OCD Artesia

AT S-10-701

Form 3160-3
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

EC

FORM APPROVED
OMB No 1004-0136
Expires July 31, 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM107374

6. If Indian, Allottee or Tribe Name

1a. Type of Work: ☒ DRILL ☐ REENTER CONFIDENTIAL

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

1b. Type of Well. ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.
DELAWARE RANCH 11 FED COM 1H [38924]

2. Name of Operator
CHESAPEAKE OPERATING, INC.
Contact: LINDA GOOD
E-Mail: linda good@chk.com
<147179?

9. API Well No.
30-015-39634

3a. Address
P.O. BOX 18496
OKLAHOMA CITY, OK 73154-0496

3b. Phone No (include area code)
Ph: 405-935-4275

10. Field and Pool, or Exploratory
HAY Hollow; Bone Spring (30215)

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

At surface NENE 235FNL 400FEL

At proposed prod. zone NENE 330FNL 400FEL

Split Estate
UNORTHODOX LOCATION Become Orthodox at approximately 11,700' MD

11. Sec., T., R., M., or Blk. and Survey or Area
Sec 14 T26S R28E Mer NMP

14. Distance in miles and direction from nearest town or post office*
13.25 MILES SOUTH OF MALAGA, NEW MEXICO

12. County or Parish
EDDY

13. State
NM

15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any)

16. No. of Acres in Lease
160.00

17. Spacing Unit dedicated to this well
160.00

18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.

19. Proposed Depth
~~11779~~ MD 11720
~~6692~~ TVD 6709
PH 7410

20. BLM/BIA Bond No. on file
NM2634

21. Elevations (Show whether DF, KB, RT, GL, etc.
2951 GL

22. Approximate date work will start

23. Estimated duration

RECEIVED
OCT 20 2011
NMOCD ARTESIA

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

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 shall 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 required by the authorized officer.

25. Signature	Name (Printed/Typed)	Date
(Electronic Submission)	LINDA GOOD Ph: 405-935-4275	09/08/2010

Title
SR REGULATORY COMPLIANCE SPEC

Approved by (Signature)	Name (Printed/Typed)	Date
/s/ Don Peterson		OCT 17 2011

Title	Office
FIELD MANAGER	CARLSBAD FIELD OFFICE

Application approval does not warrant or certify 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.

APPROVAL FOR TWO YEARS

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.

Additional Operator Remarks (see next page)

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Electronic Submission #92404 verified by the BLM Well Information System
For CHESAPEAKE OPERATING, INC., sent to the Carlsbad

Approval Subject to General Requirements & Special Stipulations Attached

CARLSBAD CONTROLLED WATER BASIN

Witness Surface & Intermediate Casing

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

Additional Operator Remarks:

Chesapeake Operating, Inc. respectfully requests permission to drill a well to 11,779' to test the Bone Spring formation. If productive, casing will be run and the well completed. If dry, the well will be plugged and abandoned as per BLM and New Mexico Oil Conservation Division requirements.

Please find the Surface Use Plan and Drilling Program as required by Onshore Order No. 1.

Attached are the Exhibit A-1 to A-4 Survey Plats, Exhibit B 1 Mile Radius Plat, Exhibit C Production Facility, Exhibit D Patterson Rig #62 Layout, Exhibit F-1 to F-2 BOP & Choke Manifold, Exhibit G Directional Drill Plan and Operator Certification Page.

Exhibit E Archaeological Survey will be delivered to the BLM.

CHESAPEAKE OPERATING, INC. HAS AN AGREEMENT WITH THE SURFACE OWNER.

PLEASE BE ADVISED THAT CHESAPEAKE OPERATING, INC. IS CONSIDERED TO BE THE OPERATOR OF THE ABOVE MENTIONED WELL. CHESAPEAKE OPERATING, INC. AGREES TO BE RESPONSIBLE UNDER THE TERMS AND CONDITIONS OF THE LEASE FOR THE OPERATIONS CONDUCTED UPON THE LEASE LANDS.

(PN 632400)

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised October 15, 2009

Submit one copy to appropriate District Office

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-39634	30215	Mat Hollow; Bone Spring

Property Code	Property Name	Well Number
38924	DELAWARE RANCH "11" FEDERAL COM	1H

OGRID No.	Operator Name	Elevation
147179	CHESAPEAKE OPERATING CO.	2951'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	14	26 S	28 E		235	NORTH	400	EAST	EDDY

Bottom Hole Location If Different From Surface

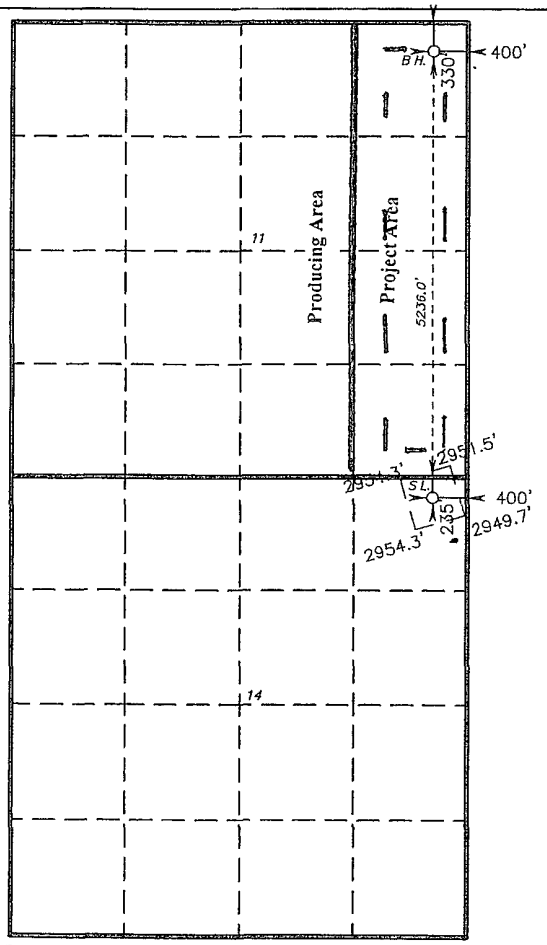
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	11	26 S	28 E		330	NORTH	400	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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

PROPOSED BOTTOM HOLE LOCATION
Lat – N 32.06349381°
Long – W 104.0505617°
NMSPCE– N 386951.415
E 628933.039
(NAD–83)

Penetration Point
&
SURFACE LOCATION
Lat – N 32.04910035°
Long – W 104.0506227°
NMSPCE– N 381715.410
E 628927.860
(NAD–83)



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: 07/14/2010

Bryan Arrant
Printed Name

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 supervison, and that the same is true and correct to the best of my belief.

Date Surveyed
Signature & Seal of Professional Surveyor
7977

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

EXHIBIT A-1

ONSHORE OIL & GAS ORDER NO. 1
Approval of Operations on Onshore
Federal and Indian Oil and Gas Leases

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (CFR 43, Part 3160) and the approved Application for Permit to Drill. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling and completion operations.

Approval of this application 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.

1. FORMATION TOPS

The estimated tops of important geologic markers are as follows:

Formation	SUBSEA	KBTVD	SUBSEA (Base)	KBTVD (Base)
Base of Salt	350'	2615'		
Bell Canyon	315'	2650'		
Brushy Canyon	-1598'	4577'		
Bone Spring	--3335'	6300'		

TOTAL DEPTH ~~11,380'~~ 11720 MD

2. ESTIMATED DEPTH OF WATER, OIL, GAS & OTHER MINERAL BEARING FORMATIONS

The estimated depths at which the top and bottom of the anticipated water, oil, gas or other mineral bearing formations are expected to be encountered are as follows:

Substance	Formation	Depth
Oil/Gas	Brushy Canyon	4577'
Oil/Gas	Bone Spring	630'

All shows of fresh water and minerals will be reported and protected.

3. BOP EQUIPMENT:

Will have a 13-5/8" 3000 psi rig stack (see proposed schematic) for drill out below surface casing; this system will be tested to 3000 psi working pressure.

Chesapeake Operating, Inc.'s minimum specifications for pressure control equipment are as follows:

I. BOP, Annular, Choke Manifold, Pressure Test - See Exhibit F-1 to F-2.

A. Equipment
1. The equipment to be tested includes all of the following that is installed on the well:
(a) Ram-type and annular preventers,
(b) Choke manifolds and valves,
(c) Kill lines and valves, and
(d) Upper and lower kelly cock valves, inside BOP's and safety valves.

B. Test Frequency
1. All tests should be performed with clear **water**,
(a) when installed,
(b) before drilling out each casing string,
(c) at any time that there is a repair requiring a pressure seal to be broken in the assembly, and
(d) at least once every **30 days** while drilling.

C. Test Pressure
1. In some drilling operations, the pressures to be used for low and high-pressure testing of preventers and casing may be different from those given below due to governmental regulations, or approved local practices.
2. If an individual component does not test at the low pressure, **do not,** test to the high pressure and then drop back down to the low pressure.
3. All valves located downstream of a valve being tested must be placed in the open position.
4. All equipment will be tested with an initial "low pressure" test at 250 psi.
5. The subsequent "high pressure" test will be conducted at the rated working pressure of the equipment for all equipment except the annular preventer.
6. The "high pressure" test for the annular preventer will be conducted at 70% of the rated working pressure.
7. A record of all pressures will be made on a pressure-recording chart.

D. Test Duration

1. In each case, the individual components should be monitored for leaks for **10 minutes,** with no observable pressure decline, once the test pressure as been applied.

II. Accumulator Performance Test

A. Scope

1. The purpose of this test is to check the capabilities of the BOP control systems, and to detect deficiencies in the hydraulic oil volume and recharge time.

B. Test Frequency

1. The accumulator is to be tested each time the BOP's are tested, or any time a major repair is performed.

C. Minimum Requirements

1. The accumulator should be of sufficient volume to supply 1.5 times the volume to close and hold all BOP equipment in sequence, **without recharging** and the **pump turned off**, and have remaining pressures of **200 PSI above the precharge pressure**.

2. Minimum precharge pressures for the various accumulator systems per **manufacturers recommended specifications** are as follows:

System Operating Pressures	Precharge Pressure
1500 PSI	750 PSI
2000 PSI	1,000 PSI
3000 PSI	1,000 PSI

3. Closing times for the Hydril should be less than **20 seconds**, and for the ram-type preventers less than **10 seconds**.

4. System Recharge time should not exceed **10 minutes**.

D. Test Procedure

1. Shut accumulator pumps off and record accumulator pressure.

2. In sequence, close the annular and one set of properly sized pipe rams, and open the HCR valve.

3. Record time to close or open each element and the remaining accumulator pressure after each operation.

4. Record the remaining accumulator pressure at the end of the test sequence. Per the previous requirement, this pressure **should not be less** than the following pressures:

System Pressure	Remaining Pressure At Conclusion of Test
1,500 PSI	950 PSI
2,000 PSI	1,200 PSI
3,000 PSI	1,200 PSI

5. Turn the accumulator pumps on and record the recharge time. This time should not exceed **10 minutes.**

6. Open annular and ram-type preventers. Close HCR valve.

7. Place all 4-way control valves in **full open** or **full closed** position. **Do not leave in neutral position**.

4. CASING PROGRAM

a. The proposed casing program will be as follows:

Purpose	Interval	Hole Size	Casing Size	Weight	Grade	Thread	Condition
Surface	Surface – 400'	17-1/2"	13-3/8"	48.0#	H-40	STC	New
Intermediate	Surface – 2665'	11"	8-5/8"	32.0#	J-55	LTC	New
Production	Surface – ~~11,779'~~ 11,720'	7-7/8"	5-1/2"	20.0#	L-80	LTC	New

b. Casing design subject to revision based on geologic conditions encountered.

