

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

HOBBS
MAR 15 2017
RECEIVED

5a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMLC061873B
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator DEVON ENERGY PRODUCTION COMPANY LP (6137)		7. If Unit or CA Agreement, Name and No.
3a. Address 333 West Sheridan Avenue Oklahoma City Ok		8. Lease Name and Well No. (300635) COTTON DRAW UNIT 497H
3b. Phone No. (include area code) (405)552-6571		9. API Well No. 30-025-43690
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface NENW / 530 FNL / 1720 FWL / LAT 32.1361179 / LONG -103.7174522 At proposed prod. zone SESW / 290 FSL / 2280 FWL / LAT 32.1238724 / LONG -103.7156688		10. Field and Pool, or Exploratory PADUCA / DELAWARE (49490)
14. Distance in miles and direction from nearest town or post office* 21 miles		11. Sec., T. R. M. or Blk. and Survey or Area SEC 18 / T25S / R32E / NMP
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 290 feet		12. County or Parish LEA
16. No. of acres in lease 1759.31		13. State NM
17. Spacing Unit dedicated to this well 160		
18. Distance from proposed location* to nearest well, drilling, completed, 180 feet applied for, on this lease, ft.		19. Proposed Depth 8155 feet / 12398 feet
20. BLM/BIA Bond No. on file FED: CO1104		
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3412 feet		22. Approximate date work will start* 02/01/2017
		23. Estimated duration 45 days

24. Attachments

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

- | | |
|--|---|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification |
| 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). | 6. Such other site specific information and/or plans as may be required by the BLM. |

25. Signature (Electronic Submission)	Name (Printed/Typed) Linda Good / Ph: (405)552-6558	Date 07/21/2016
Title Regulatory Compliance Professional		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 03/06/2017
Title Supervisor Multiple Resources		

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.

(Continued on page 2)

*(Instructions on page 2)

APPROVED WITH CONDITIONS

KZ
03/15/17

APD ID: 10400002233	Submission Date: 07/21/2016	Highlight All Changes
Operator Name: DEVON ENERGY PRODUCTION COMPANY LP	Federal/Indian APD: FED	
Well Name: COTTON DRAW UNIT	Well Number: 497H	
Well Type: OIL WELL	Well Work Type: Drill	

Application

Section 1 - General

APD ID: 10400002233	Tie to previous NOS?	Submission Date: 07/21/2016
BLM Office: CARLSBAD	User: Linda Good	Title: Regulatory Compliance Professional
Federal/Indian APD: FED	Is the first lease penetrated for production Federal or Indian? FED	
Lease number: NMLC061873B	Lease Acres: 1759.31	
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: DEVON ENERGY PRODUCTION COMPANY LP	
Operator letter of designation:		
Keep application confidential? YES		

Operator Info

Operator Organization Name: DEVON ENERGY PRODUCTION COMPANY LP

Operator Address: 333 West Sheridan Avenue **Zip:** 73102

Operator PO Box:

Operator City: Oklahoma City **State:** OK

Operator Phone: (405)552-6571

Operator Internet Address: aletha.dewbre@dvn.com

Section 2 - Well Information

Well in Master Development Plan? NO	Mater Development Plan name:
Well in Master SUPO? NO	Master SUPO name:
Well in Master Drilling Plan? NO	Master Drilling Plan name:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

Well Name: COTTON DRAW UNIT

Well Number: 497H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: PADUCA

Pool Name: DELAWARE

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

Describe other minerals:

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:

