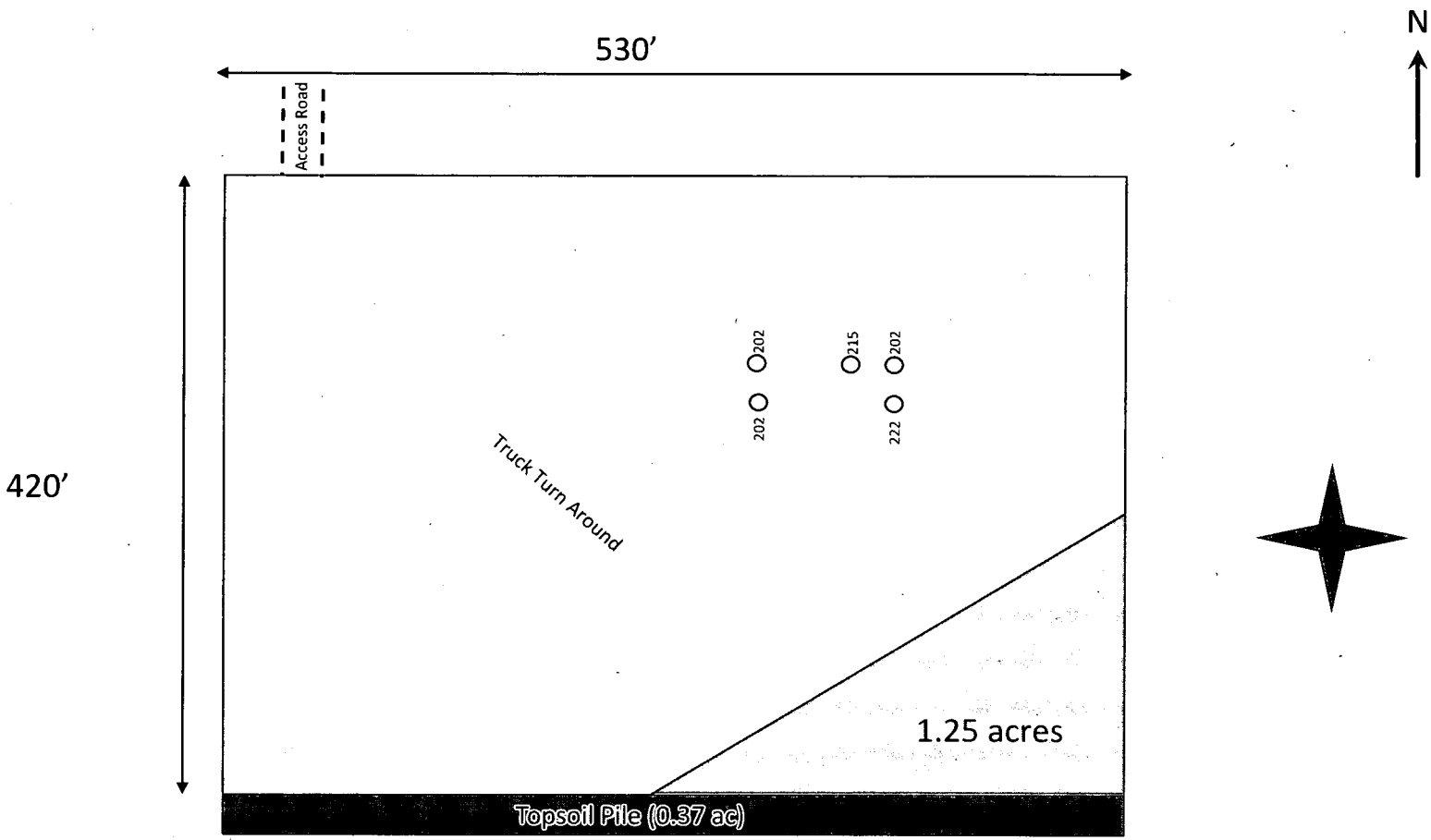
Condition Warning Sign



Center of Pad is 320' FNL & 1307' FWL

AFMSS

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

PWD Data Report

09/19/2019

APD ID: 10400040329 **Submission Date:** 04/03/2019

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM **Well Number:** 202H

Well Type: CONVENTIONAL GAS WELL **Well Work Type:** Drill

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:

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:

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM **Well Number:** 202H

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:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD disturbance (acres): **PWD surface owner:**

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM **Well Number:** 202H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: **Injection well name:**

Assigned injection well API number? **Injection well API number:**

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Other PWD discharge volume (bbl/day):

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM **Well Number:** 202H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

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

Bond Info Data Report

09/19/2019

APD ID: 10400040329

Submission Date: 04/03/2019

Operator Name: MATADOR PRODUCTION COMPANY

Well Name: NOEL HENSLEY FED COM

Well Number: 202H

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Bond Information

Federal/Indian APD: FED

BLM Bond number: NMB001079

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment: