

Submit 1 Copy To Appropriate District
Office
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV - (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised August 1, 2011

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-015-41362
1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐		5. Indicate Type of Lease STATE ☒ FEE ☐
2. Name of Operator Devon Energy Production Company, L.P.		6. State Oil & Gas Lease No.
3. Address of Operator 333 W. Sheridan Ave, Oklahoma City, Oklahoma 73102 (405) 552-7848		7. Lease Name or Unit Agreement Name IRRITABLE 22 STATE COM
4. Well Location Unit Letter <u>D</u> : <u>330</u> feet from the <u>N</u> line and <u>660</u> feet from the <u>W</u> line Section <u>22</u> Township <u>25S</u> Range <u>27E</u> NMPM Eddy County New Mexico		8. Well Number <u>4H</u>
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3117' GR		9. OGRID Number 6137
		10. Pool name or Wildcat Hay Hollow; Bone Spring, North (30216)

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
DOWNHOLE COMMINGLE ☐			
OTHER: APD Extension ☒		OTHER: ☐	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

The approved APD for the subject well will expire 05/15/2016. Devon Energy Production Company, L.P. respectfully requests that the APD approval be extended for one year through 05/15/2017. ✓

Attached: Revised Drilling Plan and Directional Plan.

NM OIL CONSERVATION
ARTESIA DISTRICT
MAY 16 2016

Application extended for one year.
Additional approvals must be
accompanied by a current C102 and
current Drilling Program

RECEIVED

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Linda Good TITLE Regulatory Compliance Specialist DATE 5/16/2016

Type or print name Linda Good E-mail address: linda.good@dvn.com PHONE: (405) 552-6558
For State Use Only

APPROVED BY Karen Sharp TITLE Bus Ops Spec-Adv DATE 5/16/16
Conditions of Approval (if any):

ARTESIA DISTRICT

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

RECEIVED

☐ AMENDED REPORTDistrict I

1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

Dispositif

811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III

1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-41362	² Pool Code 30216	³ Pool Name Hay Hollow; Bone Spring, North
⁴ Property Code 39904	⁵ Property Name IRRITABLE 22 STATE COM	⁶ Well Number 4H
⁷ OGRID No. 6137	⁸ Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	⁹ Elevation 3117.3

¹ⁿ 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	22	25 S	27 E		330	NORTH	660	WEST	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
M	22	25 S	27 E		330	SOUTH	660	WEST	EDDY

¹² Dedicated Acres 160.00	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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.

S89°25'41"E 2660.40 FT	S89°24'56"E 2660.55 FT	S89°24'56"E 2660.55 FT	S89°24'56"E 2660.55 FT
NW CORNER SEC. 22 LAT. = 32.1229110°N LONG. = 104.1866355°W NMSP EAST (FT) N = 408481.88 E = 586751.32 SURFACE LOCATION	N O CORNER SEC. 22 LAT. = 32.1228278°N LONG. = 104.1780424°W NMSP EAST (FT) N = 408455.42 E = 589411.58	NE CORNER SEC. 22 LAT. = 32.1227423°N LONG. = 104.1694488°W NMSP EAST (FT) N = 408428.28 E = 592072.00	NW CORNER SEC. 22 LAT. = 32.1156320°N LONG. = 104.1865238°W NMSP EAST (FT) N = 405841.36 E = 586789.51
IRRITABLE "22" STATE COM #4H ELEV. = 3117.3' LAT. = 32.1219833°N (NAD83) LONG. = 104.1844895°W NMSP EAST (FT) N = 408145.41 E = 587416.13			
NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83) IN DEGREES MINUTES DECIMAL SECONDS FORMAT. BASIS OF BEARING IS NEW MEXICO STATE PLANE EAST (NAD83) COORDINATES MODIFIED TO SURFACE.			
SW CORNER SEC. 22 LAT. = 32.1083889°N LONG. = 104.1864150°W NMSP EAST (FT) N = 403199.29 E = 586826.78 BOTTOM OF HOLE	S O CORNER SEC. 22 LAT. = 32.1082687°N LONG. = 104.1778628°W NMSP EAST (FT) N = 403159.26 E = 589474.83	SE CORNER SEC. 22 LAT. = 32.1081486°N LONG. = 104.1693133°W NMSP EAST (FT) N = 403119.52 E = 592122.02	E O CORNER SEC. 22 LAT. = 32.1154478°N LONG. = 104.1693795°W NMSP EAST (FT) N = 405774.75 E = 592097.48

N89°08'02"W 2648.35 FT

N89°08'24"W 2647.49 FT

SURVEYOR 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 an undivided 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.

Linda Good 5/16/2016
 Signature Date

Linda Good
 Printed Name
 linda.good@dvn.com
 E-mail Address

SURVEYOR CERTIFICATION

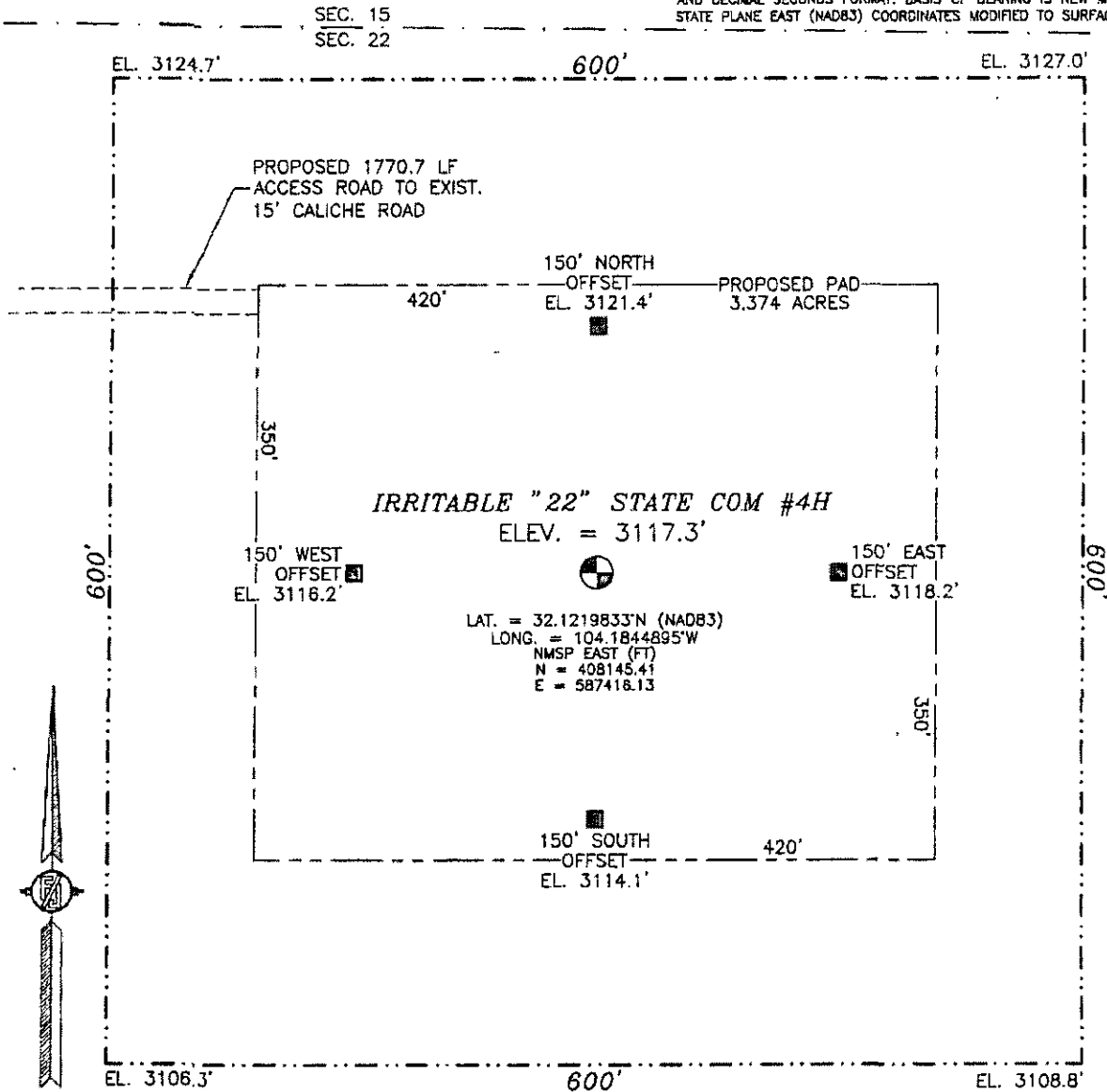
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

MARCH 14, 2013
 Date of Survey

 Signature and Seal of Surveyor
 Certificate Number: PL 100426 TALLAMULLO, PLS 12797
 SURVEY NO. 1622

SECTION 22, TOWNSHIP 25 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY 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.



0 10 50 100 200

SCALE 1" = 100'

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF CR 720 (BLACK RIVER VILLAGE) AND CR 774 (ROADRUNNER) GO SOUTHWEST ON CR 774 FOR APPROX. 8.8 MILES. GO EAST ON CALICHE ROAD FOR APPROX. 0.1 OF A MILE (ACROSS CATTLE GUARD). FOLLOW ROAD 1/4 MILE EAST APPROX. 0.35 OF A MILE TO NORTHWEST CORNER PAD. LOCATION IS APPROX. 287 FT. SOUTHEAST.

DEVON ENERGY PRODUCTION COMPANY, L.P.

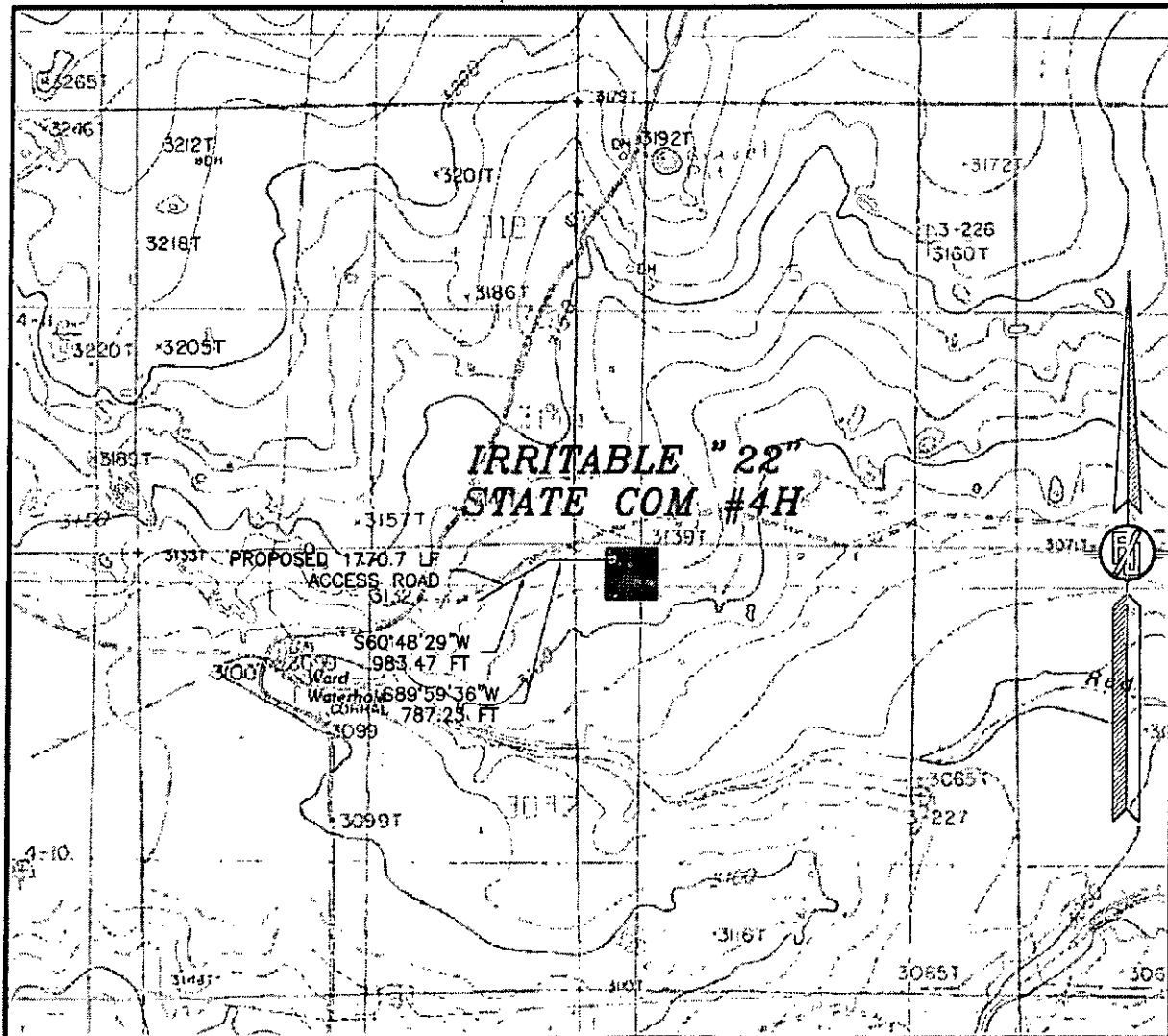
IRRITABLE "22" STATE COM #4H
LOCATED 330 FT. FROM THE NORTH LINE
AND 660 FT. FROM THE WEST LINE OF
SECTION 22, TOWNSHIP 25 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

MARCH 19, 2013

SURVEY NO. 1622

MADRON SURVEYING, INC. 501 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 22, TOWNSHIP 25 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LOCATION VERIFICATION MAP



USGS QUAD MAP:
COTTONWOOD HILLS

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.
IRRITABLE "22" STATE COM #4H
LOCATED 330 FT. FROM THE NORTH LINE
AND 660 FT. FROM THE WEST LINE OF
SECTION 22, TOWNSHIP 25 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

MARCH 19, 2013

SURVEY NO. 1622

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

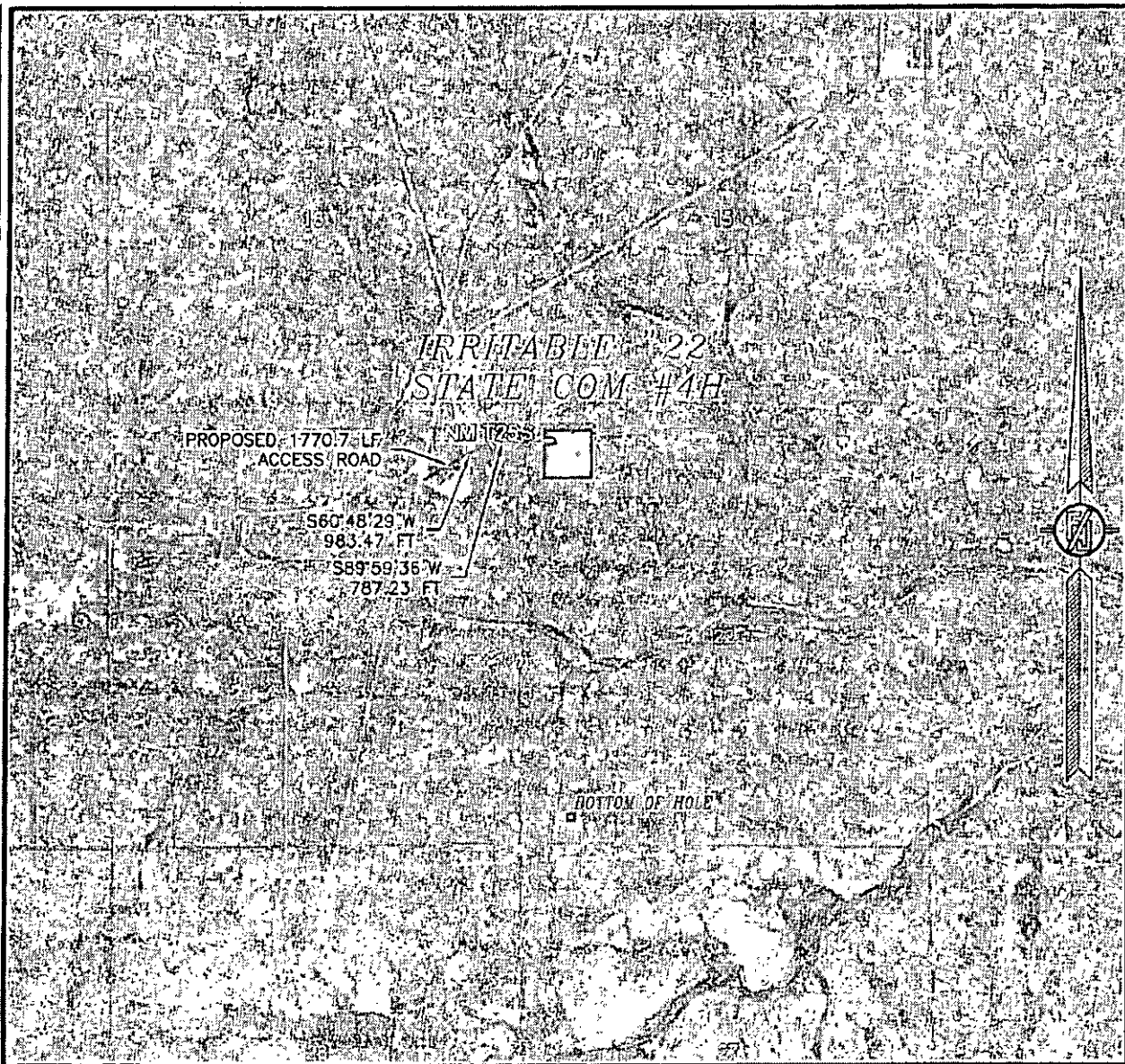
IRRITABLE "22"
STATE COM #4H

DEVON ENERGY PRODUCTION COMPANY, L.P.
IRRITABLE "22" STATE COM #4H
LOCATED 330 FT. FROM THE NORTH LINE
AND 660 FT. FROM THE WEST LINE OF
SECTION 22, TOWNSHIP 25 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

SURVEY NO. 1622

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

SECTION 22, TOWNSHIP 25 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
JULY 2011

DEVON ENERGY PRODUCTION COMPANY, L.P.
IRRITABLE "22" STATE COM #4H
LOCATED 330 FT. FROM THE NORTH LINE
AND 660 FT. FROM THE WEST LINE OF
SECTION 22, TOWNSHIP 25 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

MARCH 19, 2013

SURVEY NO. 1622

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

Irritable 22 State Com 4H – APD DRILLING PLAN
GRG 05-11-2016

Casing Program

<u>Hole Size</u>	<u>Hole Interval</u>	<u>OD Csg</u>	<u>Casing Interval</u>	<u>Weight</u>	<u>Collar</u>	<u>Grade</u>
17-1/2"	0 – 650'	13-3/8"	0 – 650'	48#	STC	H-40
12-1/4"	650 – 2,200'	9-5/8"	0 – 2,200'	36#	LTC	J-55
8-3/4"	2,200 – 12,322'	5-1/2"	0 – 12,322'	17#	LTC	P-110

Note: only new casing will be utilized

MAXIMUM LATERAL TVD 7,580'

Design Factors:

<u>Casing Size</u>	<u>Collapse Design Factor</u>	<u>Burst Design Factor</u>	<u>Tension Design Factor</u>
13-3/8", 48#, H-40, ST&C	2.53	5.69	17.34
9-5/8", 36#, J-55 LTC	1.50	2.62	5.35
5-1/2" 17# P-110 LTC	2.37	2.94	3.46

Mud Program:

<u>Depth</u>	<u>Mud Wt.</u>	<u>Visc.</u>	<u>Fluid Loss</u>	<u>Type System</u>
0 – 650'	8.4 – 9.0	30 – 34	N/C	FW
650' – 2,200'	9.8 – 11.0	28 – 32	N/C	Brine
2,200' – 12,322'	8.6 – 9.2	28 – 32	N/C-12	Cut Brine

Pressure Control Equipment:

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
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BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12-1/4"	13-5/8"	3M	Annular	x	50% of working pressure 3M
			Blind Ram		
			Pipe Ram		
			Double Ram	x	
			Other*		
8-3/4"	13-5/8"	3M	Annular	x	50% testing pressure 3M
			Blind Ram		
			Pipe Ram		
			Double Ram	x	
			Other*		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
Y	Are anchors required by manufacturer?
Y	A multi-bowl 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 the option of 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 vendor's representatives. - If the welding is performed by a third party, the vendor's representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal. - Vendor representative will install the test plug for the initial BOP test. - Vendor 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.
- Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating.
- Devon will test the casing to 0.22 psi/ft or 1500 psi, whichever is greater, as per Onshore Order #2.

After running the 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 3M will be installed on the wellhead system and will undergo a 250 psi low pressure test followed by a 3,000 psi high pressure test. The 3,000 psi high and 250 psi low test will cover testing requirements a maximum of 30 days, as per Onshore Order #2. If the well is not complete within 30 days of this BOP test, another full BOP test will be conducted, as per Onshore Order #2.

After running the 9-5/8" intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 3M will already be installed on the wellhead.

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 3,000 psi WP.

Devon requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line). The line will be kept as straight as possible with minimal turns.

See attached schematic.

Cementing Program (cement volumes based on 100% excess Surface, 50% excess Intermediate and at least 25% excess Production.)

13-3/8" Surface 650 ft

TOC @ surface

Tail: 670 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Poly-E-Flake + 63.1% Fresh Water, 14.8 ppg

Yield: 1.35 cf/sk

9 5/8" Intermediate 2,200ft **Lead:** 340 sacks (65:35) Class C Cement:Poz (Fly Ash): + 5% bwow Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 6% bwoc Bentonite + 70.9% Fresh Water, 12.9 ppg

Yield: 1.85 cf/sk

TOC @ surface

1000 ft Tail: 360 sacks Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Water, 14.8 ppg

Yield: 1.33 c

5-1/2" Production 12,322 ft **Lead:** 900 sacks (65:35) Class H Cement:Poz (Fly Ash) + 6% bwoc Bentonite + 0.125 lbs/sack Poly-E-Flake + 0.1% bwoc HR-601 + 74.1% Fresh Water, 12.5 ppg

Yield: 1.95 cf/sk

5000 ft Tail: 1300 sacks (50:50) Class H Cement:Poz (Fly Ash) + 1 lb/sk Sodium Chloride + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.1% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water, 14.5 ppg

Yield: 1.22 cf/sk

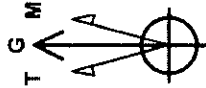
TOC for All Strings:

Surface:	0
Intermediate:	0
Production:	2000 ft

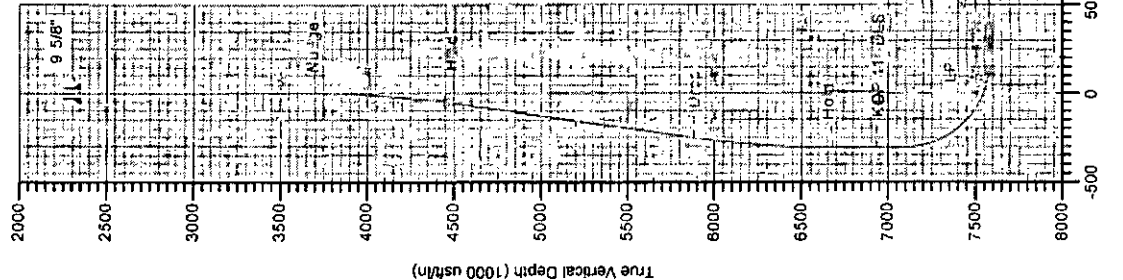
ACTUAL CEMENT VOLUMES WILL BE ADJUSTED BASED ON FLUID CALIPER AND CALIPER LOG DATA.



Project: Eddy County, NM (NAD-83)
Site: Irritable 22 State Com
Well: 4H
Wellbore: OH
Design: Plan #1



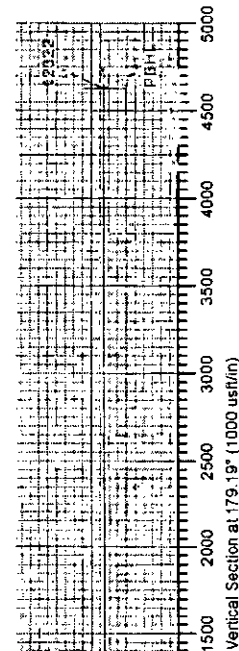
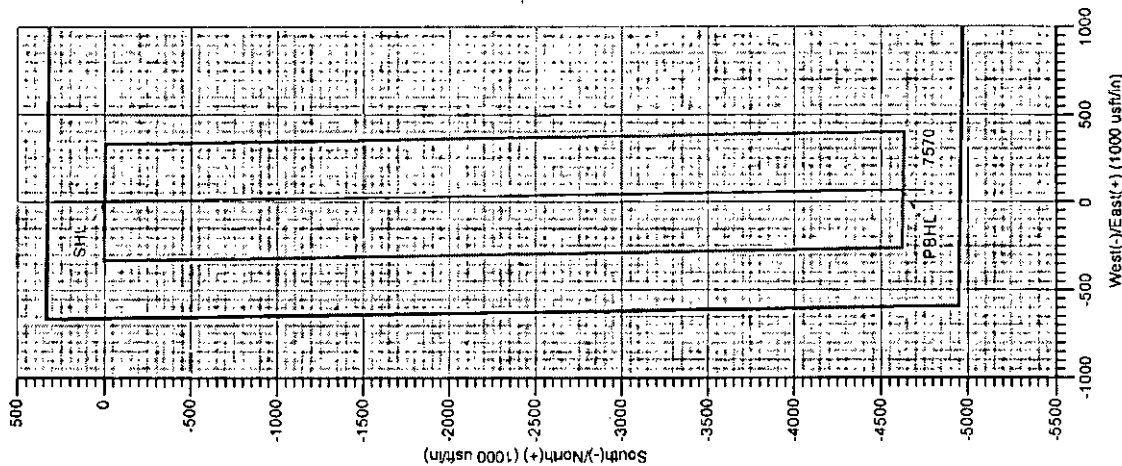
Azimuths to Grid North
True North: -0.08°
Magnetic North: 7.49°
Magnetic Field
Strength: 48213.7 snT
Dip Angle: 59.92°
Date: 11/23/2015
Model: HDGM



DESIGN TARGET DETAILS				
Name	TVD	+N/-S	+E/-W	Nothing
SHL (I22SC 4H)	0.00	0.00	0.00	408145.41
PBHL (I22SC 4H)	7570.00	-4626.20	65.77	403519.21

SECTION DETAILS				
MD	Inc	Azi	TVD	+N/-S
0.00	0.00	0.00	0.00	0.00
3700.00	0.00	0.00	3700.00	0.00
4500.00	8.00	0.00	4497.40	55.76
5900.00	8.00	0.00	5883.78	250.60
6700.00	0.00	0.00	6681.18	306.36
7088.70	0.00	0.00	7088.70	306.36
7288.70	20.00	179.24	7265.84	271.81
7873.11	90.13	179.24	7580.00	-177.89
12321.82	90.13	179.24	7570.00	-4626.20

PROJECT DETAILS: Eddy County, NM (NAD-83)				
Geodetic System: US State Plane 1983				
Datum: North American Datum 1983				
Ellipsoid: GRS 1980				
Zone: New Mexico Eastern Zone				



DEVON ENERGY

Eddy County, NM (NAD-83)

Irritable 22 State Com

4H

OH

Plan: Plan #1

Standard Planning Report

12 May, 2016

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 4H
Company:	DEVON ENERGY	TVD Reference:	3117.3' GE + 27' KB @ 3144.30usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	3117.3' GE + 27' KB @ 3144.30usft
Site:	Irritable 22 State Com	North Reference:	Grid
Well:	4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project:	Eddy County, NM (NAD-83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:	Irritable 22 State Com		
Site Position:		Northing:	408,145.41 usft
From:	Map	Easting:	587,416.13 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 7' 19.140 N
		Longitude:	104° 11' 4.162 W
		Grid Convergence:	0.08 °

Well:	4H					
Well Position	+N-S	0.00 usft	Northing:	408,145.41 usft	Latitude:	32° 7' 19.140 N
	+E-W	0.00 usft	Easting:	587,416.13 usft	Longitude:	104° 11' 4.162 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	3,114.30 usft	Ground Level:	3,117.30 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	HDGM	11/23/2015	7.57	59.92	48,214

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	0.00	0.00	0.00	179.19

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,500.00	8.00	0.00	4,497.40	55.78	0.00	1.00	1.00	0.00	0.00	
5,900.00	8.00	0.00	5,883.78	250.60	0.00	0.00	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,681.18	306.36	0.00	1.00	-1.00	0.00	180.00	
7,088.70	0.00	0.00	7,069.88	306.36	0.00	0.00	0.00	0.00	0.00	
7,288.70	20.00	179.24	7,265.84	271.81	0.46	10.00	10.00	0.00	179.24	
7,873.11	90.13	179.24	7,580.00	-177.89	6.45	12.00	12.00	0.00	0.00	
12,321.82	90.13	179.24	7,570.00	-4,626.20	65.77	0.00	0.00	0.00	0.00	PBHL (I22SC 4H)

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 4H
Company:	DEVON ENERGY	TVD Reference:	3117.3' GE + 27' KB @ 3144.30usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	3117.3' GE + 27' KB @ 3144.30usft
Site:	Irritable 22 State Com	North Reference:	Grid
Well:	4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler - SHL (I22SC 4H)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Salt									
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,182.00	0.00	0.00	2,182.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,233.00	0.00	0.00	2,233.00	0.00	0.00	0.00	0.00	0.00	0.00
Bell Canyon									
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,350.00	0.00	0.00	2,350.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,030.00	0.00	0.00	3,030.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon									
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
Nudge									
3,800.00	1.00	0.00	3,800.00	0.87	0.00	-0.87	1.00	1.00	0.00
3,900.00	2.00	0.00	3,899.96	3.49	0.00	-3.49	1.00	1.00	0.00
4,000.00	3.00	0.00	3,999.86	7.85	0.00	-7.85	1.00	1.00	0.00
4,100.00	4.00	0.00	4,099.68	13.96	0.00	-13.96	1.00	1.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Single User Db
 Company: DEVON ENERGY
 Project: Eddy County, NM (NAD-83)
 Site: Irritable 22 State Com
 Well: 4H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Well 4H

3117.3' GE + 27' KB @ 3144.30usft

3117.3' GE + 27' KB @ 3144.30usft

Grid

Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,113.36	4.13	0.00	4,113.00	14.90	0.00	-14.90	1.00	1.00	0.00
Brushy Canyon									
4,200.00	5.00	0.00	4,199.37	21.80	0.00	-21.80	1.00	1.00	0.00
4,300.00	6.00	0.00	4,298.90	31.39	0.00	-31.38	1.00	1.00	0.00
4,400.00	7.00	0.00	4,398.26	42.71	0.00	-42.70	1.00	1.00	0.00
4,500.00	8.00	0.00	4,497.40	55.76	0.00	-55.75	1.00	1.00	0.00
Hold									
4,600.00	8.00	0.00	4,596.43	69.68	0.00	-69.67	0.00	0.00	0.00
4,700.00	8.00	0.00	4,695.46	83.59	0.00	-83.59	0.00	0.00	0.00
4,800.00	8.00	0.00	4,794.48	97.51	0.00	-97.50	0.00	0.00	0.00
4,900.00	8.00	0.00	4,893.51	111.43	0.00	-111.42	0.00	0.00	0.00
5,000.00	8.00	0.00	4,992.54	125.35	0.00	-125.33	0.00	0.00	0.00
5,100.00	8.00	0.00	5,091.56	139.26	0.00	-139.25	0.00	0.00	0.00
5,200.00	8.00	0.00	5,190.59	153.18	0.00	-153.17	0.00	0.00	0.00
5,300.00	8.00	0.00	5,289.62	167.10	0.00	-167.08	0.00	0.00	0.00
5,400.00	8.00	0.00	5,388.64	181.02	0.00	-181.00	0.00	0.00	0.00
5,500.00	8.00	0.00	5,487.67	194.93	0.00	-194.91	0.00	0.00	0.00
5,600.00	8.00	0.00	5,586.70	208.85	0.00	-208.83	0.00	0.00	0.00
5,700.00	8.00	0.00	5,685.72	222.77	0.00	-222.75	0.00	0.00	0.00
5,800.00	8.00	0.00	5,784.75	236.68	0.00	-236.66	0.00	0.00	0.00
5,800.25	8.00	0.00	5,785.00	236.72	0.00	-236.70	0.00	0.00	0.00
Bone Spring									
5,900.00	8.00	0.00	5,883.78	250.80	0.00	-250.58	0.00	0.00	0.00
Drop									
6,000.00	7.00	0.00	5,982.92	263.65	0.00	-263.63	1.00	-1.00	0.00
6,100.00	6.00	0.00	6,082.28	274.97	0.00	-274.95	1.00	-1.00	0.00
6,200.00	5.00	0.00	6,181.82	284.56	0.00	-284.53	1.00	-1.00	0.00
6,300.00	4.00	0.00	6,281.51	292.41	0.00	-292.38	1.00	-1.00	0.00
6,400.00	3.00	0.00	6,381.32	298.51	0.00	-298.48	1.00	-1.00	0.00
6,500.00	2.00	0.00	6,481.22	302.87	0.00	-302.84	1.00	-1.00	0.00
6,600.00	1.00	0.00	6,581.19	305.49	0.00	-305.46	1.00	-1.00	0.00
6,700.00	0.00	0.00	6,681.18	306.36	0.00	-306.33	1.00	-1.00	0.00
Hold									
6,710.82	0.00	0.00	6,692.00	306.36	0.00	-306.33	0.00	0.00	0.00
1st Bone Spring									
6,800.00	0.00	0.00	6,781.18	306.36	0.00	-306.33	0.00	0.00	0.00
6,900.00	0.00	0.00	6,881.18	306.36	0.00	-306.33	0.00	0.00	0.00
6,953.03	0.00	0.00	6,934.21	306.36	0.00	-306.33	0.00	0.00	0.00
KOP 11" DLS									
7,000.00	0.00	0.00	6,981.18	306.36	0.00	-306.33	0.00	0.00	0.00
7,088.70	0.00	0.00	7,069.88	306.36	0.00	-306.33	0.00	0.00	0.00
7,100.00	1.13	179.24	7,081.18	306.25	0.00	-306.22	10.00	10.00	0.00
7,150.00	6.13	179.24	7,131.06	303.09	0.04	-303.05	10.00	10.00	0.00
7,200.00	11.13	179.24	7,180.48	295.59	0.14	-295.55	10.00	10.00	0.00
7,250.00	16.13	179.24	7,229.06	283.81	0.30	-283.78	10.00	10.00	0.00
7,288.70	20.00	179.24	7,265.84	271.81	0.46	-271.78	10.00	10.00	0.00
7,300.00	21.36	179.24	7,276.42	267.82	0.51	-267.79	12.00	12.00	0.00
7,325.00	24.36	179.24	7,299.45	258.11	0.64	-258.08	12.00	12.00	0.00
7,350.00	27.36	179.24	7,321.95	247.21	0.78	-247.18	12.00	12.00	0.00
7,375.00	30.36	179.24	7,343.84	235.15	0.95	-235.11	12.00	12.00	0.00
7,400.00	33.36	179.24	7,365.07	221.96	1.12	-221.92	12.00	12.00	0.00
7,425.00	36.36	179.24	7,385.58	207.67	1.31	-207.63	12.00	12.00	0.00
7,450.00	39.36	179.24	7,405.32	192.33	1.51	-192.29	12.00	12.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 4H
Company:	DEVON ENERGY	TVD Reference:	3117.3' GE + 27' KB @ 3144.30usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	3117.3' GE + 27' KB @ 3144.30usft
Site:	Irritable 22 State Com	North Reference:	Grid
Well:	4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
7,475.00	42.36	179.24	7,424.23	175.98	1.73	-175.84	12.00	12.00	0.00	
7,491.19	44.30	179.24	7,436.00	164.88	1.88	-164.83	12.00	12.00	0.00	
2nd Bone Spring										
7,500.00	45.36	179.24	7,442.25	158.66	1.96	-158.62	12.00	12.00	0.00	
7,525.00	48.36	179.24	7,459.35	140.43	2.21	-140.38	12.00	12.00	0.00	
7,550.00	51.36	179.24	7,475.46	121.32	2.46	-121.27	12.00	12.00	0.00	
7,575.00	54.36	179.24	7,490.56	101.40	2.73	-101.35	12.00	12.00	0.00	
7,600.00	57.36	179.24	7,504.59	80.71	3.00	-80.66	12.00	12.00	0.00	
7,625.00	60.36	179.24	7,517.51	59.32	3.29	-59.26	12.00	12.00	0.00	
7,650.00	63.36	179.24	7,529.30	37.28	3.58	-37.22	12.00	12.00	0.00	
7,675.00	66.36	179.24	7,539.93	14.65	3.88	-14.59	12.00	12.00	0.00	
7,700.00	69.36	179.24	7,549.35	-8.50	4.19	8.56	12.00	12.00	0.00	
7,725.00	72.36	179.24	7,557.55	-32.11	4.50	32.17	12.00	12.00	0.00	
7,750.00	75.36	179.24	7,564.50	-56.12	4.82	56.18	12.00	12.00	0.00	
7,761.79	76.77	179.24	7,567.33	-67.56	4.98	67.62	12.00	12.00	0.00	
LP										
7,775.00	78.36	179.24	7,570.18	-80.46	5.15	80.53	12.00	12.00	0.00	
7,800.00	81.36	179.24	7,574.58	-105.07	5.48	105.13	12.00	12.00	0.00	
7,825.00	84.36	179.24	7,577.69	-129.87	5.81	129.94	12.00	12.00	0.00	
7,850.00	87.36	179.24	7,579.50	-154.80	6.14	154.87	12.00	12.00	0.00	
7,873.11	90.13	179.24	7,580.00	-177.89	6.45	177.97	12.00	12.00	0.00	
7,900.00	90.13	179.24	7,579.94	-204.78	6.81	204.86	0.00	0.00	0.00	
8,000.00	90.13	179.24	7,579.72	-304.78	8.14	304.86	0.00	0.00	0.00	
8,100.00	90.13	179.24	7,579.49	-404.77	9.47	404.86	0.00	0.00	0.00	
8,200.00	90.13	179.24	7,579.27	-504.76	10.81	504.86	0.00	0.00	0.00	
8,300.00	90.13	179.24	7,579.04	-604.75	12.14	604.86	0.00	0.00	0.00	
8,400.00	90.13	179.24	7,578.82	-704.74	13.47	704.86	0.00	0.00	0.00	
8,500.00	90.13	179.24	7,578.59	-804.73	14.81	804.86	0.00	0.00	0.00	
8,600.00	90.13	179.24	7,578.37	-904.72	16.14	904.86	0.00	0.00	0.00	
8,700.00	90.13	179.24	7,578.14	-1,004.71	17.47	1,004.86	0.00	0.00	0.00	
8,800.00	90.13	179.24	7,577.92	-1,104.70	18.81	1,104.86	0.00	0.00	0.00	
8,900.00	90.13	179.24	7,577.70	-1,204.69	20.14	1,204.86	0.00	0.00	0.00	
9,000.00	90.13	179.24	7,577.47	-1,304.68	21.47	1,304.86	0.00	0.00	0.00	
9,100.00	90.13	179.24	7,577.25	-1,404.67	22.81	1,404.86	0.00	0.00	0.00	
9,200.00	90.13	179.24	7,577.02	-1,504.67	24.14	1,504.86	0.00	0.00	0.00	
9,300.00	90.13	179.24	7,576.80	-1,604.66	25.47	1,604.86	0.00	0.00	0.00	
9,400.00	90.13	179.24	7,576.57	-1,704.65	26.81	1,704.86	0.00	0.00	0.00	
9,500.00	90.13	179.24	7,576.35	-1,804.64	28.14	1,804.86	0.00	0.00	0.00	
9,600.00	90.13	179.24	7,576.12	-1,904.63	29.48	1,904.86	0.00	0.00	0.00	
9,700.00	90.13	179.24	7,575.90	-2,004.62	30.81	2,004.86	0.00	0.00	0.00	
9,800.00	90.13	179.24	7,575.67	-2,104.61	32.14	2,104.86	0.00	0.00	0.00	
9,900.00	90.13	179.24	7,575.45	-2,204.60	33.48	2,204.85	0.00	0.00	0.00	
10,000.00	90.13	179.24	7,575.22	-2,304.59	34.81	2,304.85	0.00	0.00	0.00	
10,100.00	90.13	179.24	7,575.00	-2,404.58	36.14	2,404.85	0.00	0.00	0.00	
10,200.00	90.13	179.24	7,574.77	-2,504.57	37.48	2,504.85	0.00	0.00	0.00	
10,300.00	90.13	179.24	7,574.55	-2,604.57	38.81	2,604.85	0.00	0.00	0.00	
10,400.00	90.13	179.24	7,574.32	-2,704.56	40.14	2,704.85	0.00	0.00	0.00	
10,500.00	90.13	179.24	7,574.10	-2,804.55	41.48	2,804.85	0.00	0.00	0.00	
10,600.00	90.13	179.24	7,573.87	-2,904.54	42.81	2,904.85	0.00	0.00	0.00	
10,700.00	90.13	179.24	7,573.65	-3,004.53	44.14	3,004.85	0.00	0.00	0.00	
10,800.00	90.13	179.24	7,573.42	-3,104.52	45.48	3,104.85	0.00	0.00	0.00	
10,900.00	90.13	179.24	7,573.20	-3,204.51	46.81	3,204.85	0.00	0.00	0.00	
11,000.00	90.13	179.24	7,572.97	-3,304.50	48.14	3,304.85	0.00	0.00	0.00	
11,100.00	90.13	179.24	7,572.75	-3,404.49	49.48	3,404.85	0.00	0.00	0.00	

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 4H
Company:	DEVON ENERGY	TVD Reference:	3117.3' GE + 27' KB @ 3144.30usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	3117.3' GE + 27' KB @ 3144.30usft
Site:	Irritable 22 State Com	North Reference:	Grid
Well:	4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
11,200.00	90.13	179.24	7,572.52	-3,504.48	50.81	3,504.85	0.00	0.00	0.00	
11,300.00	90.13	179.24	7,572.30	-3,604.47	52.14	3,604.85	0.00	0.00	0.00	
11,400.00	90.13	179.24	7,572.07	-3,704.46	53.48	3,704.85	0.00	0.00	0.00	
11,500.00	90.13	179.24	7,571.85	-3,804.46	54.81	3,804.85	0.00	0.00	0.00	
11,600.00	90.13	179.24	7,571.62	-3,904.45	56.14	3,904.85	0.00	0.00	0.00	
11,700.00	90.13	179.24	7,571.40	-4,004.44	57.48	4,004.85	0.00	0.00	0.00	
11,800.00	90.13	179.24	7,571.17	-4,104.43	58.81	4,104.85	0.00	0.00	0.00	
11,900.00	90.13	179.24	7,570.95	-4,204.42	60.15	4,204.85	0.00	0.00	0.00	
12,000.00	90.13	179.24	7,570.72	-4,304.41	61.48	4,304.85	0.00	0.00	0.00	
12,100.00	90.13	179.24	7,570.50	-4,404.40	62.81	4,404.85	0.00	0.00	0.00	
12,184.06	90.13	179.24	7,570.31	-4,488.48	63.93	4,488.91	0.00	0.00	0.00	
TD										
12,200.00	90.13	179.24	7,570.27	-4,504.39	64.15	4,504.85	0.00	0.00	0.00	
12,300.00	90.13	179.24	7,570.05	-4,604.38	65.48	4,604.85	0.00	0.00	0.00	
12,321.82	90.13	179.24	7,570.00	-4,626.20	65.77	4,626.67	0.00	0.00	0.00	
PBHL (I22SC 4H)										

Design Targets										
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N-S (usft)	+E-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (I22SC 4H)	- plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	408,145.41	587,416.13	32° 7' 19.140 N	104° 11' 4.162 W
PBHL (I22SC 4H)	- plan hits target center - Point	0.00	0.00	7,570.00	-4,626.20	65.77	403,519.21	587,481.90	32° 6' 33.357 N	104° 11' 3.472 W

Casing Points						
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")		
2,350.00	2,350.00	9 5/8"	9-5/8	12-1/4		

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 4H
Company:	DEVON ENERGY	TVD Reference:	3117.3' GE + 27' KB @ 3144.30usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	3117.3' GE + 27' KB @ 3144.30usft
Site:	Irritable 22 State Corn	North Reference:	Grid
Well:	4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction	
0.00	0.00	Rustler		0.00		
2,000.00	2,000.00	Base Salt		0.00		
2,182.00	2,182.00	Delaware		0.00		
2,233.00	2,233.00	Bell Canyon		0.00		
3,030.00	3,030.00	Cherry Canyon		0.00		
4,113.38	4,113.00	Brushy Canyon		0.00		
5,800.25	5,785.00	Bone Spring		0.00		
6,710.82	6,692.00	1st Bone Spring		0.00		
7,491.19	7,436.00	2nd Bone Spring		0.00		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)		
3,700.00	3,700.00	0.00	0.00	Nudge	
4,500.00	4,497.40	55.76	0.00	Hold	
5,900.00	5,883.78	250.60	0.00	Drop	
6,700.00	6,681.18	306.36	0.00	Hold	
6,953.03	6,934.21	306.36	0.00	KOP 11° DLS	
7,761.79	7,455.00	-205.04	6.82	LP	
12,184.08	7,535.00	-4,826.20	65.77	TD	