c. Casing Safety Factors:

13-3/8" Surface Casing: SFb = 1.44, SFc = 4.23 and SFt = 1.62
8-5/8" Intermediate Casing: SFb = 2.58, SFc = 1.83 and SFt = 2.13
5-1/2" Production Casing: SFb = 1.26, SFc = 2.67 and SFt = 1.94

d. The cementing program will be as follows:

5. Cementing Program

Interval	Type	Weight	Amount	Yield	Top Of Cement	Excess
Surface	Single Slurry	13.5 ppg	450 sks	1.73	Surface	150%
Intermediate See cont	Lead:	12.0 ppg	420 sks	1.82	Surface	150% (in open hole)
	Tail:	14.2 ppg	190 sks	1.37	1900'	150%
Production	Lead	12.0 ppg	485 sks	1.83	2000'	40% (in open hole)
	Tail	13.2 ppg	835 sks	1.74	5800'	40%

- Final cement volumes will be determined by caliper.
- Surface casing shall have at least one centralizer installed on each of the bottom three joints starting with the shoe joint.
- Production casing will have one horizontal style centralizer on every other joing through the lateral and curve.

Pilot Hole Plugging Plan:

replace 2-7-11 DW

The pilot hole will be plugged back with one cement plug. The plug will serve as kick off plug. Note: objective formation is Bone Spring. ~~Pilot Hole will TD in the Bone Spring~~ so no isolation is needed.

The plug ~~will be~~ placed from +6,110' to +6,610' (+200' above to 300' below kick off point, ~~250~~ sx, 40% excess Class H 17.5 ppg, 0.96 yld + 0.75% CFR-3 + 3% KCL + 0.2% HR-800).

6. MUD PROGRAM

a. The proposed circulating mediums to be used in drilling are as follows:

Interval	Mud Type	Mud Weight	Viscosity	Fluid Loss
0' – 400'	FW/Gel	8.4 – 8.7	28-32	NC
400' – 2,665'	Brine	9.9 – 10.1	28-30	NC
2,665'-PilotHoleTD	FW/Cut Brine	8.4 – 9.0	28-29	NC
6,310'(KOP)-TD	FW/Cut Brine	9.0-9.5	34-38	12-20

Chris Gray
<Chris.Gray@chk.com>
02/07/2011 08:39 AM

To "dustin_winkler@blm.gov" <dustin_winkler@blm.gov>
cc
bcc
Subject Delaware Ranch 11 Fed Com 1H

Dusty,

Here is some additional info to attach to the APD for the Delaware Ranch 11 Fed Com 1H:

Pilot Hole Plan:

See COA

A Pilot Hole will be drilled to a depth of 7410' TVD/MD. We will then set a 300' plug from 7410' to 7110' using 150 sx (40% excess) of Class H 17.5 ppg, 0.96 yld + 0.75% CFR-3 + 3% KCL + 0.2% HR-800. Pilot hole will TD in the Bone Spring formation. Lateral will also be drilled in the Bone Spring formation.

We will then kick off at 6310' to drill our lateral using a Smith Trackmaster open hole whipstock system. See attached documents for details.

Thank you,

Chris Gray
Chesapeake Energy
Drilling Engineer- Permian District
Office: (405) 935-4346
Cell: (405) 301-6515
Fax: (405) 849-4346
Email: chris.gray@chk.com

Smith Whipstock Info.pdf WHIPSTOCK BHA 7.875 Hole - NEW MEXICO.PDF

A closed system will be utilized consisting of above ground steel tanks. All wastes accumulated during drilling operations will be contained in a portable trash cage and removed from location and deposited in an approved sanitary landfill. Sanitary wastes will be contained in a chemical porta-toliet and then hauled to an approved sanitary landfill.

All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conservation Division rules and regulations.

A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

7. TESTING, LOGGING AND CORING See COA
The anticipated type and amount of testing, logging and coring are as follows:

   a. Drill stem tests are not planned.
   b. The logging program will consist of Triple Combo and Spectral Gamma from Pilot hole TD to 2665'. Gamma and Neutron from 2665' to surface. Gamma MWD will be used in the lateral.
   c. Cores samples are not planned.
   d. A directional survey will be ran to TD.

8. ABNORMAL PRESSURES AND HYDROGEN SULFIDE
   a. The estimated bottom hole pressure is 2900 psi.
   b. No abnormal pressures or temperatures are anticipated.
   c. Hydrogen sulfide gas is not anticipated.

Chesapeake ENERGY

Drilling Engineer:	Chris Gray
Superintendent:	Cecil Luttrull
Geologist:	Robert martin

Well Name:	Delaware Ranch 11 Federal Com 1H
County, State:	Eddy County, NM
Surface Location:	235' FNL 400' FEL, Section 14, Township 26S, Range 28E
BH Location:	330' FNL 400' FEL, Section 11, Township 26S, Range 28E

SHL Latitude:	32 049238	SHL North:	381765
SHL Longitude:	-104 050622	SHL East:	628928
BHL Latitude:	32 06349381	BHL North:	386951
BHL Longitude:	-104.0505617	BHL East:	628933
Coordinates:	NAD 83	Coordinates:	NMSPCE

Drilling Rig:	Western 6
Dir. Drilling:	0
Drilling Mud:	0
Cement:	0
Wellhead:	0
Property Number:	632400
AFE Number:	153056

KB Elevation: 2,976'
Ground Elevation: 2,951'

Surface
Bit Size: 17 1/2"

Surface Casing — Depth
13 3/8" 48 # H-40 STC 400'

Intermediate
Bit Size: 11"

Intermediate Casing — Depth
8 5/8" 32 # J-55 LTC 2,665'

Vertical Production
Bit Size: 7 7/8"

Pilot Hole
Bit Size: 7 7/8"

Curve
Bit Size: 7 7/8"

Bottom Plug
Top 6,910'
Bottom: 7,410'
Pilot Hole TD 7,410'

2,615' Base of Salt
2,650' Delaware

6,300' Bone Spring

6,625' Upper Avalon

6,873' Lwr Avalon

7,235' 1st Bone Sp

Whipstock

Production Casing
5 1/2" 20.# L-80 LTC
Depth
11,720'

Lateral
Bit Size: 7 7/8"

Wellhead Equipment	
Casing Head	13-3/8" x 13-5/8" 5K SOW
Casing Spool	13-5/8" 5K x 11" 5K
Tubing Spool	11" 5K x 7-1/16" 10K
Required BOP Stack	
13-5/8" 5K- Double, Annular, Rot Head w/Orbit Valve	

Mud				
Depth	Type	Weight	F. Vis	FL
0' - 400'	Spud Mud	8 4-8.7	32-34	NC-NC
400' - 2,665'	Brine	8.7-10	28-30	NC-NC
2,665' - 6,300'	KCl Water	8 4-8.7	28-29	NC-NC
6,300' - 7,410'	KCl Water	8.4-8.7	28-29	NC-NC
6,300' - 6,945'	KCl Water	8.4-8.7	28-29	NC-NC

Cement							
Slurry	Top	Btm	Wt	Yld	%Exc	Bbl	Sx
Surface							
Lead	0'	400'	13.5	1 75	150	131	420
Intermediate							
Lead	0'	2,000'	12.0	1.8	150	215	671
Tail	2,000'	2,665'	14.2	1 35	150	80 8	336
Production							
1st Stage Lead	2,665'	5,800'	12.0	1.83	40	151	464
1st Stage Tail	5,800'	11,720'	13.2	1 74	40	258	832

Notes:

Directional Plan						
Target Line:	6720' TVD 0'VS w/0 3 deg updip					
Target Window:	20' above and 20' below					
	MD	INC	AZM	TVD	VS	DLS
KOP	6,300'	0 00	0 00	6,300'	0'	0 00
EOB	6,945'	90.30	0 06	6,710'	411'	14.00
TD	11,720'	90 30	0.06	6,693'	5,186'	0.00

Notes:
Sidetrack from pilot hole using open hole whipstock

Mudlogging: Suttles
After Intermediate Casing

Open-Hole Logging: TBD
Pilot Hole TD up to intermediate ca Triple Combo with Dipole Sonice and Spectral Gamma
Pilot hole TD to surface — Gamma Ray/Neutron
various depths in pilot hole — 60 sidewall cores
Curve and Lateral — Gamma MWD

Permian District

NM -Eddy [Non-PLU Avalon Project]
Delaware Ranch 11 Fed Com 1H
Delaware Ranch 11 Fed Com 1H

Delaware Ranch 11 Fed Com 1H

Plan: Plat

Standard Planning Report

29 September, 2010

Chesapeake Energy Corporation

Planning Report

Database:	Drilling Database	**Local Co-ordinate Reference:**	Site Delaware Ranch 11 Fed Com 1H
Company:	Permian District	**TVD Reference:**	WELL @ 2965 0usft (Original Well Elev)
Project:	NM -Eddy [Non-PLU Avalon Project]	**MD Reference:**	WELL @ 2965 0usft (Original Well Elev)
Site:	Delaware Ranch 11 Fed Com 1H	**North Reference:**	Grid
Well:	Delaware Ranch 11 Fed Com 1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Delaware Ranch 11 Fed Com 1H		
Design:	Plat		

Project NM -Eddy [Non-PLU Avalon Project]

Map System:	US State Plane 1983	**System Datum:**	Ground Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Delaware Ranch 11 Fed Com 1H

Site Position:		**Northing:**	381,765 40 ft	**Latitude:**	32° 2' 57 24844115 N
From:	Lat/Long	**Easting:**	628,927 80 ft	**Longitude:**	104° 3' 2 25535481 W
Position Uncertainty:	0 0 usft	**Slot Radius:**	0 000 in	**Grid Convergence:**	0 15 °

Well Delaware Ranch 11 Fed Com 1H

Well Position	**+N/-S**	0 0 usft	**Northing:**	381,765 40 ft	**Latitude:**	32° 2' 57 24844115 N
	+E/-W	0 0 usft	**Easting:**	628,927 80 ft	**Longitude:**	104° 3' 2 25535481 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	2,951.0 usft	**Ground Level:**	2,951 0 usft

Wellbore Delaware Ranch 11 Fed Com 1H

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	4/12/2010	7.92	59 99	48,587

Design Plat

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0 0	0 0	0 0	0 06

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	
6,300 4	0.00	0 00	6,300.4	0 0	0.0	0.00	0.00	0 00	0 00	
6,944.7	90 20	0.06	6,709 7	410.7	0 4	14 00	14 00	0 00	0 06	
11,720 0	90 20	0.06	6,693.0	5,186.0	5.2	0 00	0.00	0 00	0.00	DR11FC1H-BHL

Chesapeake Energy Corporation

Planning Report

Database:	Drilling Database	**Local Co-ordinate Reference:**	Site Delaware Ranch 11 Fed Com 1H
Company:	Permian District	**TVD Reference:**	WELL @ 2965 0usft (Original Well Elev)
Project:	NM -Eddy [Non-PLU Avalon Project]	**MD Reference:**	WELL @ 2965 0usft (Original Well Elev)
Site:	Delaware Ranch 11 Fed Com 1H	**North Reference:**	Grid
Well:	Delaware Ranch 11 Fed Com 1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Delaware Ranch 11 Fed Com 1H		
Design:	Plat		

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
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
2,500 0	0 00	0.00	2,500 0	0 0	0 0	0 0	0.00	0 00	0.00
2,600 0	0 00	0 00	2,600 0	0.0	0.0	0.0	0.00	0 00	0 00
2,700.0	0 00	0.00	2,700 0	0 0	0 0	0 0	0.00	0.00	0 00
2,800 0	0 00	0 00	2,800.0	0 0	0 0	0 0	0 00	0 00	0 00
2,900.0	0 00	0 00	2,900 0	0 0	0 0	0.0	0 00	0 00	0.00
3,000 0	0.00	0 00	3,000 0	0.0	0.0	0.0	0 00	0 00	0 00
3,100.0	0 00	0.00	3,100 0	0 0	0 0	0.0	0 00	0.00	0 00
3,200 0	0 00	0.00	3,200 0	0 0	0.0	0 0	0.00	0 00	0 00
3,300 0	0 00	0.00	3,300 0	0.0	0 0	0.0	0 00	0.00	0.00
3,400 0	0 00	0.00	3,400.0	0.0	0 0	0.0	0 00	0 00	0.00
3,500 0	0 00	0 00	3,500 0	0 0	0.0	0.0	0.00	0 00	0 00
3,600.0	0 00	0 00	3,600 0	0.0	0.0	0 0	0.00	0 00	0 00
3,700 0	0 00	0 00	3,700 0	0 0	0 0	0.0	0.00	0.00	0 00
3,800 0	0 00	0 00	3,800 0	0.0	0 0	0.0	0 00	0.00	0.00
3,900 0	0 00	0 00	3,900 0	0 0	0.0	0.0	0.00	0 00	0.00
4,000 0	0.00	0 00	4,000.0	0 0	0 0	0.0	0.00	0 00	0 00
4,100 0	0 00	0.00	4,100 0	0.0	0.0	0 0	0 00	0 00	0 00
4,200 0	0 00	0.00	4,200.0	0.0	0.0	0 0	0 00	0 00	0 00
4,300.0	0 00	0 00	4,300 0	0 0	0 0	0 0	0 00	0.00	0.00
4,400 0	0 00	0 00	4,400.0	0 0	0 0	0.0	0 00	0.00	0.00
4,500.0	0.00	0 00	4,500 0	0 0	0 0	0 0	0.00	0.00	0 00
4,600.0	0 00	0.00	4,600 0	0.0	0 0	0 0	0 00	0.00	0.00
4,700 0	0 00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0 00
4,800 0	0 00	0 00	4,800 0	0 0	0 0	0.0	0 00	0.00	0 00
4,900.0	0.00	0.00	4,900.0	0 0	0 0	0 0	0.00	0 00	0 00
5,000 0	0.00	0 00	5,000 0	0 0	0.0	0 0	0 00	0.00	0 00
5,100 0	0 00	0 00	5,100 0	0 0	0.0	0.0	0.00	0 00	0 00
5,200.0	0 00	0.00	5,200.0	0 0	0 0	0.0	0.00	0.00	0.00
5,300.0	0 00	0.00	5,300 0	0 0	0 0	0 0	0.00	0.00	0 00

Chesapeake Energy Corporation

Planning Report

Database:	Drilling Database	**Local Co-ordinate Reference:**	Site Delaware Ranch 11 Fed Com 1H
Company:	Permian District	**TVD Reference:**	WELL @ 2965 0usft (Original Well Elev)
Project:	NM -Eddy [Non-PLU Avalon Project]	**MD Reference:**	WELL @ 2965 0usft (Original Well Elev)
Site:	Delaware Ranch 11 Fed Com 1H	**North Reference:**	Grid
Well:	Delaware Ranch 11 Fed Com 1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Delaware Ranch 11 Fed Com 1H		
Design:	Plat		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400 0	0 00	0 00	5,400.0	0 0	0.0	0 0	0 00	0.00	0 00
5,500.0	0 00	0 00	5,500.0	0 0	0.0	0 0	0 00	0.00	0.00
5,600 0	0.00	0 00	5,600.0	0 0	0.0	0 0	0 00	0.00	0.00
5,700 0	0 00	0 00	5,700.0	0 0	0.0	0.0	0.00	0 00	0 00
5,800 0	0.00	0 00	5,800 0	0 0	0 0	0.0	0.00	0 00	0 00
5,900 0	0.00	0 00	5,900 0	0 0	0.0	0.0	0.00	0 00	0 00
6,000.0	0.00	0.00	6,000 0	0 0	0.0	0.0	0.00	0 00	0 00
6,100 0	0.00	0 00	6,100 0	0.0	0 0	0.0	0.00	0 00	0 00
6,200 0	0 00	0 00	6,200 0	0 0	0 0	0.0	0.00	0 00	0 00
6,300.0	0 00	0.00	6,300.0	0 0	0.0	0.0	0.00	0.00	0 00
6,300 4	0.00	0 00	6,300 4	0.0	0 0	0.0	0 00	0 00	0 00
6,400.0	13 94	0 06	6,399 0	12 1	0.0	12 1	14.00	14 00	0 00
6,500.0	27.94	0.06	6,492.2	47.7	0.0	47.7	14 00	14.00	0 00
6,600 0	41 94	0 06	6,574 0	104.8	0 1	104.8	14.00	14 00	0 00
6,700.0	55 94	0 06	6,639 5	180.1	0 2	180.1	14 00	14.00	0 00
6,800.0	69.94	0 06	6,684 8	268.9	0 3	268.9	14 00	14 00	0.00
6,900.0	83 94	0 06	6,707 4	366.1	0 4	366.1	14 00	14.00	0 00
6,944.7	90.20	0 06	6,709.7	410.7	0.4	410 7	14.00	14 00	0 00
7,000 0	90 20	0 06	6,709 5	466.0	0 5	466.0	0 00	0 00	0.00
7,100.0	90 20	0 06	6,709.1	566.0	0 6	566.0	0.00	0.00	0.00
7,200.0	90 20	0 06	6,708.8	666.0	0 7	666.0	0.00	0.00	0 00
7,300 0	90.20	0 06	6,708.4	766.0	0.8	766 0	0 00	0.00	0 00
7,400.0	90.20	0.06	6,708.1	866 0	0 9	866 0	0.00	0.00	0 00
7,500.0	90 20	0.06	6,707.7	966 0	1.0	966 0	0.00	0.00	0 00
7,600 0	90 20	0.06	6,707 4	1,066.0	1.1	1,066 0	0.00	0.00	0.00
7,700.0	90 20	0 06	6,707 0	1,166.0	1 2	1,166.0	0.00	0 00	0 00
7,800.0	90.20	0.06	6,706 7	1,266.0	1.3	1,266 0	0.00	0 00	0.00
7,900 0	90 20	0 06	6,706 3	1,366.0	1 4	1,366.0	0.00	0.00	0.00
8,000 0	90.20	0 06	6,706.0	1,466.0	1 5	1,466.0	0 00	0.00	0.00
8,100 0	90 20	0 06	6,705.6	1,566 0	1.6	1,566 0	0.00	0.00	0.00
8,200 0	90 20	0 06	6,705.3	1,666.0	1 7	1,666 0	0.00	0.00	0.00
8,300 0	90.20	0.06	6,704.9	1,766.0	1 8	1,766.0	0 00	0.00	0.00
8,400 0	90 20	0 06	6,704 6	1,866 0	1 9	1,866 0	0 00	0.00	0.00
8,500.0	90.20	0 06	6,704 2	1,966 0	2 0	1,966 0	0 00	0.00	0 00
8,600.0	90.20	0.06	6,703.9	2,066.0	2 1	2,066 0	0 00	0 00	0 00
8,700 0	90.20	0.06	6,703.5	2,166 0	2 2	2,166 0	0 00	0.00	0.00
8,800.0	90 20	0.06	6,703.2	2,266 0	2 3	2,266.0	0 00	0.00	0 00
8,900.0	90 20	0 06	6,702 8	2,366 0	2.4	2,366 0	0 00	0 00	0.00
9,000.0	90 20	0 06	6,702 5	2,466 0	2 5	2,466 0	0.00	0 00	0.00
9,100 0	90 20	0 06	6,702 1	2,566.0	2.6	2,566 0	0 00	0 00	0.00
9,200 0	90.20	0.06	6,701 8	2,666.0	2 7	2,666 0	0.00	0.00	0 00
9,300 0	90.20	0 06	6,701 4	2,766.0	2 8	2,766 0	0.00	0 00	0 00
9,400 0	90.20	0 06	6,701 1	2,866 0	2 9	2,866 0	0.00	0.00	0 00
9,500 0	90.20	0 06	6,700.7	2,966 0	3.0	2,966.0	0 00	0.00	0.00
9,600 0	90 20	0 06	6,700 4	3,066 0	3 1	3,066.0	0.00	0.00	0 00
9,700.0	90.20	0 06	6,700.1	3,166 0	3.2	3,166.0	0 00	0.00	0.00
9,800 0	90 20	0.06	6,699 7	3,266 0	3.3	3,266 0	0 00	0 00	0 00
9,900 0	90 20	0 06	6,699 4	3,366 0	3 4	3,366 0	0 00	0 00	0.00
10,000 0	90.20	0 06	6,699.0	3,466.0	3.5	3,466 0	0.00	0.00	0.00
10,100.0	90.20	0.06	6,698.7	3,566 0	3.6	3,566 0	0 00	0.00	0.00
10,200.0	90.20	0 06	6,698 3	3,666.0	3.7	3,666 0	0.00	0 00	0 00
10,300.0	90.20	0.06	6,698 0	3,766.0	3.8	3,766 0	0.00	0 00	0 00
10,400.0	90.20	0.06	6,697 6	3,866.0	3 9	3,866 0	0.00	0.00	0.00
10,500 0	90.20	0 06	6,697 3	3,966.0	4 0	3,966 0	0.00	0 00	0 00

Chesapeake Energy Corporation

Planning Report

Database:	Drilling Database	**Local Co-ordinate Reference:**	Site Delaware Ranch 11 Fed Com 1H
Company:	Permian District	**TVD Reference:**	WELL @ 2965 0usft (Original Well Elev)
Project:	NM -Eddy [Non-PLU Avalon Project]	**MD Reference:**	WELL @ 2965 0usft (Original Well Elev)
Site:	Delaware Ranch 11 Fed Com 1H	**North Reference:**	Grid
Well:	Delaware Ranch 11 Fed Com 1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Delaware Ranch 11 Fed Com 1H		
Design:	Plat		

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)
10,600.0	90 20	0 06	6,696 9	4,066 0	4 1	4,066.0	0.00	0 00	0.00
10,700 0	90.20	0 06	6,696 6	4,166 0	4 2	4,166.0	0 00	0.00	0 00
10,800.0	90.20	0 06	6,696 2	4,266 0	4.3	4,266 0	0.00	0.00	0.00
10,900.0	90 20	0 06	6,695.9	4,366 0	4.4	4,366 0	0 00	0 00	0.00
11,000.0	90.20	0 06	6,695.5	4,466 0	4 5	4,466.0	0.00	0.00	0.00
11,100.0	90.20	0 06	6,695 2	4,566.0	4 6	4,566.0	0 00	0 00	0 00
11,200 0	90 20	0 06	6,694.8	4,666 0	4 7	4,666 0	0 00	0.00	0.00
11,300 0	90 20	0 06	6,694.5	4,766.0	4.8	4,766.0	0.00	0.00	0.00
11,400 0	90.20	0 06	6,694 1	4,866.0	4 9	4,866.0	0.00	0 00	0 00
11,500 0	90 20	0 06	6,693 8	4,966.0	5.0	4,966 0	0.00	0 00	0 00
11,600.0	90.20	0.06	6,693.4	5,066 0	5.1	5,066 0	0.00	0.00	0.00
11,700 0	90 20	0 06	6,693 1	5,166 0	5.2	5,166 0	0.00	0.00	0 00
11,720.0	90.20	0.06	6,693.0	5,186 0	5.2	5,186 0	0.00	0 00	0 00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (ft)	Easting (ft)	Latitude	Longitude
DR11FC1H-BHL - plan hits target center - Point	0 00	0 01	6,693 0	5,186 0	5.2	386,951.40	628,933 00	32° 3' 48 56993151 N	104° 3' 2.03709315 W
DR11FC1H- TL @0'VS - plan misses target center by 212 3usft at 6600 0usft MD (6574.0 TVD, 104 8 N, 0.1 E) - Point	0.00	0.01	6,720 0	-49.2	1.3	381,716.17	628,929 11	32° 2' 56.76126000 N	104° 3' 2 24172000 W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
400 0	400.0	13 3/8" Surface Casing	13 375	17.500
2,665.0	2,665 0	8 5/8" Intermediate Casing	8 625	11.000
~~11,770 0~~ 11720		5 1/2" Production Casing	5.500	7 875

BLOWOUT PREVENTOR SCHEMATIC

CHESAPEAKE OPERATING INC

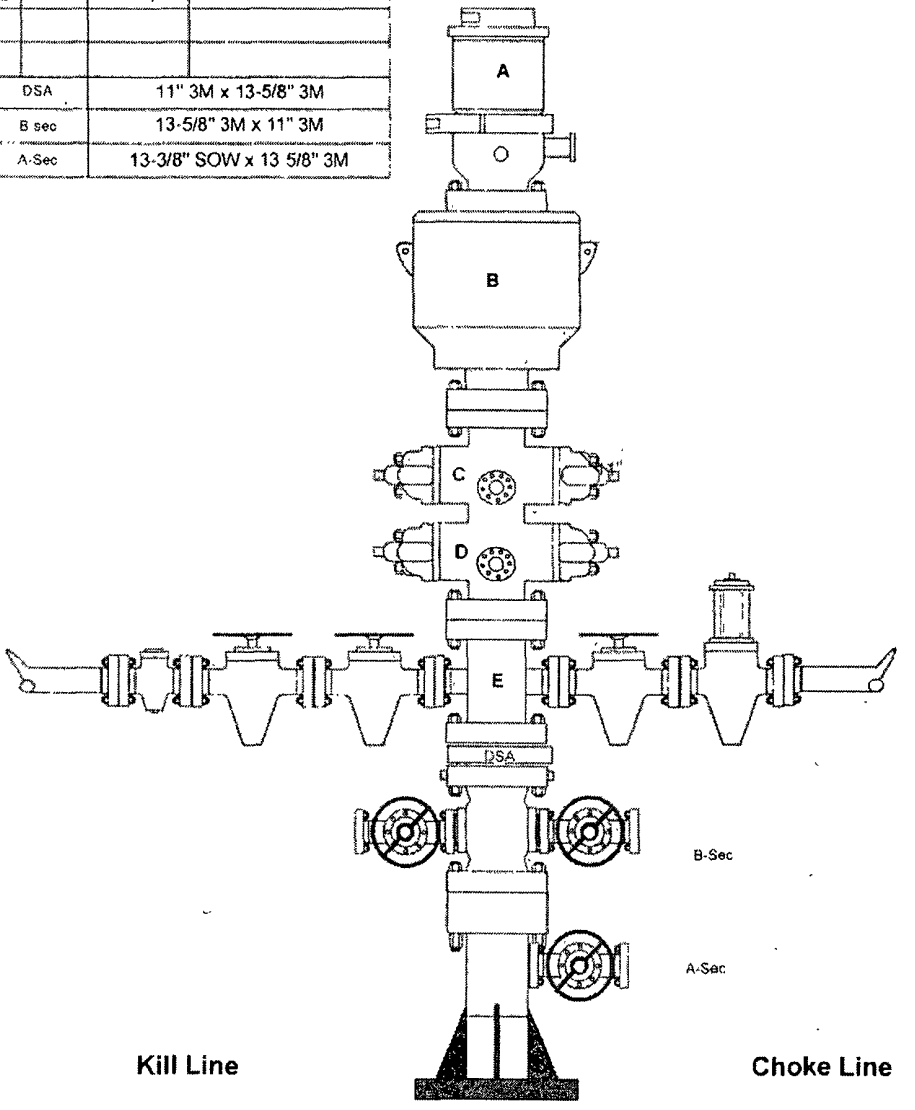
WELL : **Delaware Ranch 11 Federal Com 1H**

RIG : **Latshaw 6**

COUNTY : **Eddy** **STATE: New Mexico**

OPERATION: Drill out below Surface Casing to TD

	SIZE	PRESSURE	DESCRIPTION
A	13-5/8"	500 psi	Rot Head
B	13-5/8"	3000 psi	Annular
C	13-5/8"	3000 psi	Pipe Rams
D	13-5/8"	3000 psi	Blind Rams
E	13-5/8"	3000 psi	Mud Cross
DSA	11" 3M x 13-5/8" 3M		
B sec	13-5/8" 3M x 11" 3M		
A-Sec	13-3/8" SOW x 13 5/8" 3M		



Kill Line

SIZE	PRESSURE	DESCRIPTION
2"	3000 psi	Check Valve
2"	3000 psi	Gate Valve
2"	3000 psi	Gate Valve

Choke Line

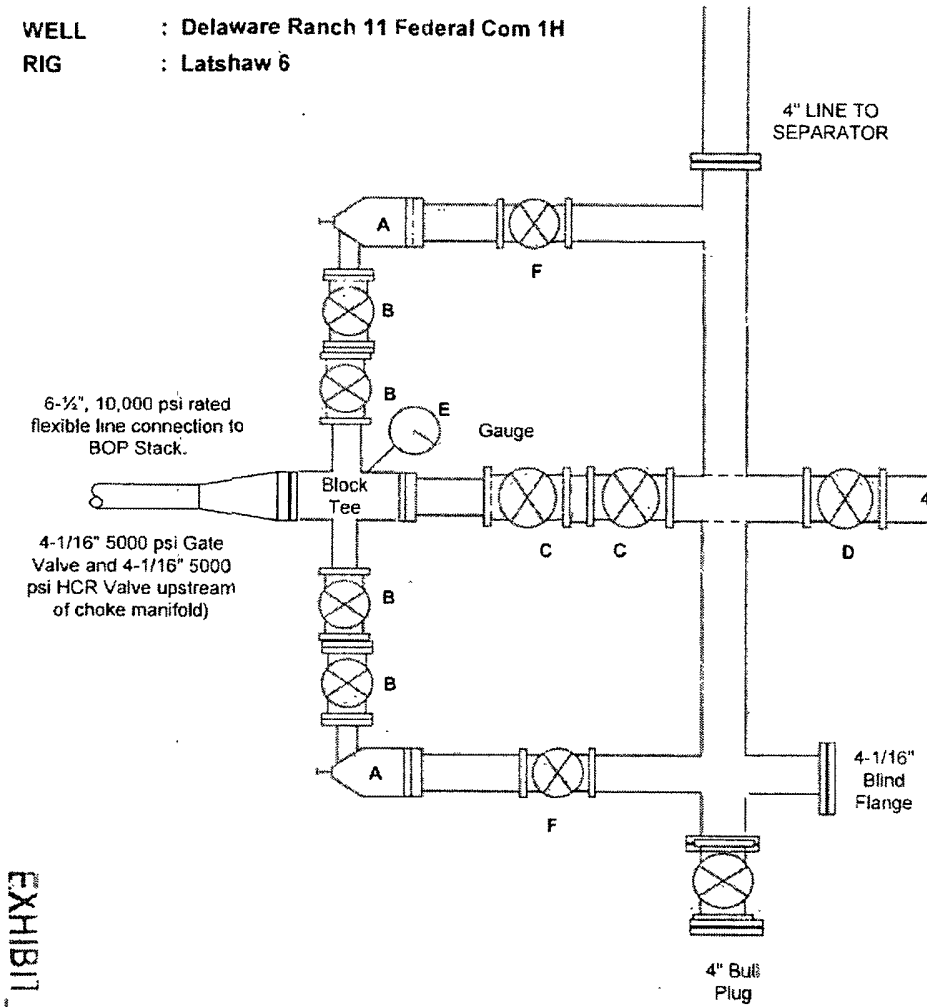
SIZE	PRESSURE	DESCRIPTION
4"	3000 psi	Gate Valve
4"	3000 psi	HCR Valve

EXHIBIT F-1

SCHEMATIC OF CHOKE MANIFOLD SHOWING CLOSED LOOP SYSTEM

WELL : **Delaware Ranch 11 Federal Com 1H**
RIG : **Latshaw 6**

COUNTY : **Eddy** **STATE** : **New Mexico**
OPERATION: Drilling below/beyond 13-3/8" surface casing



	SIZE	PRESSURE	DESCRIPTION
A	2-1/16"	10,000 psi	Remotely Operated Choke With Manual Backup
B	3-1/16"	10,000 psi	Gate Valve
C	4-1/16"	10,000 psi	Gate Valve
D	4-1/16"	5000 psi	Gate Valve
F	3-1/16"	5,000 psi	Gate Valve
E	2-1/16"	10000 psi	Valve on top og Block Tee with manual gauge and gauge to hydraulic choke

EXHIBIT F-2

DISTRICT I --- CHECKLIST FOR INTENTS TO DRILL

38924

Operator CHESAPEAKE OGRID # 147179

Well Name & # DELAWARE RANCH "11" FED COM 1H Surface Type (F) (S) (P)

Location: UL A Sect 14 Twnship 26 s, RNG 28 e, Sub-surface Type (F) (S) (P)

A. Date C101 rec'd 10/20/2011 C101 reviewed 10/27/2011

B. 1. Check mark, Information is OK on Forms:
OGRID ✓, BONDING ✓, PROP CODE ✓, WELL # ✓, SIGNATURE ✓

10/14/2011 2. Inactive Well list as of : ~~10/27/2011~~ # wells 750, # Inactive wells 13

a. District Grant APD but see number of inactive wells:
No letter required ___; Sent Letter to Operator ____, to Santa Fe ____

11/14/2011 3. Additional Bonding as of: ~~10/27/2011~~

a. District Denial because operator needs addition bonding:
No Letter required ✓; Sent Letter to Operator ____, To Santa Fe____

b. District Denial because of Inactive well list and Financial Assurance:
No Letter required ✓; Sent Letter to Operator ____, To Santa Fe ___

C. C102 YES ✓, NO ___, Signature ✓

1. Pool HAY HOLLOW; B.S., Code 30215

a. Dedicated acreage _____, What Units_____

b. SUR. Location Standard _____: Non-Standard Location_____

c. Well shares acres: Yes ___, No ___, # of wells ____ plus this well #____

2. 2nd. Operator in same acreage, Yes ✓, No _____
Agreement Letter ✓, Disagreement letter_____

3. Intent to Directional Drill Yes ✓, No ____

a. Dedicated acreage 160, What Units A-A

b. Bottomhole Location Standard _____, Non-Standard Bottomhole ✓

4. Downhole Commingle: Yes_____, No ✓

a. Pool #2_____,Code_____, Acres_____
Pool #3_____, Code _____, Acres _____
Pool #4_____, Code_____, Acres_____

5. POTASH Area Yes _____, No ✓,

D. Blowout Preventer Yes ✓, No _____,

E. H2S Yes ✓, No _____,

F. C144 Pit Registration Yes ✓, No _____,

G. Does APD require Santa Fe Approval:

1. Non-Standard Location: Yes _____, No ✓, NSL #_____
2. Non-Standard Proration: Yes_____, No ✓, NSP # _____
3. Simultaneous Dedication: Yes _____, No ✓, SD # _____
Number of wells _____ Plus #✓
4. Injection order Yes _____, No ✓; PMX #_____ or WFX #_____
5. SWD order Yes _____, NO ✓; SWD # _____
6. DHC from SF_____; DHC-HOB_____; Holding_____

7. OCD Approval Date 11/14/2011 API #30-015-39634

8. Reviewers_____