Number: 284H/497H/448H

Well Class: HORIZONTAL

COTTON DRAW UNIT

Number of Legs: 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 21 Miles

Distance to nearest well: 180 FT

Distance to lease line: 290 FT

Reservoir well spacing assigned acres Measurement: 160 Acres

Well plat: C-102_CDU 497H_As Filed_07-21-2016.pdf

Well work start Date: 02/01/2017

Duration: 45 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number: 4662

STATE: NEW MEXICO

Meridian: NEW MEXICO PRINCIPAL **County:** LEA

Latitude: 32.1361179

Longitude: -103.7174522

SHL

Elevation: 3412

MD: 0

TVD: 0

Leg #: 1

Lease Type: FEDERAL

Lease #: NMLC061873A

NS-Foot: 530

NS Indicator: FNL

EW-Foot: 1720

EW Indicator: FWL

Twsp: 25S

Range: 32E

Section: 18

Aliquot: NENW

Lot:

Tract:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

	STATE: NEW MEXICO	Meridian: NEW MEXICO PRINCIPAL	County: LEA
	Latitude: 32.1361179	Longitude: -103.7174522	
KOP	Elevation: -4170	MD: 7620	TVD: 7582
Leg #: 1	Lease Type: FEDERAL	Lease #: NMLC061873A	
	NS-Foot: 530	NS Indicator: FNL	
	EW-Foot: 2280	EW Indicator: FWL	
	Twsp: 25S	Range: 32E	Section: 18
	Aliquot: NENW	Lot:	Tract:
	STATE: NEW MEXICO	Meridian: NEW MEXICO PRINCIPAL	County: LEA
	Latitude: 32.1361179	Longitude: -103.7174522	
PPP	Elevation: -4596	MD: 8100	TVD: 8008
Leg #: 1	Lease Type: FEDERAL	Lease #: NMLC061873A	
	NS-Foot: 719	NS Indicator: FNL	
	EW-Foot: 2280	EW Indicator: FWL	
	Twsp: 25S	Range: 32E	Section: 18
	Aliquot: NENW	Lot:	Tract:
	STATE: NEW MEXICO	Meridian: NEW MEXICO PRINCIPAL	County: LEA
	Latitude: 32.1238724	Longitude: -103.7156688	
EXIT	Elevation: -4743	MD: 12398	TVD: 8155
Leg #: 1	Lease Type: FEDERAL	Lease #: NMLC061873B	
	NS-Foot: 290	NS Indicator: FSL	
	EW-Foot: 2280	EW Indicator: FWL	
	Twsp: 25S	Range: 32E	Section: 18
	Aliquot: SESW	Lot:	Tract:
	STATE: NEW MEXICO	Meridian: NEW MEXICO PRINCIPAL	County: LEA
	Latitude: 32.1238724	Longitude: -103.7156688	
BHL	Elevation: -4743	MD: 12398	TVD: 8155
Leg #: 1	Lease Type: FEDERAL	Lease #: NMLC061873B	
	NS-Foot: 290	NS Indicator: FSL	
	EW-Foot: 2280	EW Indicator: FWL	

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

Twsp: 25S

Range: 32E

Section: 18

Aliquot: SESW

Lot:

Tract:

Drilling Plan

Section 1 - Geologic Formations

ID: Surface formation

Name: ---

Lithology(ies):

OTHER - Quaternary

Elevation: 3412.3

True Vertical Depth: 0

Measured Depth: 0

Mineral Resource(s):

NONE

Is this a producing formation? N

ID: Formation 1

Name: RUSTLER

Lithology(ies):

DOLOMITE

Elevation: 2810.3

True Vertical Depth: 602

Measured Depth: 602

Mineral Resource(s):

NONE

Is this a producing formation? N

ID: Formation 2

Name: SALADO

Lithology(ies):

SALT

Elevation: 2474.3

True Vertical Depth: 938

Measured Depth: 938

Mineral Resource(s):

NONE

Is this a producing formation? N

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

ID: Formation 3

Name: BASE OF SALT

Lithology(ies):

SALT

Elevation: -767.6999999999998

True Vertical Depth: 4180

Measured Depth: 4180

Mineral Resource(s):

NONE

Is this a producing formation? N

ID: Formation 4

Name: DELAWARE

Lithology(ies):

