Form 3160-5
(August 2007)

OCD Hobbs

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No.
~~NMLC061863A~~ NM 113964

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
COTTON DRAW 33-4 FEDERAL 1H

2. Name of Operator
DEVON ENERGY PRODUCTION CO LP
Contact: TRINA C COUCH
Mail: trina.couch@dvn.com

9. API Well No.
30-025-41263-00-X1

3a. Address
333 WEST SHERIDAN AVE
OKLAHOMA CITY, OK 73102

3b. Phone No. (include area code)
Ph: 405-228-7203

10. Field and Pool, or Exploratory
PADUCA

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 33 T24S R32E NWNW 330FNL 1295FWL
32.150032 N Lat, 103.663966 W Lon

HOBBS OCD
JUN 20 2014
RECEIVED

11. County or Parish, and State
LEA COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original APD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Devon Energy Production Company, L.P. respectfully requests to change the name on the approved subject well:

FROM: Cotton Draw 33-4 Fed Com 1H
TO: Cotton Draw 33 Fed 1H

SUBJECT TO LIKE APPROVAL BY STATE

Devon Energy Production Company, L.P. would also like to change the BHL on the subject well:

FROM: 330 FSL & 660 FWL Sec. 4 T25S 32E

SEE ATTACHED FOR CONDITIONS OF APPROVAL

APPROVED
JUN 13 2014
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #245669 verified by the BLM Well Information System
For DEVON ENERGY PRODUCTION CO LP, sent to the Hobbs
Committed to AFMSS for processing by JERRY BLAKLEY on 05/21/2014 (14JB0139SE)

Name *(Printed/Typed)* TRINA C COUCH — Title REGULATORY ANALYST

Signature (Electronic Submission) — Date 05/14/2014

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By EDWARD FERNANDEZ — Title PETROLEUM ENGINEER — Date 06/13/2014

Conditions of approval, if any, are attached. Approval of this notice 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.

Office Hobbs

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.

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

JUN 24 2014

Additional data for EC transaction #245669 that would not fit on the form

32. Additional remarks, continued

TO: 330 FSL & 660 FWL Sec. 33 T24S 32E

Attachments:
Revised Directional Plans
Cement Table
C-102

CONDITIONS OF APPROVAL

SUNDRY dated 5/14/2014

OPERATOR'S NAME:	DEVON ENERGY
LEASE NO.:	NM113964
WELL NAME & NO.:	1H-COTTON DRAW 33 FED 30-025-41263
SURFACE HOLE FOOTAGE:	330' FNL & 1295' FWL
BOTTOM HOLE FOOTAGE	330' FSL & 660' FWL
LOCATION:	Section 33, T. 24 S., R 32 E., NMPM
COUNTY:	Lea County, New Mexico

The Original COA still stand with the following drill modifications:

Possibility of water and brine flows in the Salado, Castile, Delaware and Bone Springs Formations.
Possibility of lost circulation in the Delaware and Bone Springs.

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

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

Operator has proposed DV tool at depth of 5,000', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation or approved top of cement on the next stage.

b. Second stage above DV tool:

☒ Cement should tie-back at least **500** feet into previous casing string. Operator shall provide method of verification. **Additional cement will be required as excess calculates to 23%.**

EGF 061314

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

HOBBS OCD
JUN 20 2014
RECEIVED

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
	COTTON DRAW 33 FED	1H

[7] OGRID No.	[8] Operator Name	[9] Elevation
6137	DEVON ENERGY PRODUCTION COMPANY, L.P.	3515.0

[10] Surface Location

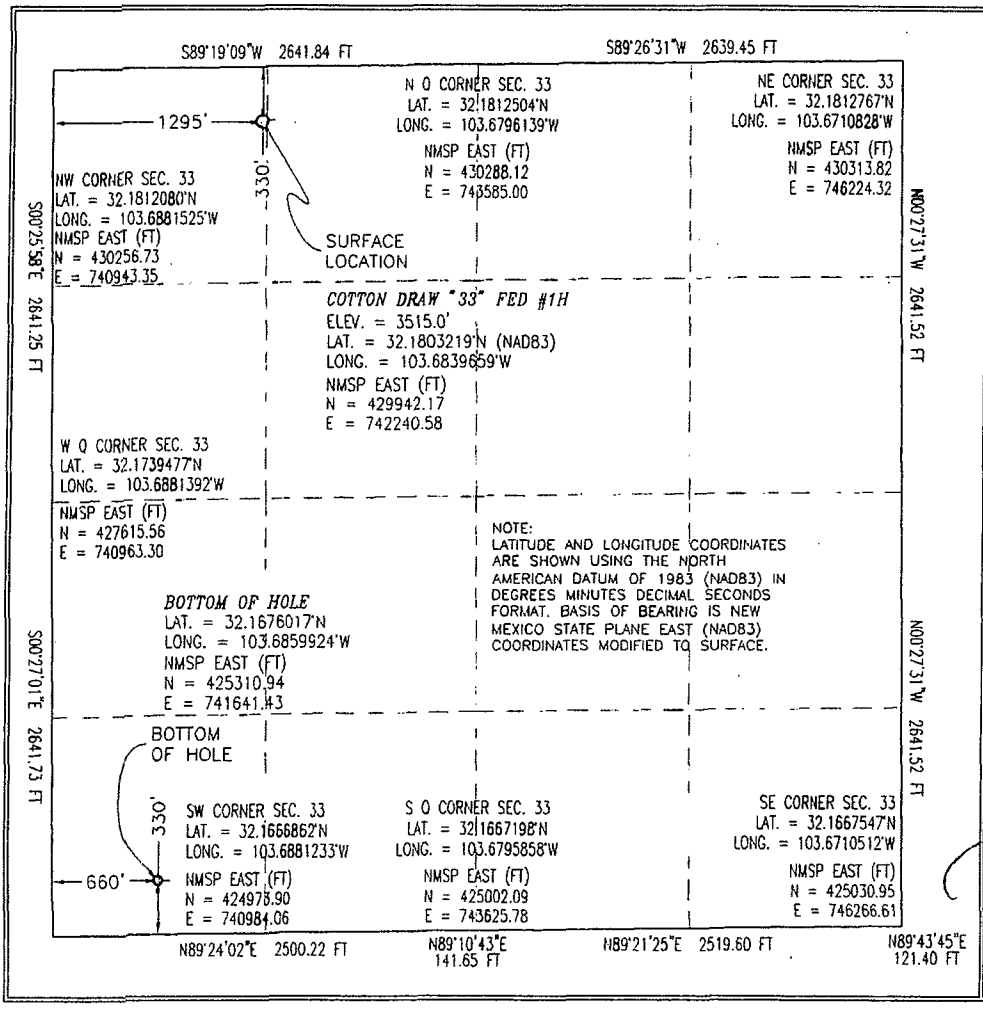
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	33	24 S	32 E		330	NORTH	1295	WEST	LEA

[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
M	33	24 S	32 E		330	SOUTH	660	WEST	LEA

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

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 and correct to the best of my belief.

MAY 5, 2014
Date of Survey

NEW MEXICO 12797 REGISTERED LAND SURVEYOR

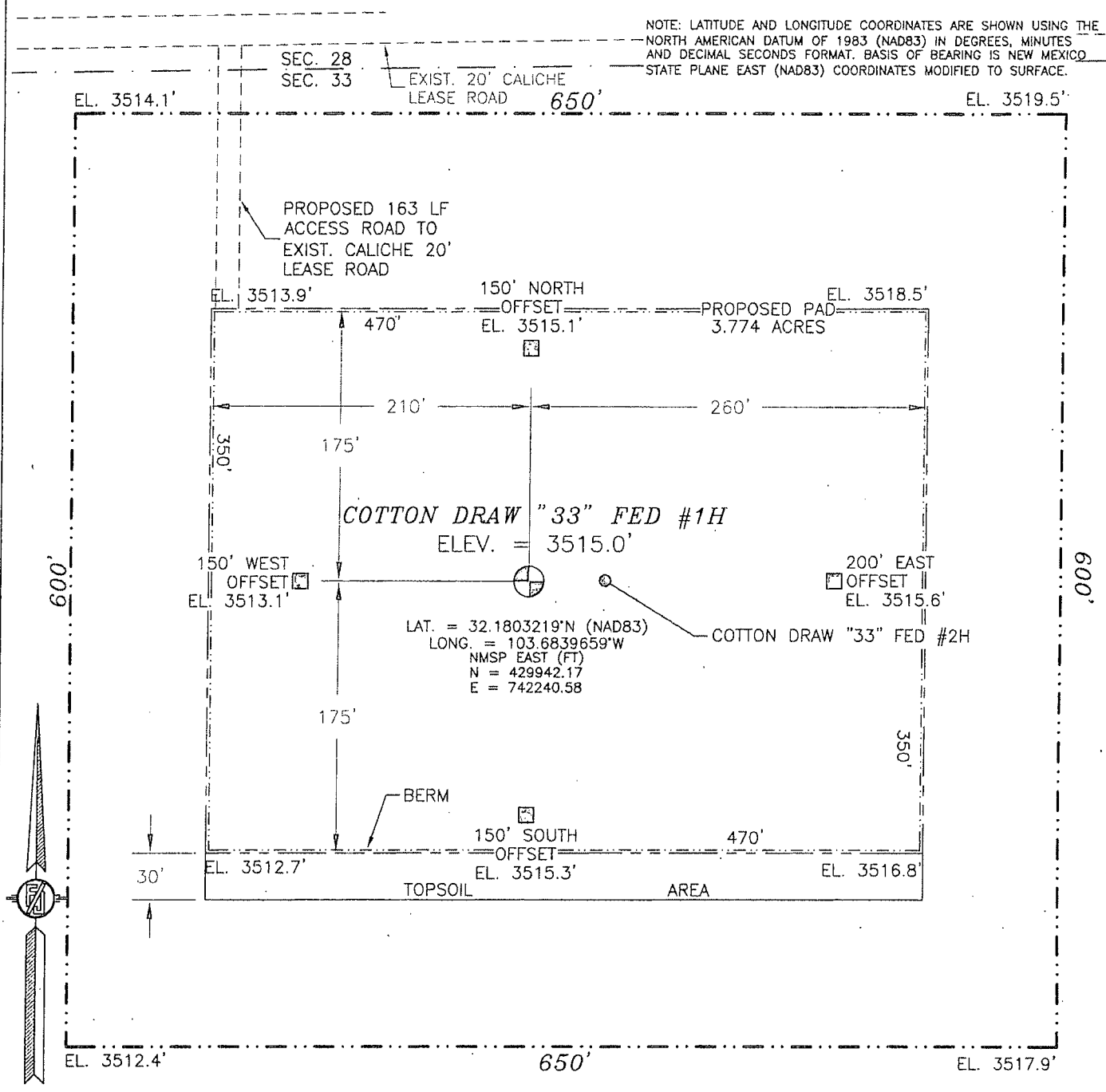
Signature and Seal of Professional Surveyor

Certificate Number FILIMON F. JARAMILLO, PLS 12797

SURVEY NO. 1584C

SECTION 33, TOWNSHIP 24 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83) IN DEGREES, MINUTES AND DECIMAL SECONDS FORMAT. BASIS OF BEARING IS NEW MEXICO STATE PLANE EAST (NAD83) COORDINATES MODIFIED TO SURFACE.



010 50 100 200

SCALE 1" = 100'

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF STATE HIGHWAY 128 AND CR 1 (ORLA) GO SOUTH ON CR 1 FOR 2.4 MILES. GO WEST ON CALICHE LEASE ROAD FOR APPROX. 0.75 MILES. LOCATION IS APPROX. 350 FT SOUTH.

DEVON ENERGY PRODUCTION COMPANY, L.P.

COTTON DRAW "33" FED #1H

LOCATED 330 FT. FROM THE NORTH LINE AND 1295 FT. FROM THE WEST LINE OF SECTION 33, TOWNSHIP 24 SOUTH, RANGE 32 EAST, N.M.P.M. LEA COUNTY, STATE OF NEW MEXICO

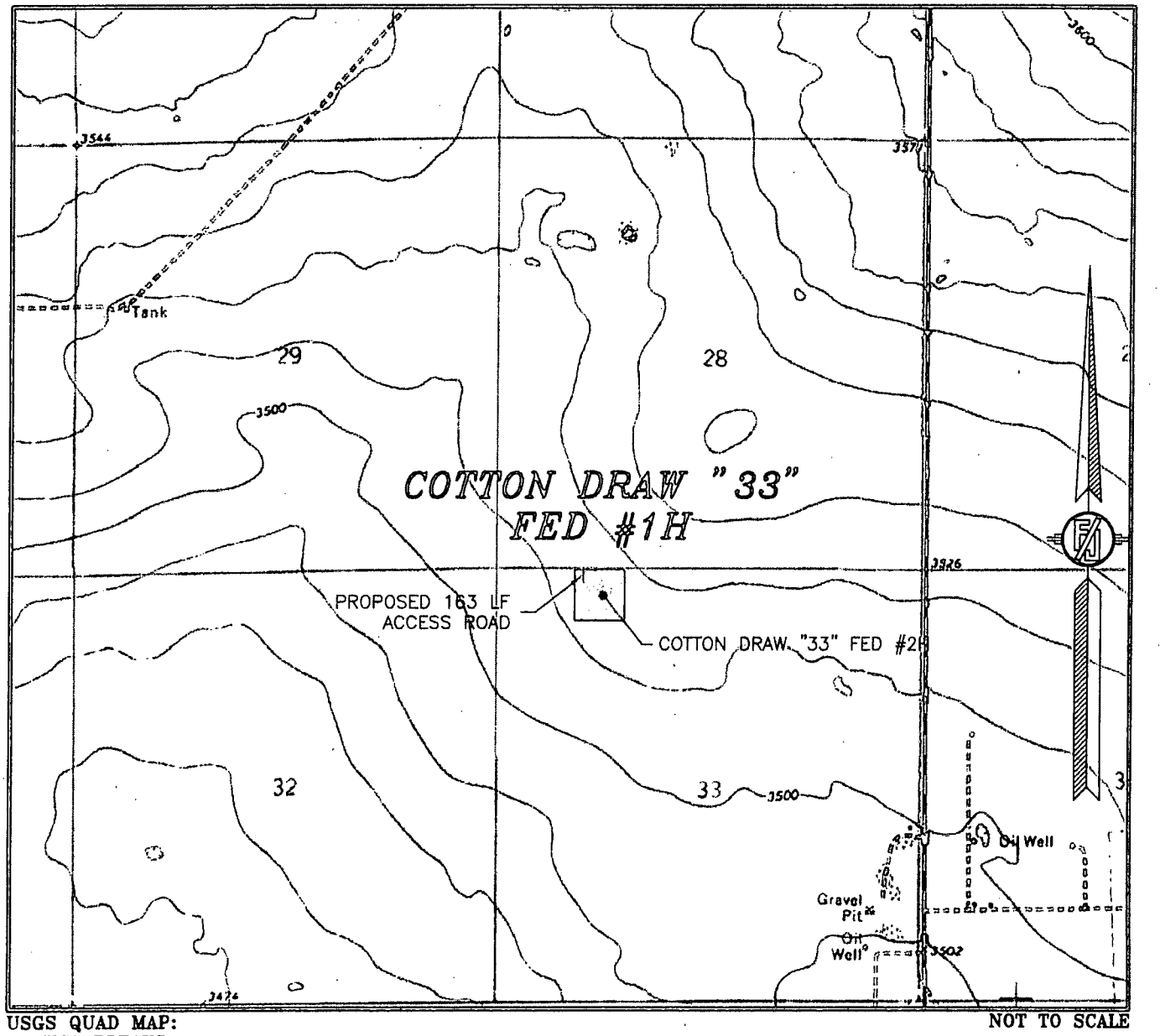
MAY 5, 2014

SURVEY NO. 1584C

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 *CARLSBAD, NEW MEXICO*

SECTION 33, TOWNSHIP 24 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

LOCATION VERIFICATION MAP



USGS QUAD MAP:
PADUCA BREAKS

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

COTTON DRAW "33" FED #1H

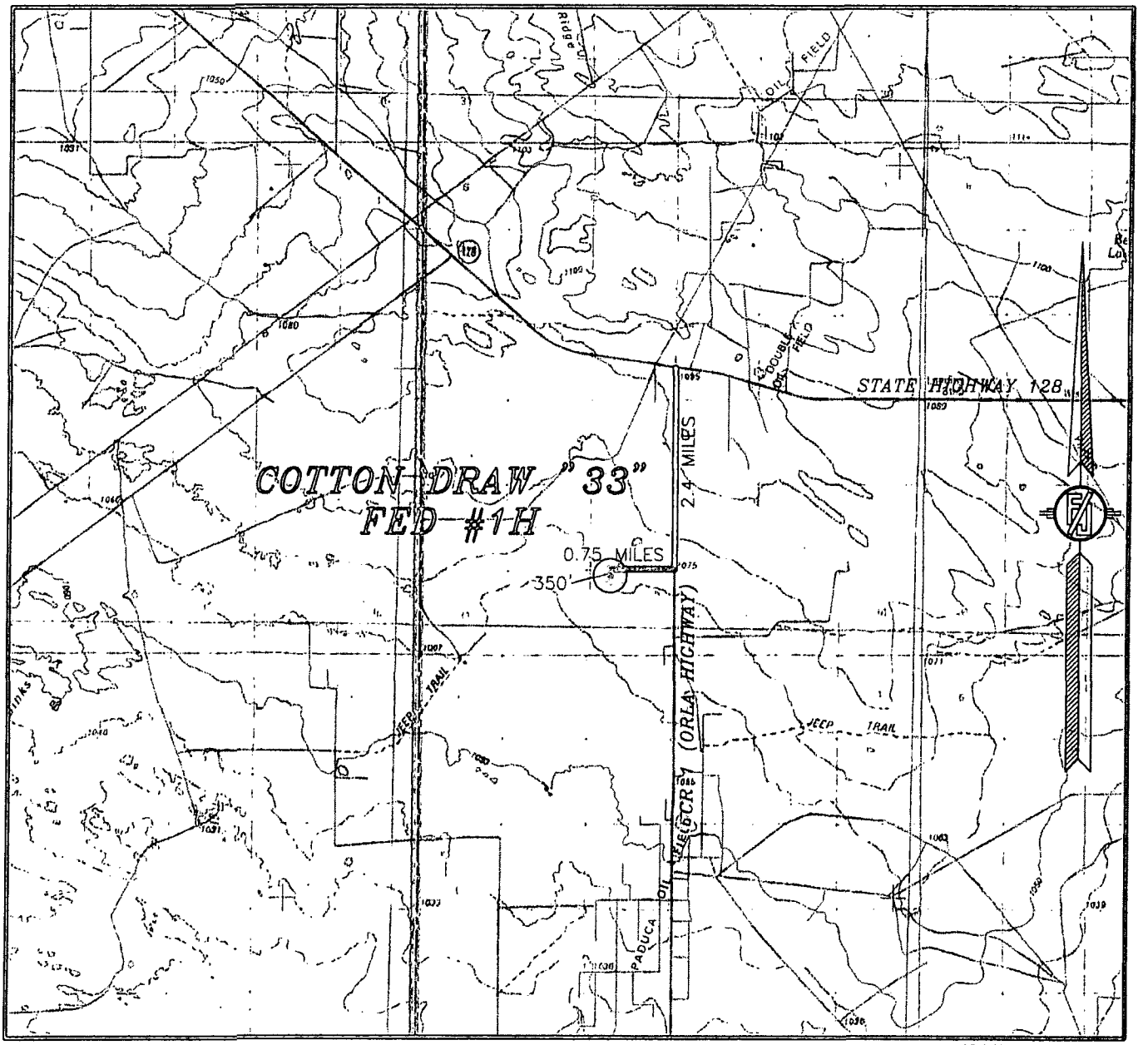
LOCATED 330 FT. FROM THE NORTH LINE
AND 1295 FT. FROM THE WEST LINE OF
SECTION 33, TOWNSHIP 24 SOUTH,
RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

MAY 5, 2014

SURVEY NO. 1584C

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 33, TOWNSHIP 24 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
VICINITY MAP



NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

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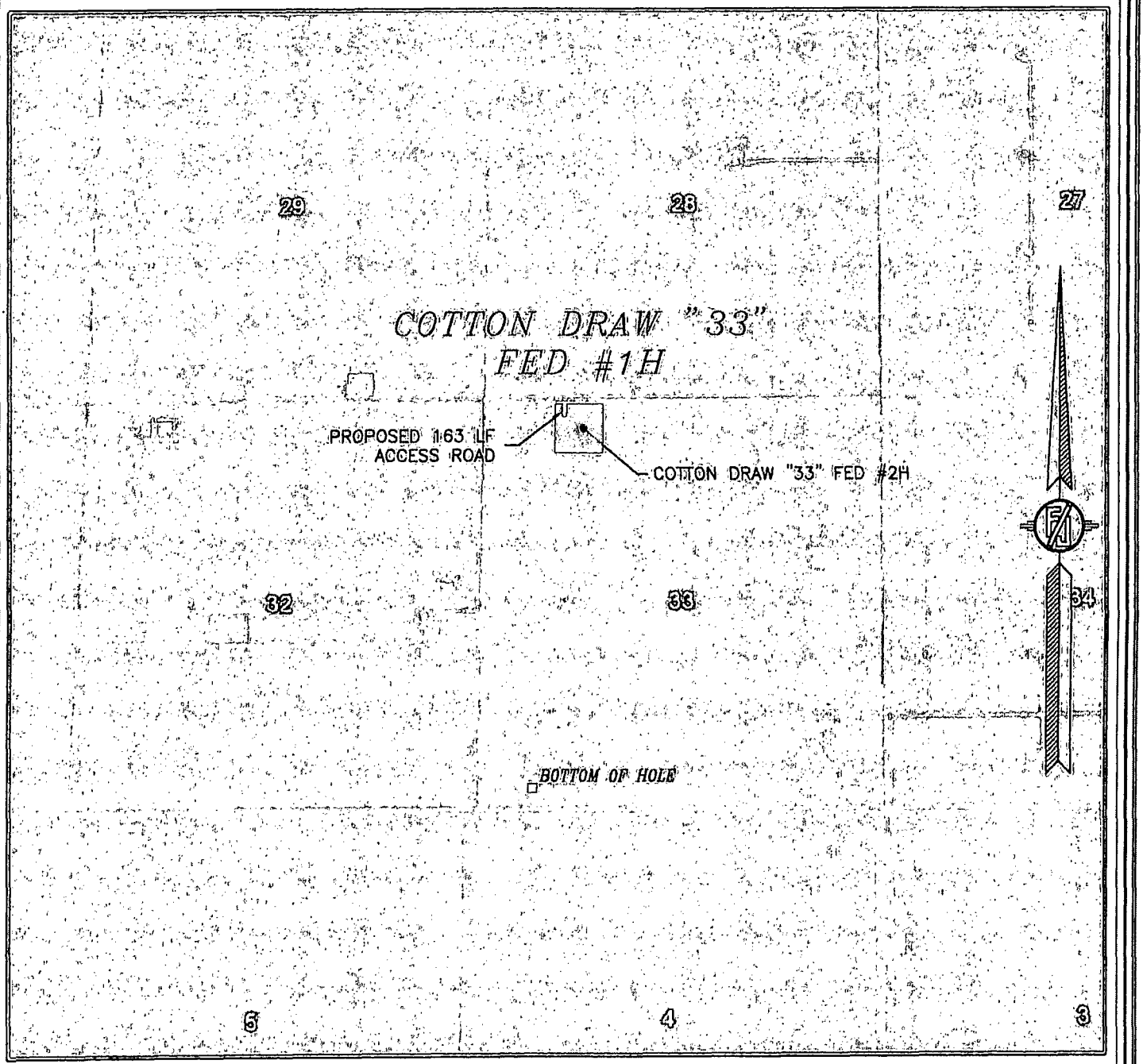
SECTION 33, TOWNSHIP 24 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
FEBRUARY 2014

DEVON ENERGY PRODUCTION COMPANY, L.P.

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LOCATED 330 FT. FROM THE NORTH LINE
AND 1295 FT. FROM THE WEST LINE OF
SECTION 33, TOWNSHIP 24 SOUTH,
RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

MAY 5, 2014

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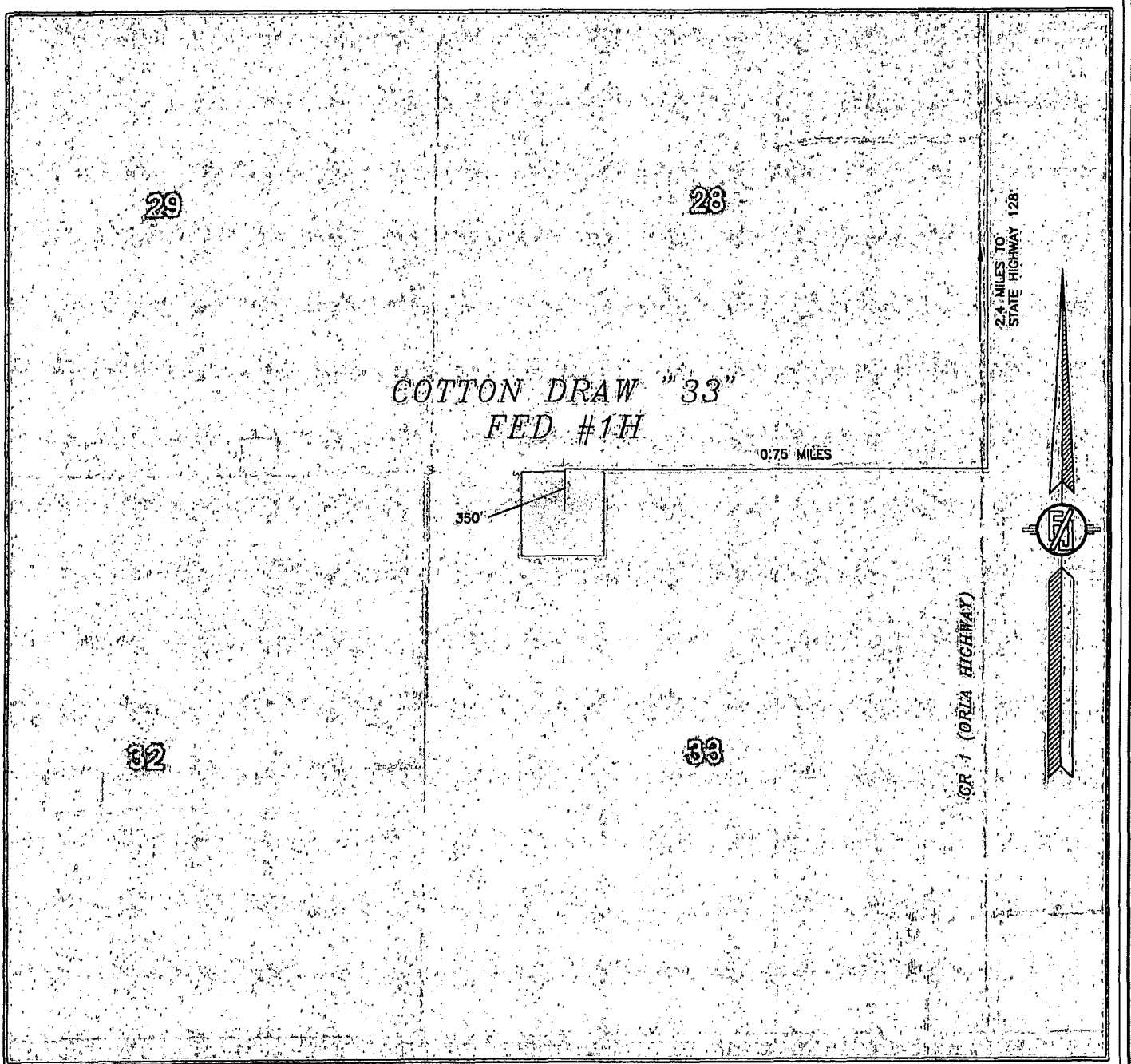
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 33, TOWNSHIP 24 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

ACCESS AERIAL ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
FEBRUARY 2014

DEVON ENERGY PRODUCTION COMPANY, L.P.

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RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

MAY 5, 2014

SURVEY NO. 1584C

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

5D Plan Report

Devon Energy

Field Name: *Lea Co, NM Nad 83 NMEZ*
Site Name: *Cotton Draw 33 Fed 1, 2H Pad*
Well Name: *Cotton Draw 33 Fed 1H*
Plan: *P1v1*

09 May 2014

Weatherford®

[redacted] Cotton Draw 33 Fed 1H [redacted]

Field Name
Lea Co, NM Nad 83 NMEZ

Map Units : US ft
Company Name : Devon Energy
Vertical Reference Datum (VRD) : Mean Sea Level
Projected Coordinate System : NAD83 / New Mexico East (ftUS)
Comment :

Site Name
Cotton Draw 33 Fed 1, 2H Pad

Units : US ft
North Reference : Grid
Convergence Angle : 0.35

Position
Northing : 429942.17 US ft
Latitude : 32° 10' 49.16"
Easting : 742240.58 US ft
Longitude : -103° 41' 2.28"

Elevation above Mean Sea Level: 3315.00 US ft
Comment :

Slot Name
Cotton Draw 33 Fed 1H

Position (Offsets relative to Site Centre)
+N / -S : 0.00 US ft
Northing : 429942.17 US ft
Latitude : 32°10'49.16"
+E / -W : 0.00 US ft
Easting : 742240.58 US ft
Longitude : -103°41'2.28"
Slot TVD Reference : Ground Elevation
Elevation above Mean Sea Level : 3315.00 US ft
Comment :

Well Name
Cotton Draw 33 Fed 1H

Type : Main well
UWI :
Plan : P1v1
Rig Height *Drill Floor* : 25.00 US ft
Relative to Mean Sea Level: 3340.00 US ft
Comment :
Closure Distance : 4669.83 US ft
Closure Azimuth : 187.371°
Vertical Section (Position of Origin Relative to Slot)
+N / -S : 0.00 US ft
+E / -W : 0.00 US ft
Az : 180.00°
Magnetic Parameters
Model : BGGM
Field Strength : 48268.5nT
Dec : 7.37°
Dip : 60.03°
Date : 15/Jul/2014

Target Set

Name : Cotton Draw 33 Fed 1H
Number of Targets : 1

Comment :

Target Name:
PBHL

Position (Relative to Slot centre)
+N / -S : -4631.23US ft
Northing : 425310.94 US ft
Latitude : 32°10'3.37"
+E / -W : -599.15 US ft
Easting : 741641.43US ft
Longitude : -103°41'9.57"
TVD (Drill Floor) : 8500.00 US ft

Shape:
Cuboid

Orientation **Azimuth :** 180.00°
Inclination : 0.00°
Dimensions **Length :** 8714.00 US ft
Breadth : 50.00 US ft
Height : 20.00 US ft

Well path created using minimum curvature.

5D Plan Report

Salient Points (Relative to Slot centre, TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	DLS (°/100 US ft)	VS (US ft)	B.Rate (°/100 US ft)	T.Rate (°/100 US ft)	T.Face (°)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.00	0.00	0.00	0.00	
4600.00	0.00	0.00	4600.00	0.00	0.00	0.00	-0.00	0.00	0.00	0.00	Nudge
5099.93	10.00	291.37	5097.40	15.86	-40.52	2.00	-15.86	2.00	0.00	291.37	Hold
8046.32	10.00	291.37	7999.03	202.29	-516.90	0.00	-202.29	0.00	0.00	0.00	KOP
8826.55	90.00	180.00	8500.00	-274.22	-599.15	12.00	274.22	10.25	-14.27	248.92	LP
13183.56	90.00	180.00	8500.00	-4631.23	-599.15	0.00	4631.23	0.00	0.00	0.00	PBHL 1H

Interpolated Points (Relative to Slot centre, TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Northing (US ft)	Easting (US ft)	Comment
4600.00	0.00	0.00	4600.00	0.00	0.00	-0.00	0.00	429942.17	742240.58	Nudge
4700.00	2.00	291.37	4699.98	0.64	-1.63	-0.64	2.00	429942.81	742238.95	
4800.00	4.00	291.37	4799.84	2.54	-6.50	-2.54	2.00	429944.71	742234.08	
4900.00	6.00	291.37	4899.45	5.72	-14.61	-5.72	2.00	429947.89	742225.97	
5000.00	8.00	291.37	4998.70	10.16	-25.96	-10.16	2.00	429952.33	742214.62	
5099.93	10.00	291.37	5097.40	15.86	-40.52	-15.86	2.00	429958.03	742200.06	Hold
5100.00	10.00	291.37	5097.47	15.86	-40.53	-15.86	0.00	429958.03	742200.05	
5200.00	10.00	291.37	5195.95	22.19	-56.70	-22.19	0.00	429964.36	742183.88	
5300.00	10.00	291.37	5294.43	28.52	-72.87	-28.52	0.00	429970.69	742167.71	
5400.00	10.00	291.37	5392.91	34.84	-89.03	-34.84	0.00	429977.01	742151.55	
5500.00	10.00	291.37	5491.39	41.17	-105.20	-41.17	0.00	429983.34	742135.38	
5600.00	10.00	291.37	5589.87	47.50	-121.37	-47.50	0.00	429989.67	742119.21	
5700.00	10.00	291.37	5688.35	53.83	-137.54	-53.83	0.00	429996.00	742103.04	
5800.00	10.00	291.37	5786.83	60.15	-153.71	-60.15	0.00	430002.32	742086.87	
5900.00	10.00	291.37	5885.31	66.48	-169.88	-66.48	0.00	430008.65	742070.70	
6000.00	10.00	291.37	5983.80	72.81	-186.04	-72.81	0.00	430014.98	742054.54	
6100.00	10.00	291.37	6082.28	79.14	-202.21	-79.14	0.00	430021.31	742038.37	
6200.00	10.00	291.37	6180.76	85.46	-218.38	-85.46	0.00	430027.63	742022.20	
6300.00	10.00	291.37	6279.24	91.79	-234.55	-91.79	0.00	430033.96	742006.03	
6400.00	10.00	291.37	6377.72	98.12	-250.72	-98.12	0.00	430040.29	741989.86	
6500.00	10.00	291.37	6476.20	104.45	-266.89	-104.45	0.00	430046.62	741973.69	
6600.00	10.00	291.37	6574.68	110.77	-283.06	-110.77	0.00	430052.94	741957.52	
6700.00	10.00	291.37	6673.16	117.10	-299.22	-117.10	0.00	430059.27	741941.36	
6800.00	10.00	291.37	6771.65	123.43	-315.39	-123.43	0.00	430065.60	741925.19	
6900.00	10.00	291.37	6870.13	129.76	-331.56	-129.76	0.00	430071.93	741909.02	
7000.00	10.00	291.37	6968.61	136.08	-347.73	-136.08	0.00	430078.25	741892.85	
7100.00	10.00	291.37	7067.09	142.41	-363.90	-142.41	0.00	430084.58	741876.68	
7200.00	10.00	291.37	7165.57	148.74	-380.07	-148.74	0.00	430090.91	741860.51	
7300.00	10.00	291.37	7264.05	155.07	-396.23	-155.07	0.00	430097.24	741844.35	
7400.00	10.00	291.37	7362.53	161.39	-412.40	-161.39	0.00	430103.56	741828.18	
7500.00	10.00	291.37	7461.01	167.72	-428.57	-167.72	0.00	430109.89	741812.01	
7600.00	10.00	291.37	7559.50	174.05	-444.74	-174.05	0.00	430116.22	741795.84	
7700.00	10.00	291.37	7657.98	180.37	-460.91	-180.37	0.00	430122.54	741779.67	
7800.00	10.00	291.37	7756.46	186.70	-477.08	-186.70	0.00	430128.87	741763.50	
7900.00	10.00	291.37	7854.94	193.03	-493.24	-193.03	0.00	430135.20	741747.34	
8000.00	10.00	291.37	7953.42	199.36	-509.41	-199.36	0.00	430141.53	741731.17	
8046.32	10.00	291.37	7999.03	202.29	-516.90	-202.29	0.00	430144.46	741723.68	KOP
8100.00	9.74	253.12	8051.98	202.67	-525.59	-202.67	12.00	430144.84	741714.99	
8200.00	17.45	211.49	8149.31	187.37	-541.57	-187.37	12.00	430129.54	741699.01	
8300.00	28.28	197.77	8241.38	151.90	-556.69	-151.90	12.00	430094.07	741683.89	
8400.00	39.75	191.39	8324.17	97.81	-570.28	-97.81	12.00	430039.98	741670.30	
8500.00	51.43	187.52	8394.04	27.46	-581.75	-27.46	12.00	429969.63	741658.83	
8600.00	63.20	184.76	8447.95	-56.08	-590.60	56.08	12.00	429886.09	741649.98	
8700.00	75.02	182.52	8483.55	-149.15	-596.45	149.15	12.00	429793.02	741644.13	
8800.00	86.86	180.52	8499.27	-247.69	-599.03	247.69	12.00	429694.48	741641.55	
8826.55	90.00	180.00	8500.00	-274.22	-599.15	274.22	12.00	429667.95	741641.43	LP
8900.00	90.00	180.00	8500.00	-347.67	-599.15	347.67	0.00	429594.50	741641.43	
9000.00	90.00	180.00	8500.00	-447.67	-599.15	447.67	0.00	429494.50	741641.43	

5D Plan Report

Interpolated Points (Relative to Slot centre, TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Northing (US ft)	Easting (US ft)	Comment
9100.00	90.00	180.00	8500.00	-547.67	-599.15	547.67	0.00	429394.50	741641.43	
9200.00	90.00	180.00	8500.00	-647.67	-599.15	647.67	0.00	429294.50	741641.43	
9300.00	90.00	180.00	8500.00	-747.67	-599.15	747.67	0.00	429194.50	741641.43	
9400.00	90.00	180.00	8500.00	-847.67	-599.15	847.67	0.00	429094.50	741641.43	
9500.00	90.00	180.00	8500.00	-947.67	-599.15	947.67	0.00	428994.50	741641.43	
9600.00	90.00	180.00	8500.00	-1047.67	-599.15	1047.67	0.00	428894.50	741641.43	
9700.00	90.00	180.00	8500.00	-1147.67	-599.15	1147.67	0.00	428794.50	741641.43	
9800.00	90.00	180.00	8500.00	-1247.67	-599.15	1247.67	0.00	428694.50	741641.43	
9900.00	90.00	180.00	8500.00	-1347.67	-599.15	1347.67	0.00	428594.50	741641.43	
10000.00	90.00	180.00	8500.00	-1447.67	-599.15	1447.67	0.00	428494.50	741641.43	
10100.00	90.00	180.00	8500.00	-1547.67	-599.15	1547.67	0.00	428394.50	741641.43	
10200.00	90.00	180.00	8500.00	-1647.67	-599.15	1647.67	0.00	428294.50	741641.43	
10300.00	90.00	180.00	8500.00	-1747.67	-599.15	1747.67	0.00	428194.50	741641.43	
10400.00	90.00	180.00	8500.00	-1847.67	-599.15	1847.67	0.00	428094.50	741641.43	
10500.00	90.00	180.00	8500.00	-1947.67	-599.15	1947.67	0.00	427994.50	741641.43	
10600.00	90.00	180.00	8500.00	-2047.67	-599.15	2047.67	0.00	427894.50	741641.43	
10700.00	90.00	180.00	8500.00	-2147.67	-599.15	2147.67	0.00	427794.50	741641.43	
10800.00	90.00	180.00	8500.00	-2247.67	-599.15	2247.67	0.00	427694.50	741641.43	
10900.00	90.00	180.00	8500.00	-2347.67	-599.15	2347.67	0.00	427594.50	741641.43	
11000.00	90.00	180.00	8500.00	-2447.67	-599.15	2447.67	0.00	427494.50	741641.43	
11100.00	90.00	180.00	8500.00	-2547.67	-599.15	2547.67	0.00	427394.50	741641.43	
11200.00	90.00	180.00	8500.00	-2647.67	-599.15	2647.67	0.00	427294.50	741641.43	
11300.00	90.00	180.00	8500.00	-2747.67	-599.15	2747.67	0.00	427194.50	741641.43	
11400.00	90.00	180.00	8500.00	-2847.67	-599.15	2847.67	0.00	427094.50	741641.43	
11500.00	90.00	180.00	8500.00	-2947.67	-599.15	2947.67	0.00	426994.50	741641.43	
11600.00	90.00	180.00	8500.00	-3047.67	-599.15	3047.67	0.00	426894.50	741641.43	
11700.00	90.00	180.00	8500.00	-3147.67	-599.15	3147.67	0.00	426794.50	741641.43	
11800.00	90.00	180.00	8500.00	-3247.67	-599.15	3247.67	0.00	426694.50	741641.43	
11900.00	90.00	180.00	8500.00	-3347.67	-599.15	3347.67	0.00	426594.50	741641.43	
12000.00	90.00	180.00	8500.00	-3447.67	-599.15	3447.67	0.00	426494.50	741641.43	
12100.00	90.00	180.00	8500.00	-3547.67	-599.15	3547.67	0.00	426394.50	741641.43	
12200.00	90.00	180.00	8500.00	-3647.67	-599.15	3647.67	0.00	426294.50	741641.43	
12300.00	90.00	180.00	8500.00	-3747.67	-599.15	3747.67	0.00	426194.50	741641.43	
12400.00	90.00	180.00	8500.00	-3847.67	-599.15	3847.67	0.00	426094.50	741641.43	
12500.00	90.00	180.00	8500.00	-3947.67	-599.15	3947.67	0.00	425994.50	741641.43	
12600.00	90.00	180.00	8500.00	-4047.67	-599.15	4047.67	0.00	425894.50	741641.43	
12700.00	90.00	180.00	8500.00	-4147.67	-599.15	4147.67	0.00	425794.50	741641.43	
12800.00	90.00	180.00	8500.00	-4247.67	-599.15	4247.67	0.00	425694.50	741641.43	
12900.00	90.00	180.00	8500.00	-4347.67	-599.15	4347.67	0.00	425594.50	741641.43	
13000.00	90.00	180.00	8500.00	-4447.67	-599.15	4447.67	0.00	425494.50	741641.43	
13100.00	90.00	180.00	8500.00	-4547.67	-599.15	4547.67	0.00	425394.50	741641.43	
13183.56	90.00	180.00	8500.00	-4631.23	-599.15	4631.23	0.00	425310.94	741641.43	PBHL 1H

5D Anti-Collision Report

Devon Energy

Field Name: *Lea Co, NM Nad 83 NMEZ*
Site Name: *Cotton Draw 33 Fed 1, 2H Pad*
Well Name: *Cotton Draw 33 Fed 1H*

08 May 2014

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Cotton Draw 33 Fed 1H

Field Name
Lea Co, NM Nad 83 NMEZ

Map Units : US ft
Company Name : Devon Energy
Vertical Reference Datum (VRD) : Mean Sea Level
Projected Coordinate System : NAD83 / New Mexico East (ftUS)
Comment :

Site Name
Cotton Draw 33 Fed 1, 2H Pad

Units : US ft
North Reference : Grid
Convergence Angle : 0.35

Position
Northing : 429942.17 US ft
Latitude : 32° 10' 49.16"
Easting : 742240.58 US ft
Longitude : -103° 41' 2.28"

Elevation above Mean Sea Level: 3315.00 US ft
Comment :

Slot Name
Cotton Draw 33 Fed 1H

Position (Offsets relative to Site Centre)
+N / -S : 0.00 US ft
Northing : 429942.17 US ft
Latitude : 32°10'49.16"
+E / -W : 0.00 US ft
Easting : 742240.58 US ft
Longitude : -103°41'2.28"

Slot TVD Reference : Ground Elevation
Elevation above Mean Sea Level : 3315.00 US ft
Comment :

Well Name
Cotton Draw 33 Fed 1H

Type : Main well
UWI :
Plan : Working Plan
Rig Height *Drill Floor* : 25.00 US ft
Relative to Mean Sea Level: 3340.00 US ft
Comment :
Closure Distance : 4669.83 US ft
Closure Azimuth : 187.371°
Vertical Section (Position of Origin Relative to Slot)
+N / -S : 0.00 US ft
+E / -W : 0.00 US ft
Az : 180.00°
Magnetic Parameters
Model : Default
Field Strength : 50000.0nT
Dec : 0.00°
Dip : 0.00°
Date : 17/Oct/2012

Collision / Uncertainty Analysis

Primary Well	Start MD (US ft)	End MD (US ft)	Collision Risk Interval	No. of Std Deviations in Error Computation
Cotton Draw 33 Fed 1H (p)	0.00	13183.56	100.00	2

Secondary Well Names

Cotton Draw 33 Fed 2H (p)

Anti Collision Report Terminology

S.Minor, S.Major : Radii of the ellipse of uncertainty at the current location as seen in the along hole direction.
PHI : Angle between high-side vector and semi-minor axis
TVD Spread : Total TVD range of the ellipsoid of uncertainty at the current location
ES : Distance between the extremities of the primary and secondary uncertainty ellipsoids in the direction Cr-Cr
T.Face to Sec : Angle between the Hi-Side vector of the primary well at the current location and line of closest approach between the two wells

Separation factors calculated using Pedal Curve (Independent Uncertainty). Well path created using minimum curvature.

Anti Collision Proximity Summary (TVD relative to)

SF Secondary Well Name	Pri MD (US ft)	Sec MD (US ft)	TVD (US ft)	CC (US ft)	ES (US ft)	SF	Risk
Cotton Draw 33 Fed 2H (p)	4600.00	4600.00	4600.00	49.86	28.70	2.36	

Secondary Well : Cotton Draw 33 Fed 2H (p) (TVD Relative to Drill Floor (Primary)) ; All Azimuth Relative to GRID NORTH)

Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	CC (US ft)	ES (US ft)	SF	Risk
0.00	0.00	0.00	89.33	0.00	0.00	49.86	49.15	69.99	
100.00	100.00	100.00	89.33	0.12	0.12	49.86	48.92	52.86	
200.00	200.00	200.00	89.33	0.34	0.34	49.86	48.47	35.86	
300.00	300.00	300.00	89.33	0.57	0.57	49.86	48.02	27.10	
400.00	400.00	400.00	89.33	0.79	0.79	49.86	47.57	21.78	
500.00	500.00	500.00	89.33	1.02	1.02	49.86	47.13	18.21	
600.00	600.00	600.00	89.33	1.24	1.24	49.86	46.68	15.64	
700.00	700.00	700.00	89.33	1.46	1.46	49.86	46.23	13.71	
800.00	800.00	800.00	89.33	1.69	1.69	49.86	45.78	12.20	
900.00	900.00	900.00	89.33	1.91	1.91	49.86	45.33	10.99	
1000.00	1000.00	1000.00	89.33	2.14	2.14	49.86	44.88	10.00	
1100.00	1100.00	1100.00	89.33	2.36	2.36	49.86	44.43	9.17	
1200.00	1200.00	1200.00	89.33	2.59	2.59	49.86	43.98	8.47	
1300.00	1300.00	1300.00	89.33	2.81	2.81	49.86	43.53	7.87	
1400.00	1400.00	1400.00	89.33	3.04	3.04	49.86	43.08	7.35	
1500.00	1500.00	1500.00	89.33	3.26	3.26	49.86	42.63	6.89	
1600.00	1600.00	1600.00	89.33	3.49	3.49	49.86	42.18	6.49	
1700.00	1700.00	1700.00	89.33	3.71	3.71	49.86	41.73	6.13	
1800.00	1800.00	1800.00	89.33	3.94	3.94	49.86	41.28	5.81	
1900.00	1900.00	1900.00	89.33	4.16	4.16	49.86	40.83	5.52	
2000.00	2000.00	2000.00	89.33	4.39	4.39	49.86	40.38	5.26	
2100.00	2100.00	2100.00	89.33	4.61	4.61	49.86	39.93	5.02	
2200.00	2200.00	2200.00	89.33	4.84	4.84	49.86	39.48	4.80	
2300.00	2300.00	2300.00	89.33	5.06	5.06	49.86	39.03	4.60	
2400.00	2400.00	2400.00	89.33	5.29	5.29	49.86	38.59	4.42	
2500.00	2500.00	2500.00	89.33	5.51	5.51	49.86	38.14	4.25	
2600.00	2600.00	2600.00	89.33	5.73	5.73	49.86	37.69	4.09	
2700.00	2700.00	2700.00	89.33	5.96	5.96	49.86	37.24	3.95	
2800.00	2800.00	2800.00	89.33	6.18	6.18	49.86	36.79	3.81	
2900.00	2900.00	2900.00	89.33	6.41	6.41	49.86	36.34	3.69	
3000.00	3000.00	3000.00	89.33	6.63	6.63	49.86	35.89	3.57	
3100.00	3100.00	3100.00	89.33	6.86	6.86	49.86	35.44	3.46	
3200.00	3200.00	3200.00	89.33	7.08	7.08	49.86	34.99	3.35	
3300.00	3300.00	3300.00	89.33	7.31	7.31	49.86	34.54	3.25	
3400.00	3400.00	3400.00	89.33	7.53	7.53	49.86	34.09	3.16	
3500.00	3500.00	3500.00	89.33	7.76	7.76	49.86	33.64	3.07	
3600.00	3600.00	3600.00	89.33	7.98	7.98	49.86	33.19	2.99	
3700.00	3700.00	3700.00	89.33	8.21	8.21	49.86	32.74	2.91	
3800.00	3800.00	3800.00	89.33	8.43	8.43	49.86	32.29	2.84	
3900.00	3900.00	3900.00	89.33	8.66	8.66	49.86	31.84	2.77	
4000.00	4000.00	4000.00	89.33	8.88	8.88	49.86	31.39	2.70	
4100.00	4100.00	4100.00	89.33	9.11	9.11	49.86	30.94	2.64	
4200.00	4200.00	4200.00	89.33	9.33	9.33	49.86	30.49	2.57	
4300.00	4300.00	4300.00	89.33	9.56	9.56	49.86	30.04	2.52	
4400.00	4400.00	4400.00	89.33	9.78	9.78	49.86	29.60	2.46	
4500.00	4500.00	4500.00	89.33	10.01	10.01	49.86	29.15	2.41	
4600.00	4600.00	4600.00	89.33	10.23	10.23	49.86	28.70	2.36	
4700.00	4698.29	4698.31	157.96	10.44	10.43	53.07	31.52	2.46	
4800.00	4795.86	4796.01	157.93	10.64	10.61	62.68	40.77	2.86	
4900.00	4892.02	4892.53	157.89	10.85	10.78	78.62	56.34	3.53	
5000.00	4986.11	4987.29	157.81	11.05	10.93	100.77	78.18	4.46	
5100.00	5077.56	5079.80	157.71	11.26	11.09	128.97	106.05	5.63	

Secondary Well : Cotton Draw 33 Fed 2H (pl) (TVD Relative to Drill Floor (Primary)) ; All Azimuth Relative to GRID NORTH)								
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec. (°)	S.Major (US ft)	S.Minor (US ft)	CC (US ft)	ES (US ft)	SF	Risk
5200.00	5170.11	5173.76	157.73	11.48	11.28	160.70	137.37	6.89	
5300.00	5263.48	5268.58	157.74	11.71	11.47	192.49	168.77	8.11	
5400.00	5356.85	5363.39	157.74	11.95	11.67	224.29	200.17	9.30	
5500.00	5450.22	5458.20	157.74	12.19	11.87	256.08	231.56	10.44	
5600.00	5543.59	5553.01	157.75	12.44	12.08	287.88	262.92	11.53	
5700.00	5636.96	5647.82	157.75	12.70	12.28	319.67	294.28	12.59	
5800.00	5730.33	5742.63	157.75	12.96	12.49	351.47	325.63	13.61	
5900.00	5823.70	5837.44	157.75	13.22	12.69	383.26	356.99	14.59	
6000.00	5917.07	5932.25	157.75	13.49	12.90	415.06	388.34	15.54	
6100.00	6010.44	6027.06	157.75	13.77	13.12	446.85	419.69	16.45	
6200.00	6103.81	6121.87	157.75	14.04	13.33	478.65	451.04	17.34	
6300.00	6197.18	6216.68	157.76	14.33	13.54	510.44	482.38	18.19	
6400.00	6290.56	6311.50	157.76	14.61	13.76	542.23	513.73	19.02	
6500.00	6383.93	6406.31	157.76	14.90	13.97	574.03	545.07	19.82	
6600.00	6477.30	6501.12	157.76	15.20	14.19	605.82	576.41	20.59	
6700.00	6570.67	6595.93	157.76	15.49	14.41	637.62	607.74	21.34	
6800.00	6664.04	6690.74	157.76	15.79	14.63	669.41	639.07	22.07	
6900.00	6757.41	6785.55	157.76	16.09	14.84	701.21	670.41	22.77	
7000.00	6850.78	6880.36	157.76	16.40	15.06	733.00	701.74	23.44	
7100.00	6944.15	6975.17	157.76	16.71	15.29	764.80	733.06	24.10	
7200.00	7037.52	7069.98	157.76	17.02	15.51	796.59	764.39	24.74	
7300.00	7130.89	7164.79	157.76	17.33	15.73	828.39	795.71	25.36	
7400.00	7224.26	7259.60	157.76	17.64	15.95	860.18	827.04	25.95	
7500.00	7317.63	7354.42	157.76	17.96	16.17	891.97	858.36	26.53	
7600.00	7411.00	7449.23	157.76	18.28	16.40	923.77	889.68	27.10	
7700.00	7504.37	7544.04	157.76	18.59	16.62	955.56	920.99	27.64	
7800.00	7597.74	7638.85	157.76	18.92	16.85	987.36	952.31	28.17	
7900.00	7691.11	7733.66	157.76	19.24	17.07	1019.15	983.63	28.69	
8000.00	7784.48	7828.47	157.76	19.56	17.30	1050.95	1014.94	29.19	
8100.00	7877.73	7923.15	197.48	19.89	17.52	1082.77	1046.30	29.69	
8200.00	7968.60	8015.43	241.01	20.21	17.74	1114.44	1077.58	30.24	
8300.00	8056.48	8104.61	255.69	20.45	17.98	1145.70	1108.55	30.84	
8400.00	8153.80	8204.01	262.45	20.25	18.24	1175.94	1138.55	31.45	
8500.00	8259.51	8317.61	266.11	19.21	18.42	1203.78	1166.09	31.94	
8600.00	8368.58	8451.21	267.99	18.61	17.22	1227.59	1189.64	32.35	
8700.00	8465.70	8609.79	268.71	18.87	14.33	1245.30	1206.87	32.40	
8800.00	8521.24	8791.57	268.85	19.42	12.17	1254.68	1215.52	32.04	
8900.00	8525.00	8920.23	268.86	20.03	12.26	1256.63	1216.45	31.28	
9000.00	8525.00	9020.22	268.86	20.73	12.50	1258.11	1216.73	30.40	
9100.00	8525.00	9120.21	268.86	21.58	12.78	1259.60	1216.71	29.37	
9200.00	8525.00	9220.20	268.86	22.49	13.10	1261.08	1216.64	28.38	
9300.00	8525.00	9320.19	268.87	23.54	13.46	1262.57	1216.18	27.22	
9400.00	8525.00	9420.18	268.87	24.61	13.85	1264.05	1215.73	26.16	
9500.00	8525.00	9520.17	268.87	25.88	14.26	1265.54	1214.98	25.03	
9600.00	8525.00	9620.16	268.87	27.15	14.70	1267.02	1214.10	23.94	
9700.00	8525.00	9720.15	268.87	28.43	15.17	1268.51	1213.20	22.94	
9800.00	8525.00	9820.13	268.87	29.80	15.65	1269.99	1212.20	21.98	
9900.00	8525.00	9920.12	268.87	31.28	16.16	1271.48	1211.06	21.05	
10000.00	8525.00	10020.11	268.87	32.78	16.67	1272.96	1209.78	20.15	
10100.00	8525.00	10120.10	268.88	34.29	17.19	1274.44	1208.43	19.31	
10200.00	8525.00	10220.09	268.88	35.83	17.73	1275.93	1207.05	18.52	
10300.00	8525.00	10320.08	268.88	37.37	18.35	1277.41	1205.62	17.79	
10400.00	8525.00	10420.07	268.88	38.92	18.94	1278.90	1204.31	17.15	
10500.00	8525.00	10520.06	268.88	40.35	19.58	1280.38	1202.93	16.53	
10600.00	8525.00	10620.05	268.88	42.09	20.10	1281.87	1201.50	15.95	
10700.00	8525.00	10720.04	268.88	43.72	20.69	1283.35	1199.90	15.38	
10800.00	8525.00	10820.02	268.89	45.36	21.32	1284.84	1198.32	14.85	
10900.00	8525.00	10920.01	268.89	46.99	21.92	1286.32	1196.70	14.35	

Secondary Well : Cotton Draw 33 Fed 2H (p) (TVD Relative to Drill Floor (Primary) ; All Azimuth Relative to GRID NORTH)									
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	CC (US ft)	ES (US ft)	SF	Risk
11000.00	8525.00	11020.00	268.89	48.69	22.53	1287.81	1195.06	13.89	
11100.00	8525.00	11119.99	268.89	50.40	23.14	1289.29	1193.40	13.45	
11200.00	8525.00	11219.98	268.89	52.12	23.77	1290.78	1191.73	13.03	
11300.00	8525.00	11319.97	268.89	53.84	24.43	1292.26	1190.05	12.64	
11400.00	8525.00	11419.96	268.89	55.57	25.09	1293.75	1188.30	12.27	
11500.00	8525.00	11519.95	268.89	57.30	25.75	1295.23	1186.55	11.92	
11600.00	8525.00	11619.94	268.90	59.04	26.41	1296.72	1184.78	11.58	
11700.00	8525.00	11719.92	268.90	60.78	27.08	1298.20	1183.01	11.27	
11800.00	8525.00	11819.91	268.90	62.53	27.75	1299.69	1181.22	10.97	
11900.00	8525.00	11919.90	268.90	64.29	28.43	1301.17	1179.43	10.69	
12000.00	8525.00	12019.89	268.90	66.04	29.10	1302.66	1177.63	10.42	
12100.00	8525.00	12119.88	268.90	67.80	29.78	1304.14	1175.82	10.16	
12200.00	8525.00	12219.87	268.90	69.57	30.46	1305.63	1174.01	9.92	
12300.00	8525.00	12319.86	268.90	71.33	31.14	1307.11	1172.19	9.69	
12400.00	8525.00	12419.85	268.91	73.10	31.83	1308.59	1170.36	9.47	
12500.00	8525.00	12519.84	268.91	74.87	32.51	1310.08	1168.53	9.26	
12600.00	8525.00	12619.83	268.91	76.65	33.20	1311.56	1166.69	9.05	
12700.00	8525.00	12719.81	268.91	78.43	33.89	1313.05	1164.85	8.86	
12800.00	8525.00	12819.80	268.91	80.21	34.58	1314.53	1163.00	8.67	
12900.00	8525.00	12919.79	268.91	81.99	35.28	1316.02	1161.15	8.50	
13000.00	8525.00	13019.78	268.91	83.77	35.97	1317.50	1159.29	8.33	
13100.00	8525.00	13119.77	268.91	85.56	36.67	1318.99	1157.43	8.16	
13183.56	8525.00	13203.32	268.91	87.05	37.25	1320.23	1155.88	8.03	

Weatherford®

Weatherford Drilling Services

GeoDec v5.03

Report Date:	May 08, 2014
Job Number:	
Customer:	Devon Energy
Well Name:	Cotton Draw 33 Fed 1H
API Number:	
Rig Name:	
Location:	Lea County, NM
Block:	
Engineer:	RWJ

US State Plane 1983	Geodetic Latitude / Longitude
System: New Mexico Eastern Zone	System: Latitude / Longitude
Projection: Transverse Mercator/Gauss Kruger	Projection: Geodetic Latitude and Longitude
Datum: North American Datum 1983	Datum: North American Datum 1983
Ellipsoid: GRS 1980	Ellipsoid: GRS 1980
North/South 429942.170 USFT	Latitude 32.1803219 DEG
East/West 742240.580 USFT	Longitude -103.6839659 DEG
Grid Convergence: .35°	
Total Correction: +7.02°	

Geodetic Location WGS84	Elevation =	0.0 Meters
Latitude =	32.18032° N	32° 10 min 49.159 sec
Longitude =	103.68397° W	103° 41 min 2.277 sec

Magnetic Declination =	7.37°	[True North Offset]	
Local Gravity =	.9988 g	CheckSum =	6496
Local Field Strength =	48269 nT	Magnetic Vector X =	23911 nT
Magnetic Dip =	60.03°	Magnetic Vector Y =	3094 nT
Magnetic Model =	bggm2013	Magnetic Vector Z =	41816 nT
Spud Date =	Jul 15, 2014	Magnetic Vector H =	24110 nT

Signed:_____ Date:_____

devon

Cotton Draw 33 Fed 1H
Lea Co, NM

Weatherford

Plan Data for Cotton Draw 33 Fed 1H

Plan Point Information:
Dogleg Severity Unit: °/100.00ft Position offsets from Slot centre

MD (USft)	Inc (°)	Az (°)	TVD (USft)	+N/-S (USft)	+E/-W (USft)	Northing (USft)	Easting (USft)	VSec (USft)	DLS (DLSU)
0.00	0.00	0.00	0.00	0.00	0.00	429942.17	742240.58	0.00	0.00
4600.00	0.00	0.00	4600.00	0.00	0.00	429942.17	742240.58	0.00	0.00
5099.93	10.00	291.37	5097.40	15.86	-48.52	429958.03	742200.06	-15.86	2.00
8046.32	10.00	291.37	7999.03	262.29	-516.90	430144.46	741723.68	-202.29	0.00
8826.55	90.00	180.00	8500.00	-274.22	-599.15	429667.95	741641.43	274.22	12.00
13183.56	90.00	180.00	8500.00	-4631.23	-599.15	425310.94	741641.43	4631.23	0.00

Plan Data for Cotton Draw 33 Fed 1H

Slot: Cotton Draw 33 Fed 1H
Position:
Offset is from Site centre

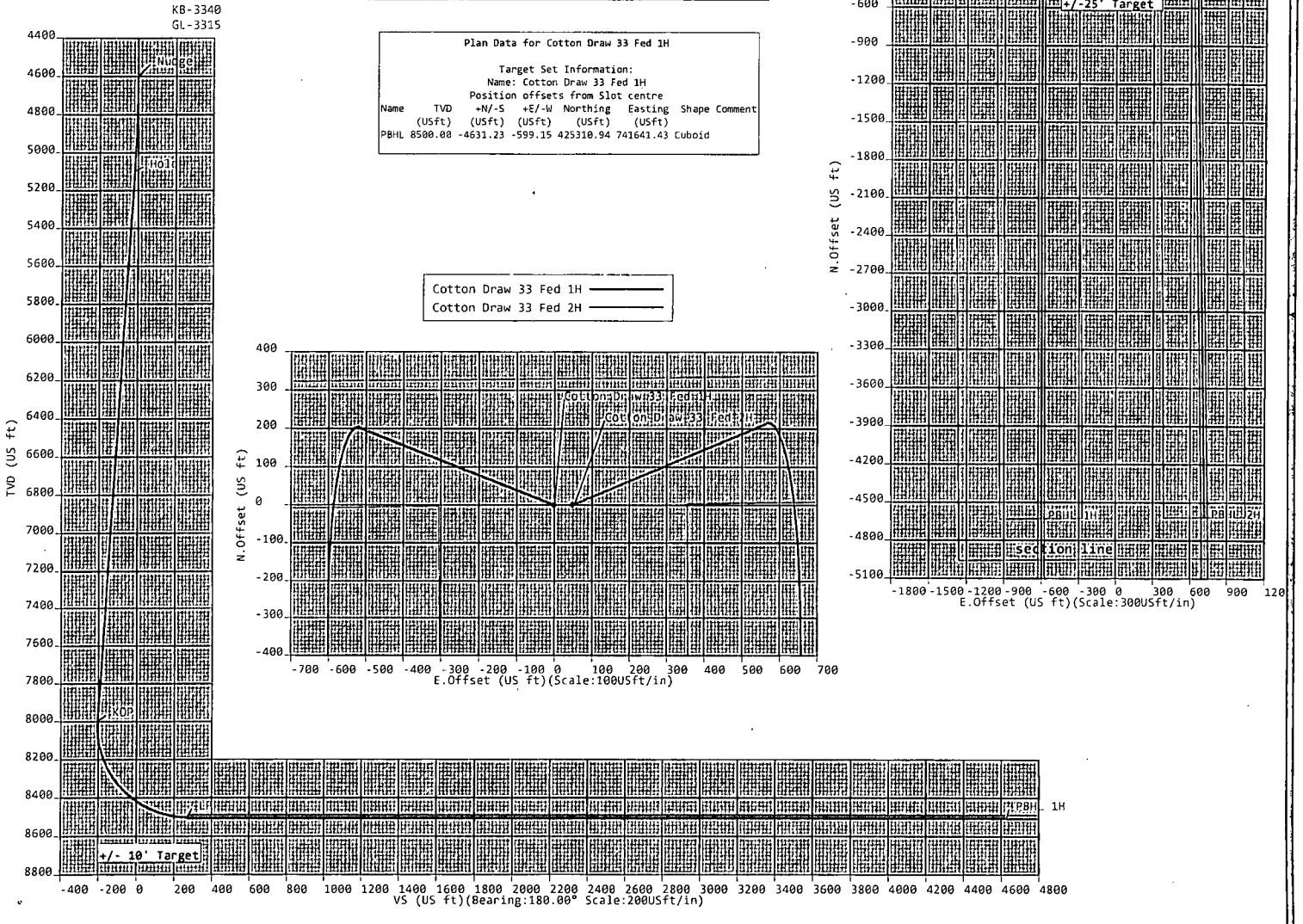
+N/-S: 0.00USft	Northing: 429942.17USft	Latitude:	32°10'49.2"
+E/-W: 0.00USft	Easting: 742240.58USft	Longitude:	-103°41'2.3"

Elevation Above VRD: 3315.00USft

Plan Data for Cotton Draw 33 Fed 1H

Target Set Information:
Name: Cotton Draw 33 Fed 1H
Position offsets from Slot centre

Name	TVD (USft)	+N/-S (USft)	+E/-W (USft)	Northing (USft)	Easting (USft)	Shape	Comment
PBHL	8500.00	-4631.23	-599.15	425310.94	741641.43	Cuboid	



Sign Off: Russell Joyner

String	Number of sx	Weight lbs/gal	Water Volume g/sx	Yield cf/sx	Stage; Lead/Tail	Slurry Description
5-1/2" Production Casing Two Stage	420	12.5	10.86	1.96	Lead	(65:35) Class H Cement: Poz (Fly Ash) + 6% BWOC Bentonite + 0.25% BWOC HR-601 + 0.125 lbs/sack Poly-E-Flake + 74.1 % Fresh Water
	1360	14.5	5.31	1.21	Tail	(50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.25% bwoc CFR-3 + 0.2% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water
	DV Tool @ 5,500ft					
	100	11	14.94	2.66	Lead	Tuned Light® Cement + 0.125 lb/sk Pol-E-Flake + 76.5% Fresh Water
	120	14.8	6.32	1.33	Tail	Class C Cement + 0.2% HR-800 + 63.5% Fresh Water

TOC

5-1/2" Production 4150ft

Notes:

- Production cement volumes based on at least 25% excess.
- Actual cement volumes will be adjusted based on fluid caliper and/or caliper log data.
- If severe lost circulation is encountered while drilling the production wellbore, a DV tool will be installed a minimum of 50' below the previous casing shoe and of 200' above the current shoe. If the DV tool has to be moved, the cement volumes will be adjusted proportionately.

CONDITIONS OF APPROVAL

SUNDRY dated 5/14/2014

OPERATOR'S NAME:	DEVON ENERGY
LEASE NO.:	NM113964
WELL NAME & NO.:	1H-COTTON DRAW 33 FED 30-025-41263
SURFACE HOLE FOOTAGE:	330' FNL & 1295' FWL
BOTTOM HOLE FOOTAGE	330' FSL & 660' FWL
LOCATION:	Section 33, T. 24 S., R 32 E., NMPM
COUNTY:	Lea County, New Mexico

The Original COA still stand with the following drill modifications:

Possibility of water and brine flows in the Salado, Castile, Delaware and Bone Springs Formations.
Possibility of lost circulation in the Delaware and Bone Springs.

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

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

Operator has proposed DV tool at depth of 5,000', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation or approved top of cement on the next stage.

b. Second stage above DV tool:

☒ Cement should tie-back at least **500** feet into previous casing string. Operator shall provide method of verification. **Additional cement will be required as excess calculates to 23%.**

EGF 061314