SANDSTONE

Elevation: -999.6999999999998

True Vertical Depth: 4412

Measured Depth: 4412

Mineral Resource(s):

NATURAL GAS

OIL

Is this a producing formation? Y

ID: Formation 5

Name: LAMAR

Lithology(ies):

SANDSTONE

Elevation: -999.6999999999998

True Vertical Depth: 4412

Measured Depth: 4412

Mineral Resource(s):

NATURAL GAS

OIL

Is this a producing formation? N

ID: Formation 6

Name: BELL CANYON

Lithology(ies):

SANDSTONE

Elevation: -1030.6999999999998

True Vertical Depth: 4443

Measured Depth: 4443

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

Mineral Resource(s):

NATURAL GAS

OIL

Is this a producing formation? N

ID: Formation 7

Name: CHERRY CANYON

Lithology(ies):

SANDSTONE

Elevation: -1950.6999999999998

True Vertical Depth: 5363

Measured Depth: 5363

Mineral Resource(s):

NATURAL GAS

OIL

Is this a producing formation? N

ID: Formation 8

Name: BRUSHY CANYON

Lithology(ies):

SANDSTONE

Elevation: -3257.7

True Vertical Depth: 6670

Measured Depth: 6670

Mineral Resource(s):

NATURAL GAS

OIL

Is this a producing formation? N

ID: Formation 9

Name: BRUSHY CANYON LOWER

Lithology(ies):

SANDSTONE

Elevation: -4673.7

True Vertical Depth: 8086

Measured Depth: 8086

Mineral Resource(s):

NATURAL GAS

OIL

Is this a producing formation? Y

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M

Rating Depth: 4205

Equipment: 3M rotating head, mud-gas separator, panic line, and flare will be rigged up prior to drilling out surface casing.

Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP stack to the choke manifold. See attached for specs for hydrostatic test chart.

Testing Procedure: A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. Devon proposes using 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 3000 (3M) psi. • Wellhead will be installed by wellhead representatives. • If the welding is performed by a third party, the wellhead representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal. • Wellhead representative will install the test plug for the initial BOP test. • Wellhead company will install a solid steel body pack-off to completely isolate the lower head after cementing intermediate casing. After installation of the pack-off, the pack-off and the lower flange will be tested to 3M, as shown on the attached schematic. Everything above the pack-off will not have been altered whatsoever from the initial nipple up. Therefore the BOP components will not be retested at that time. • If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head will be cut and top out operations will be conducted.

Choke Diagram Attachment:

CDU 497H_3M BOPE Double Ram and CLS Schem -Use_07-21-2016.pdf

BOP Diagram Attachment:

CDU 497H_3M BOPE Double Ram and CLS Schem -Use_07-21-2016.pdf

Pressure Rating (PSI): 3M

Rating Depth: 8154

Equipment: 3M rotating head, mud-gas separator, panic line, and flare will be rigged up prior to drilling out surface casing.

Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP stack to the choke manifold. See attached for specs for hydrostatic test chart.

Testing Procedure: A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. Devon proposes using 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 3000 (3M) psi.

Choke Diagram Attachment:

3M BOPE Double Ram and CLS Schem -Use_07-21-2016.pdf

BOP Diagram Attachment:

3M BOPE Double Ram and CLS Schem -Use_07-21-2016.pdf

Section 3 - Casing

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

String Type: INTERMEDIATE

Other String Type:

Hole Size: 12.25

Top setting depth MD: 0

Top setting depth TVD: 0

Top setting depth MSL: 3412

Bottom setting depth MD: 4205

Bottom setting depth TVD: 4205

Bottom setting depth MSL: -793

Calculated casing length MD: 4205

Casing Size: 9.625

Other Size

Grade: J-55

Other Grade:

Weight: 40

Joint Type: LTC

Other Joint Type:

Condition: NEW

Inspection Document:

Standard: API

Spec Document:

Tapered String?: N

Tapered String Spec:

Safety Factors

Collapse Design Safety Factor: 1.19

Burst Design Safety Factor: 1.42

Joint Tensile Design Safety Factor type: BUOYANT

Joint Tensile Design Safety Factor: 3.98

Body Tensile Design Safety Factor type: BUOYANT

Body Tensile Design Safety Factor: 3.98

Casing Design Assumptions and Worksheet(s):

CDU 497H_Intermediate Casing Assumptions_07-21-2016_07-21-2016.pdf

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

String Type: PRODUCTION

Other String Type:

Hole Size: 8.75

Top setting depth MD: 0

Top setting depth TVD: 0

Top setting depth MSL: 3412

Bottom setting depth MD: 12398

Bottom setting depth TVD: 8155

Bottom setting depth MSL: -4743

Calculated casing length MD: 12398

Casing Size: 5.5

Other Size

Grade: P-110

Other Grade:

Weight: 17

Joint Type: BUTT

Other Joint Type:

Condition: NEW

Inspection Document:

Standard: API

Spec Document:

Tapered String?: N

Tapered String Spec:

Safety Factors

Collapse Design Safety Factor: 2.18

Burst Design Safety Factor: 2.7

Joint Tensile Design Safety Factor type: BUOYANT

Joint Tensile Design Safety Factor: 3.21

Body Tensile Design Safety Factor type: BUOYANT

Body Tensile Design Safety Factor: 3.21

Casing Design Assumptions and Worksheet(s):

CDU 497H_Production Casing Assumptions_07-08-2016_07-21-2016.pdf

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

String Type: SURFACE

Other String Type:

Hole Size: 17.5

Top setting depth MD: 0

Top setting depth TVD: 0

Top setting depth MSL: 3412

Bottom setting depth MD: 630

Bottom setting depth TVD: 630

Bottom setting depth MSL: 2782

Calculated casing length MD: 630

Casing Size: 13.375

Other Size

Grade: H-40

Other Grade:

Weight: 48

Joint Type: STC

Other Joint Type:

Condition: NEW

Inspection Document:

Standard: API

Spec Document:

Tapered String?: N

Tapered String Spec:

Safety Factors

Collapse Design Safety Factor: 1.74

Burst Design Safety Factor: 2.45

Joint Tensile Design Safety Factor type: BUOYANT

Joint Tensile Design Safety Factor: 4.13

Body Tensile Design Safety Factor type: BUOYANT

Body Tensile Design Safety Factor: 4.13

Casing Design Assumptions and Worksheet(s):

CDU 497H_Surface Casing Assumptions_07-21-2016.pdf

Section 4 - Cement

Casing String Type: SURFACE

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

Stage Tool Depth:

Lead

Top MD of Segment: 0

Bottom MD Segment: 630

Cement Type: C

Additives: 1% Calcium Chloride

Quantity (sks): 490

Yield (cu.ff./sk): 1.34

Density: 14.8

Volume (cu.ft.): 657

Percent Excess: 50

Casing String Type: INTERMEDIATE

Stage Tool Depth:

Lead

Top MD of Segment: 0

Bottom MD Segment: 3205

Cement Type: C

Additives: Poz (Fly Ash): 6% BWOC
Bentonite + 5% BWOW Sodium
Chloride + 0.125 lbs/sks Poly-E-Flake

Quantity (sks): 706

Yield (cu.ff./sk): 1.85

Density: 12.9

Volume (cu.ft.): 1305

Percent Excess: 30

Tail

Top MD of Segment: 3205

Bottom MD Segment: 4205

Cement Type: C

Additives: 0.125 lbs/sks Poly-R-Flake

Quantity (sks): 310

Yield (cu.ff./sk): 1.33

Density: 14.8

Volume (cu.ft.): 410

Percent Excess: 30

Casing String Type: PRODUCTION

Stage Tool Depth: 4255

Lead

Top MD of Segment: 4005

Bottom MD Segment: 4155

Cement Type: C

Additives: Enhancer 923 + 10% BWOC
Bentonite + 0.05% BWOC SA-1015 +
0.3% BWOC HR-800 + 0.2% BWOC
FF-2 + 0.125 lb/sk Pol-E-Flake + 0.5

Quantity (sks): 20

Yield (cu.ff./sk): 3.31

lb/sk D-Air 5000

Density: 10.9

Volume (cu.ft.): 66

Percent Excess: 25

Tail

Density: 10.9

Bottom MD Segment: 4255

Cement Type: H

Quantity (sks): 30

Yield (cu.ff./sk): 1.33

Top MD of Segment: 4155

Volume (cu.ft.): 39

Percent Excess: 25

Additives: 0.125 lbs/sack Poly-E-Flake

Density: 14.8

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

Stage Tool Depth: 4255

Lead

Top MD of Segment: 4255

Bottom MD Segment: 8050

Cement Type: C

Additives: Enhancer 923 + 10% BWOC Quantity (sks): 334

Yield (cu.ff./sk): 3.31

Bentonite + 0.05% BWOC SA-1015 +

Volume (cu.ft.): 1103

Percent Excess: 25

0.3% BWOC HR-800 + 0.2% BWOC

FF-2 + 0.125 lb/sk Pol-E-Flake + 0.5

lb/sk D-Air 5000

Density: 10.9

Bottom MD Segment: 12398

Cement Type: H

Quantity (sks): 1053

Yield (cu.ff./sk): 1.2

Top MD of Segment: 8050

Volume (cu.ft.): 1263

Percent Excess: 25

Additives: Poz (Fly Ash) + 0.5% bwoc

HALAD-344 + 0.4% bwoc CFR-3 +

0.2% BWOC HR-601 + 2% bwoc

Bentonite

Density: 14.5

Stage Tool Depth: 4255

Lead

Top MD of Segment: 4005

Bottom MD Segment: 8050

Cement Type: TUNED

Additives: NA

Quantity (sks): 360

Yield (cu.ff./sk): 3.27

Density: 9

Volume (cu.ft.): 1175

Percent Excess: 25

Tail

Top MD of Segment: 8050

Bottom MD Segment: 12398

Cement Type: H

Additives: Poz (Fly Ash) + 0.5% bwoc

Quantity (sks): 1053

Yield (cu.ff./sk): 1.2

HALAD-344 + 0.4% bwoc CFR-3 +

0.2% BWOC HR-601 + 2% bwoc

Bentonite

Density: 14.5

Volume (cu.ft.): 1263

Percent Excess: 25

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

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: Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

Describe the mud monitoring system utilized: PVT/Pason/Visual Monitoring

Circulating Medium Table

Top Depth: 0	Bottom Depth: 630
Mud Type: WATER-BASED MUD	
Min Weight (lbs./gal.): 8.5	Max Weight (lbs./gal.): 9
Density (lbs/cu.ft.):	Gel Strength (lbs/100 sq.ft.):
PH:	Viscosity (CP): 2
Filtration (cc):	Salinity (ppm):
Additional Characteristics:	
<hr/>	
Top Depth: 630	Bottom Depth: 4205
Mud Type: INVERT MUD SYSTEM	
Min Weight (lbs./gal.): 10	Max Weight (lbs./gal.): 11
Density (lbs/cu.ft.):	Gel Strength (lbs/100 sq.ft.):
PH:	Viscosity (CP): 2
Filtration (cc):	Salinity (ppm):
Additional Characteristics:	

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

Top Depth: 4205

Bottom Depth: 12398

Mud Type: WATER-BASED MUD

Min Weight (lbs./gal.): 8.5

Max Weight (lbs./gal.): 9.3

Density (lbs/cu.ft.):

Gel Strength (lbs/100 sq.ft.):

PH:

Viscosity (CP): 12

Filtration (cc):

Salinity (ppm):

Additional Characteristics:

Section 6 - Test, Logging, Coring

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

MWD gamma

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

CALIPER,DS,GR,MWD,MUDLOG

Coring operation description for the well:

N/A

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 3670

Anticipated Surface Pressure: 2001.96

Anticipated Bottom Hole Temperature(F): 140

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

Describe:

Contingency Plans geohazards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

CDU 497H_H2S Plan_07-21-2016.pdf

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

CDU 497H_Directional Plan_07-21-2016.pdf

Other proposed operations facets description:

Multi-Bowl Wellhead
Multi-Bowl Verbiage
Closed Loop Design Plan
Cement Table

Other proposed operations facets attachment:

CDU 497H_Multi-Bowl Wellhead_07-21-2016.pdf
CDU 497H_Multi-Bowl Verbiage_3M_07-21-2016.pdf
CDU 497H_Closed Loop Design Plan_07-21-2016.pdf
CDU 497H_Cement Table_09-01-2016.pdf

Other Variance attachment:

CDU 497H_H_P Co-flex hose_07-21-2016.pdf

SUPO

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

CDU 497H_Existing Access Rd_07-21-2016.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT

Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? YES

Existing Road Improvement Description: Improve road to accommodate Drilling and Completion operations.

Existing Road Improvement Attachment:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

CDU_448H_284H_497H_Access Rd_07-21-2016.pdf

New road type: COLLECTOR,RESOURCE

Length: 188 Feet **Width (ft.):** 25

Max slope (%): 2 **Max grade (%):** 4

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 14

New road access erosion control: Water drainage ditch

New road access plan or profile prepared? YES

New road access plan attachment:

CDU_448H_284H_497H_Access Rd_07-21-2016.pdf

Access road engineering design? NO

Access road engineering design attachment:

Access surfacing type: GRAVEL

Access topsoil source: ONSITE

Access surfacing type description:

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: See attached reclamation diagram

Access other construction information:

Access miscellaneous information:

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

Drainage Control

New road drainage crossing: OTHER

Drainage Control comments: NA

Road Drainage Control Structures (DCS) description: NA

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

Additional Attachment(s):

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

CDU 497H_1 Mile_07-21-2016.pdf

Existing Wells description:

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

Submit or defer a Proposed Production Facilities plan? DEFER

Estimated Production Facilities description: Cotton Draw Unit 13-18 DL CTB

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: STIMULATION

Water source type: RECYCLED

Describe type:

Source latitude:

Source longitude:

Source datum:

Water source permit type: OTHER

Source land ownership: FEDERAL

Water source transport method: PIPELINE,TRUCKING

Source transportation land ownership: FEDERAL

Water source volume (barrels): 170000

Source volume (acre-feet): 21.911827

Source volume (gal): 7140000

Water source and transportation map:

CDU 448H, 284H, 497H_wtr xfer map_07-21-2016.pdf

Water source comments:

New water well? NO

New Water Well Info

Well latitude:

Well Longitude:

Well datum:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

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:

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Construction Materials description: Dirt fill and Caliche will be used to construct well pad.

Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Water Based Cuttings.

Amount of waste: 1100 barrels

Waste disposal frequency : Daily

Safe containment description: All cuttings will be contained within waste vendors haul bins which contain a spill prevention mechanism.

Safe containmant attachment:

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

Disposal type description:

Disposal location description: All cuttings will disposed of at R360, Sundance, or equivalent.

Waste type: FLOWBACK

Waste content description: Produced water during flowback operations. This amount is a daily average during flowback (BWPD).

Amount of waste: 1500 barrels

Waste disposal frequency : Daily

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

Safe containment description: No required field, no asterisk

Safe containmant attachment:

Waste disposal type: ON-LEASE INJECTION **Disposal location ownership:** PRIVATE

Disposal type description:

Disposal location description: One of three company owned SWD facilities in the area: CDU 181, CDU 89, CDU 84.

Waste type: COMPLETIONS/STIMULATION

Waste content description: Flow back water during completion operations.

Amount of waste: 3000 barrels

Waste disposal frequency : One Time Only

Safe containment description: Not a required field, no asterisk

Safe containmant attachment:

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

Disposal type description:

Disposal location description: Various disposal locations in Lea and Eddy counties.

Waste type: PRODUCED WATER

Waste content description: Produced water during production operations. This amount is a daily average during the first year of production (BWPD).

Amount of waste: 1000 barrels

Waste disposal frequency : Daily

Safe containment description: Not a required field, no asterisk

Safe containmant attachment:

Waste disposal type: ON-LEASE INJECTION **Disposal location ownership:** PRIVATE

Disposal type description:

Disposal location description: One of three company owned SWD facilities in the area: CDU 181, CDU 89, CDU 84.

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

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

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

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:

CDU 497H_3 Well Pad Rig Location Layout_07-21-2016.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: NEW

Recontouring attachment:

Interim Site Reclamation_07-21-2016.pdf

Drainage/Erosion control construction: All areas disturbed shall be reclaimed as early and as nearly as practicable to their original condition or their final land use and shall be maintained to control dust and minimize erosion to the extent practicable.

Drainage/Erosion control reclamation: All areas disturbed shall be reclaimed as early and as nearly as practicable to their original condition or their final land use and shall be maintained to control dust and minimize erosion to the extent practicable.

Wellpad long term disturbance (acres): 1.838

Wellpad short term disturbance (acres): 4.157

Access road long term disturbance (acres): 0.086

Access road short term disturbance (acres): 0.086

Pipeline long term disturbance (acres): 1.966949

Pipeline short term disturbance (acres): 1.966949

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

Other long term disturbance (acres): 0.135

Other short term disturbance (acres): 0.135

Total long term disturbance: 4.025949

Total short term disturbance: 6.3449492

Reconstruction method: Operator will use Best Management Practices"BMP" to mechanically recontour to obtain the desired outcome.

Topsoil redistribution: Topsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns.

Soil treatment: Topsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns.

Existing Vegetation at the well pad: Grasses and mesquite.

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: Grasses and mesquite.

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: Grasses and mesquite.

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: Grasses and mesquite.

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

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: Mark

Last Name: Smith

Phone: (575)746-5559

Email: mark.smith@dvn.com

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: Maintain weeds on an as need basis.

Weed treatment plan attachment:

Monitoring plan description: Monitor as needed.

Monitoring plan attachment:

Success standards: N/A

Pit closure description: No asterisk, not required.

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:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Disturbance type: EXISTING 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:

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:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Disturbance type: PIPELINE

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

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

SUPO Additional Information: Flowline Survey Electrical Survey

Use a previously conducted onsite? NO

Previous Onsite information:

Other SUPO Attachment

CDU 497H_Flowline 6_IN_GL_FL_CDU_497H_TO_CDU_13_18_DL_CTB_P_07-21-2016.pdf

CDU 497H_Existing Access Rd_07-21-2016.pdf

PWD

Section 1 - General

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

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Describe 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:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

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:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

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):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

Bond Info

Bond Information

Federal/Indian APD: FED

BLM Bond number: CO1104

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:

Operator Certification

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.

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT

Well Number: 497H

NAME: Linda Good

Signed on: 07/21/2016

Title: Regulatory Compliance Professional

Street Address: 333 West Sheridan Avenue

City: Oklahoma City

State: OK

Zip: 73102

Phone: (405)552-6558

Email address: Linda.Good@dnv.com

Field Representative

Representative Name: Brad Oates

Street Address: 6488 Seven Rivers Hwy

City: Artesia

State: NM

Zip: 88210

Phone: (575)748-1810

Email address: brad.oates@dnv.com

Payment Info

Payment

APD Fee Payment Method: PAY.GOV

pay.gov Tracking ID: 25SSPS0I